ANNUAL REPORT

2024-2025

Towards building advanced
intelligent system for agriculture

BANGLADESH AGRICULTURAL RESEARCH COUNCIL
Farmgate, Dhaka-1215, Bangladesh
www.barc.gov.bd

National Agricultural Research System (NARS)

Institute	Ministry	Areas of Research
Bangladesh Agricultural Research Council (BARC), Dhaka www.barc.gov.bd	Agriculture	Strengthen the national agricultural research capability through research planning, coordination, integration and resource allocation
Bangladesh Agricultural Research Institute (BARI), Joydebpur, Gazipur www.bari.gov.bd	Agriculture	Basic, applied and adaptive research on cereals (other than rice), pulses, oilseeds, vegetables, horticultural crops etc.
Bangladesh Rice Research Institute (BRRI), Joydebpur, Gazipur www.brri.gov.bd	Agriculture	Basic, applied and adaptive research on rice
Bangladesh Jute Research Institute (BJRI), Sher-e-Bangla Nagar, Dhaka www.bjri.gov.bd	Agriculture	Basic, applied and adaptive research on jute production and utilization
Bangladesh Institute of Nuclear Agriculture (BINA), Mymensingh www.bina.gov.bd	Agriculture	Application on nuclear technology in agriculture
Bangladesh Sugarcrop Research Institute (BSRI), Ishurdi, Pabna www.bsri.gov.bd	Agriculture	Applied and adaptive research on sugarcrops
Soil Resource Development Institute (SRDI), Farmgate, Dhaka www.srdi.gov.bd	Agriculture	Soil survey, soil classification and soil characterization
Cotton Development Board (CDB), Khamarbari, Farmgate, Dhaka www.cdb.gov.bd	Agriculture	Cotton production and research
Bangladesh Wheat and Maize Research Institute (BWMRI), www.bwmri.gov.bd	Agriculture	Basic, applied and adaptive research on wheat and Maize
Bangladesh Fisheries Research Institute (BFRI), Mymensingh www.fri.gov.bd	Fisheries and Livestock	Marine and freshwater fisheries research
Bangladesh Livestock Research Institute (BLRI), Savar, Dhaka www.blri.gov.bd	Fisheries and Livestock	Basic and applied research on cattle, buffalo, sheep, goats, poultry, duck, etc.
Bangladesh Forest Research Institute (BFRI), Sholashahar, Chittagong www.bfri.gov.bd	Environment Forest and Climate Change	Forestry and agroforestry research
Bangladesh Tea Research Institute (BTRI), Srimangal, Moulvibazar www.btri.gov.bd	Commerce	Applied and adaptive research on tea
Bangladesh Sericulture Research and Training Institute (BSRTI), Baliapukur, Rajshahi www.bsrti.gov.bd	Textiles and Jute	Research and training on sericulture

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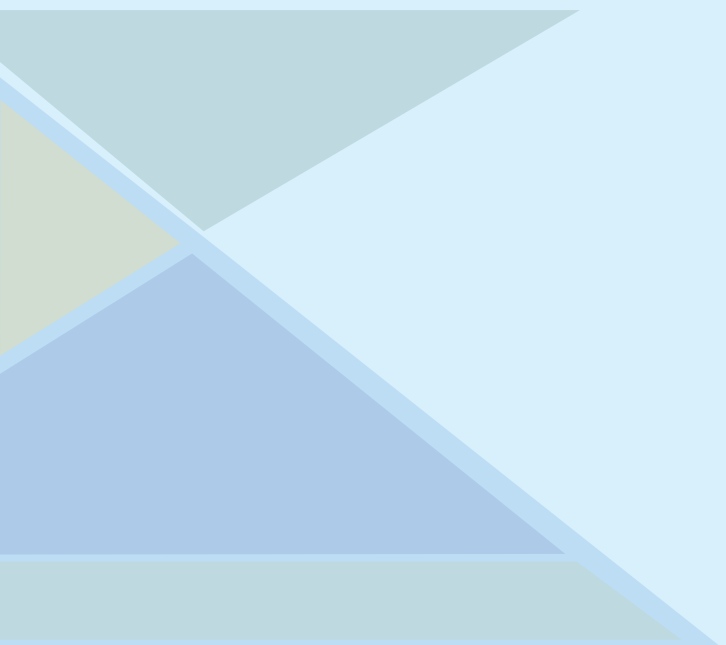


Foreword

It is with great pleasure that we present the Annual Report 2024-2025 of the Bangladesh Agricultural Research Council (BARC). As the apex body overseeing agricultural research within the National Agricultural Research System (NARS), BARC has continued its dedicated efforts to strengthen agricultural innovation, sustainability, and food security in Bangladesh. With a broad mandate encompassing the planning, coordination, monitoring, and evaluation of research programs, as well as human resource development, BARC strives to ensure the effective utilization of research resources and to foster national and global partnerships in agricultural development.

During this reporting period, BARC made significant progress in advancing agricultural research and institutional development. The Council's active participation in international forums reflects Bangladesh's growing engagement in the global agricultural research community. Notably, the National Focal Point of the ITPGRFA attended the Twelfth Session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture in Rome, while BARC also represented Bangladesh on the CGIAR System Council on behalf of the South Asia Constituency-demonstrating our strong commitment to global agricultural development and collaboration.

Key achievements during the year include the completion of crop suitability assessments for 76 crops across 54 upazilas, expanding total coverage to 464 out of 495 upazilas under the Upazila Land Suitability Assessment and Crop Zoning System. In addition, BARC collected 399 germplasm samples, characterized 340 for trait identification, rejuvenated 1,400 for safety duplication, and developed standard operating procedures for 13 agri-horticultural crops, supported by an enhanced computerized gene bank management system. To promote sustainable and climate-resilient farming, 15 crop-specific Good Agricultural Practices (GAP) protocols were developed covering five fruits and ten vegetables and validation trials were conducted in 15 districts.

To improve research quality within NARS, a 10-member External Panel of Experts evaluated six institutes and provided recommendations to strengthen institutional performance, research-extension linkages, and agribusiness collaboration. Under the Sustainable and Resilient Investment Towards Agriculture Sector Transformation Programme, BARC organized 110 training programs and 43 workshops or seminars, benefiting over 7,000 participants in total. The Council also awarded 240 PhD fellowships, with 137 ongoing, thereby enhancing national research capacity and leadership in science and innovation.

Significant advancements were also made across technical divisions. The Nutrition Unit contributed to national food standardization and policy formulation, while the Agricultural Engineering Unit demonstrated IoT-based precision agriculture technologies that reduced water use by up to 63% and fertilizer use by over 50% without compromising yield. The Forestry Unit strengthened agroforestry research through projects promoting pineapple-based systems and climate-resilient practices. The Soil Project (Phase-2), jointly implemented with SRDI, produced 28 harmonized soil maps, integrated data into national databases and digital tools, and showcased Bangladesh's progress at the FAO-GSP Global Symposium on Soil Information and Data (GSID 2024).

Further contributions included research and policy support from the Livestock Division and the Agricultural Economics and Rural Sociology Unit. BARC also updated soil, fertility, and climatic datasets for 54 upazilas, launched the iOS version of the Khamari App which surpassed 2.25 lakh downloads validated fertilizer and irrigation technologies, piloted LiDAR for precision terrain analysis, and published the Atlas of Climate Adaptation in South Asian Agriculture to promote gender-sensitive adaptation planning.

During the fiscal year 2024-25, BARC received Tk. 3,942.05 lakh for operational activities, including research, technology transfer, and institutional management. Two Executive Council meetings and eight Departmental Promotion Committee (DPC) meetings were held to support effective governance and recruitment processes.

As we look ahead, BARC remains committed to advancing agricultural research, promoting innovation and sustainability, and enhancing food and nutrition security for the people of Bangladesh. I extend my sincere appreciation to all scientists, officers, and staff for their wholehearted cooperation and dedication during the reporting period. I also thank our national and international partners, stakeholders, and collaborators for their continued support. Finally, I express my gratitude to those involved in compiling and editing the Annual Report 2024-2025.

Together, we will continue to strengthen agricultural research and innovation for a more sustainable, resilient, and food-secure Bangladesh.

Nazmun Nahar Karim

Dr. Nazmun Nahar Karim
Executive Chairman
Bangladesh Agricultural Research Council (BARC)

Executive Summary

The Annual Report 2024-25 highlights the major activities and achievements of the Bangladesh Agricultural Research Council (BARC) in coordinating, managing, and advancing agricultural research across the National Agricultural Research System (NARS) institutes. As the apex body for agricultural research in Bangladesh, BARC carries a broad mandate encompassing the planning, priority setting, coordination, monitoring, review, and evaluation of research programs, along with human resource development across the National Agricultural Research System (NARS) institutes.

During the year, BARC representatives actively participated in several global forums. Dr. Md. Abdus Salam, Member Director (Crops) and National Focal Point of ITPGRFA , attended the Twelfth Session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture in Rome, Italy. Dr. Shah Md. Monir Hossain, CSO (Crops), took part in the Crawford Fund 7th Master Class on Agricultural Research Management and Leadership in Penang, Malaysia. Dr. Md. Mosharraf Uddin Molla, Member Director (AERS), represented Bangladesh on the CGIAR System Council on behalf of the South Asia Constituency, while Dr. Susmita Das, Principal Documentation Officer (AIC), was invited as a speaker at the International Conference on Open Access in SNDT,Women's University, Mumbai, India

In 2024-25, BARC completed crop suitability assessments for 76 crops in 54 upazilas, expanding national coverage to 464 out of 495 upazilas under the Upazila Land Suitability Assessment and Crop Zoning System. The Council collected 399 germplasm samples, characterized 340 for trait identification, rejuvenated 1,400 for safety duplication, and developed standard operating procedures for 13 agri-horticultural crops. These activities were supported by an enhanced computerized data management system for improved gene bank operations.

BARC developed 15 crop-specific Good Agricultural Practices (GAP) protocols-covering five fruits and ten vegetables-and conducted validation trials across 15 districts to promote sustainable and climate-resilient farming. To improve research quality, a 10-member External Panel of Experts assessed six NARS institutes, identifying institutional strengths and weaknesses, and initiated follow-up consultations and technology uptake workshops to strengthen research-extension-agribusiness linkages.

Under the Sustainable and Resilient Investment Towards Agriculture Sector Transformation Programme, BARC organized 110 training programs and 43 workshops or seminars, benefiting more than 7,000 participants in total. The Council also awarded 240 PhD fellowships, with 137 ongoing, further strengthening national research capacity.

The Nutrition Unit contributed to national food standardization efforts and policy formulation, including participation in the UN Food Systems Summit pathway. The Agricultural Engineering Unit advanced IoT-based precision agriculture, demonstrating reductions of up to 63% in water use and over 50% in fertilizer use without compromising yields. It also developed climate-resilient cropping strategies in the Ganges Delta.

The Forestry Unit enhanced forestry and agroforestry research through projects focused on pineapple-based systems and the scaling up of climate-resilient agroforestry practices. The Soil Project (Phase–2), jointly implemented with SRDI, produced 28 harmonized soil maps, conducted horizon-based analyses, integrated results into national databases and digital tools, and presented Bangladesh's progress at the FAO-GSP Global Symposium on Soil Information and Data (GSID 2024).

The Livestock Division strengthened research, development, and capacity-building initiatives, while the Agricultural Economics and Rural Sociology Unit provided strategic guidance on trade, investment, and agricultural policy matters. Significant progress was also achieved in crop zoning and land suitability assessment, with updated soil, fertility, and climatic datasets for 54 upazilas. The iOS version of the Khamari App surpassed 2.25 lakh downloads, field trials validated fertilizer and irrigation techniques, LiDAR technology was piloted for precision terrain analysis, and the Atlas of Climate Adaptation in South Asian Agriculture facilitated gender-sensitive adaptation planning and integration of outputs into national systems.

During FY 2024-25, BARC received Tk. 3,942.05 lakh for operational activities, including salaries, research, and technology transfer. Two Executive Council meetings and eight DPC meetings were held to support institutional management and recruitment.

These collective efforts demonstrate BARC's continued commitment to advancing agricultural research, promoting sustainable and climate-smart technologies, strengthening human capacity, and enhancing food security and resilience in Bangladesh.

Crops Division

CROPS DIVISION

The Crops Division is a vital part of the organization, carrying out a wide range of functions and responsibilities aimed at ensuring food security, improving livelihoods, generating employment, and promoting equitable natural resource management. In addition, the division oversees the NARS institutes' research progress and programs on a routine basis. Furthermore, it also pays its utmost and sincere efforts in formulating various national policies and providing inputs and comments on similar documents compiled by other organizations. It is exerting its duties with the following professionals-

Name of the Professionals	
Name	**Designation**
Dr. Md. Abdus Salam	Member Director
Dr. Md. Harunur Rashid	Chief Scientific Officer
Dr. Shah Md. Monir Hossain	Chief Scientific Officer
Dr. Md. Mahfuz Alam	Principal Scientific Officer
Dr. Md. Rezwan Molla	Principal Scientific Officer
Dr. Md. Jamal Uddin	Principal Scientific Officer
Dr. Md. Jahirul Islam	Principal Scientific Officer

1. Project Development and Implementation

A. Development of Upazila Land Suitability Assessment and Crop Zoning System of Bangladesh

The Crops Division of BARC has been coordinating the project titled "Development of Upazila Land Suitability Assessment and Crop Zoning System of Bangladesh" (Crop Zoning Project) since June 2017, with financial support from the Krishi Gobeshona Foundation (KGF). The first phase concluded in January 2022, followed by the second phase commencing in February 2022.

The project aims to develop an online crop zoning application using GIS, Remote Sensing, and GPS technologies to support sustainable agricultural planning and strengthen food security in Bangladesh. Key Components of the Crop Zoning System:

i. Crop Zoning Information System (CZIS): Manages and processes agro-edaphic and agro-climatic data for crop suitability assessment.

ii. Crop Zoning Dashboard: Decision-support tool for planners and policymakers for strategic land use and production planning.

iii. 'Khamari' Mobile App: Farmer-focused advisory tool in Bangla providing parcel-level crop recommendations, fertilizer guidelines, and soil information; available on Google Play Store and Mac App Store.

iv. Agri-Advisory Portal: Web platform for disseminating crop zoning and advisory information to stakeholders.

Achievements (2024-25)

- Compiled and edited agro-edaphic and soil nutrient data for 54 upazilas.
- Updated soil, landform, and land-use maps, including digital elevation mapping (DEMs).
- Conducted crop suitability assessments for 76 crops in 54 upazilas (464 out of 495 upazilas completed).
- Prepared maps for newly formed upazilas (Eidgaon, Dasar, Madhyanagar) and updated union/mouza boundaries.
- Validated fertilizer recommendations and Alternate Wetting and Drying (AWD) techniques for Boro rice via demonstration trials in 60 upazilas.
- Compiled crop and technology database in Bangla and English; performed socio-economic and profitability analysis for 476 upazilas.
- Trained 769 extension personnel across 11 agricultural regions on the Crop Zoning System and Khamari App.
- Enhanced system security with SSL encryption and expanded cloud storage; launched iOS version of Khamari App.
- Official launch of Khamari App on 26 February 2025 at DAE, Savar, Dhaka.
- Published a booklet and prepared a video documentary to promote balanced fertilizer use and crop productivity.
- Submitted Half-Yearly and Annual Progress Reports; coordinated Project Advisory Committee (PAC) meetings.

B. CGIAR Genebank Initiatives: Supporting the Global System for PGRFA

- Duration: 1 July 2023 – 31 December 2024
- Total Budget: USD 40,000
- Participating Institutes: IRRI (coordination), BARC (coordination), PGRC-BARI & GRSD-BRRI (implementation)

Outputs

- Collected 399 germplasm of rice, chilli, winged bean, bitter gourd, bottle gourd, indigenous vegetables, and 10 wild rice species.
- Characterized and evaluated 340 germplasm for trait identification.
- Rejuvenated 1,400 germplasm for safety duplication.
- Developed Standard Operating Procedures (SOPs) for regeneration, characterization, and preliminary evaluation of 13 agri-horticultural crops.
- Strengthened computerized data management system in gene bank operations.

C. PARTNER Program-Innovative Research: Packaging and Refinement of Agro-Technologies for Stress-Prone Areas

Ongoing Experiments in Drought-Prone High Barind Tract

- Mustard-Boro-T. Aus rice cropping system - productivity and profitability enhancement.
- Mustard-Boro-T. Aman rice cropping system- productivity and profitability enhancement.
- Tomato-Boro-T. Aus rice cropping system - productivity and profitability enhancement.
- Development of intensified and diversified cropping patterns for higher productivity, intensity, diversity, and nutrition.

Ongoing Experiments in Salinity-Prone Areas

- T. Aman-Fallow-Fallow cropping pattern - productivity and profitability improvement.
- Gher farming system (Boro rice, fish, vegetables in dykes) - efficiency enhancement.
- Varietal evaluation of Aman rice under saline conditions.
- Intensified and diversified cropping patterns for increased productivity and nutrition.

Objective: Validate, refine, and transfer area-specific agro-technologies to improve farm productivity and income.

D. Asia Regional FAW and BPH Diagnostics and Monitoring and Surveillance Program (PMP+)

Funded by: AFACI, Korea

Implementing Institutes: BRRI, BWMRI, BARI

Activities:

i. BWMRI - Fall Armyworm (FAW) Monitoring and Management

- Monitoring FAW populations.
- Testing efficacy of biopesticides against FAW in maize.
- Molecular identification of FAW populations in Bangladesh.
- Assessing infestation severity and yield impact.
- Conducting training programs.

ii. BARI - FAW Monitoring and Biological Control

- Survey and collection of natural enemies of FAW in maize.
- Monitoring FAW in non-maize crops.
- Evaluating new biopesticides and less toxic insecticides against FAW.
- Surveying FAW incidence on ginger crop.

iii. BRRI - Brown Planthopper (BPH) Monitoring and Management

- Scouting, monitoring, and establishing action thresholds.
- Molecular diagnostics of BPH and biological control agents (BCAs).
- Assessing pesticide application safety for BPH control.
- Conducting training programs.

2. Policy-Level Contribution

A. Drafting and Development of Policies, Rules, and Acts

- Developed the National Seed Vision 2041.
- Formulated Plant Variety Protection Rules, 2024.
- Prepared the Bangladesh Plant Genetic Resources Act, 2024.
- Contributed to the National Gene Bank Management Policy.
- Reviewed and suggested improvements for the National Biosafety Policy, 2024.
- Commented on the National Biotechnology Policy and Plan, 2024.
- Advised on the Pesticide Rules, 2024.
- Offered guidance on policies, laws, regulations, and solutions related to agricultural logistics.
- Designed a Plan of Action to strengthen the BIMSTEC Agricultural Cooperation Matrix (2023-2027) for BARC.

B. Inputs and Advisory for International and National Programs

- Submitted inputs to the Ministry of Agriculture (MoA) on Bangladesh's participation in the 79th session of the United Nations General Assembly (22 August 2024).
- Sent comments on the draft Strategic Plan for Food Security prepared by the Islamic Organization for Food Security (IOFS), an OIC specialized agency (27 August 2024).
- Prepared recommendation for the extension of an 'A' visa for a foreign expert scientist at CIMMYT-Bangladesh (20 August 2024).
- Submitted a project proposal for assistance under the Japan Government's Science and Technology Research Partnership for Sustainable Development (SATREPS).

Provided guidance and reviewed proposals regarding

- Multi-location confined field trials of transgenic 3R-gene potato lines (DIA-MSU-UB015 and DIA-MSU-UB0255).
- Import and confined field trials of Bt brinjal varieties from Rasi Seeds Pvt. Ltd. and Axen Agriscience Bangladesh Pvt. Ltd.
- Import of parental materials for six Bt brinjal varieties by ACI.

C. Coordination, Meetings, and Documentation

- Sent letters and minutes to the NTCCB Core Committee regarding review of transgenic crops, including Bt brinjal and 3R-gene potato trials.
- Forwarded NTCCB Core Committee meeting minutes to the MoA.
- Provided inputs on Bangladesh's nomination for the Project Steering Committee (PSC) of the C-SUCSeS project under SAARC Agriculture Centre.
- Submitted the final draft of Plant Variety Protection Rules, 2024 to the Seed Wing, MoA.
- Offered expert opinion on exporting 300 metric tons of Boro hybrid rice ('Arise Tej Gold') in favor of Bayer Crop Science Ltd. to the Philippines.
- Prepared comments on the Kunming Biodiversity Fund (KBF) project concept and proposal.
- Submitted information on the Bangladesh Plant Intellectual Property Institute Act-2024.
- Reviewed and provided feedback on action plans under Blue Economy initiatives from various ministries and agencies.

- Compiled the final list of potential crop varieties developed by NARS-affiliated institutes and submitted it to the MoA.
- Translated Seed Rules-2020 for MoA.

Provided comments on

- Integrated demand-driven biotechnology research projects aligned with agricultural research reform
- Draft documents for the 47th session of the Islamic Commission for Economic, Cultural and Social Affairs (ICECS), OIC
- Concept notes and Theory of Change (ToC) on Weed Management
- High-Value Crop Commercialization and Productivity Improvement Project consultation mission
- Public-Private Blended Finance Facility for Climate-Resilient Rice Landscapes.

3. Monitoring, Evaluation, and Review

A. Research Planning and Progress Review

- Identified research areas for NARS institutes aligned with national priorities and policies while avoiding duplication.
- Organized the Annual Research Progress Review (2023-24) and Program Planning (2024-25) workshops across five thematic areas:
  i. Crop Improvement
  ii. Crop Production
  iii. Disease Management
  iv. Insect Management
  v. Biotechnological Research Program
- Arranged two Progress Review Workshops focused on Biotechnological Research in line with the Biotechnology Policy-2012.

B. Monitoring Project Implementation

- Monitored the implementation of research projects in NARS institutes as recommended by expert panels.
- Coordinated the ongoing Development of Upazila Land Suitability Assessment and Crop Zoning System of Bangladesh project.

Oversaw the progress of major national and international projects, including:

- CGIAR Genebank Initiatives: Working Together to Support the Global System for PGRFA
- Asia Regional FAW and BPH Diagnostics, Monitoring, and Surveillance Program (PMP+)

C. Institutional Review and Expert Contributions

The Member Director (Crops), Chief Scientific Officer, and Principal Scientific Officers actively participated as expert members in:

- Central Review of BARI
- Annual Review of BRRI

Contributions Included

- Providing technical suggestions
- Reviewing ongoing research activities
- Evaluating project outcomes
- Offering guidance for future research planning

Their active involvement enhanced the quality of scientific discussions, facilitated inter-institutional coordination, and supported evidence-based decision-making in crop research and development.

D. Genebank Quality and Policy Review

Following the decision of the MoA meeting on 19/09/2024, a five-member committee, led by Mr. Mohammad Yamin Khan, Joint Secretary, was formed to:

- Review the status and quality standards of genebanks
- Ensure conservation of all germplasm in relevant research institutions
- Formulate policy recommendations for germplasm utilizationSite Visits Conducted:
- Bangladesh Sugarcrop Research Institute (BSRI), Ishwardi, Pabna – 30/10/2024
- Bangladesh Jute Research Institute (BJRI), Manik Mia Avenue, Dhaka – 29/01/2025
- Bangladesh Rice Research Institute (BRRI) & Bangladesh Agricultural Research Institute (BARI) Genebanks, Gazipur – 13/02/2025

During Visits, Committee Members

- Participated in briefing meetings with genebank scientists
- Received presentations on genebank history, current research activities, germplasm conserved, future plans, and challenges

Collected data and information through discussions on

- Present conservation measures
- Quality assurance of conserved germplasm
- Policies for germplasm use
- Ensuring duplicate conservation of each germplasm in relevant research institutes

Team Visited Genebank at BSRI.

4. Events Organized

Workshop

A. Annual Research Review Workshop on Crop Improvement Program of NARS Institutes: Research Progress, 2023-24 and Research Program, 2024-25

The Annual Review Workshop on the Crop Improvement Program of NARS Institutes, organized by the Crops Division of BARC, was held on September 22-23, 2024. The workshop reviewed research progress for 2023-24 and set agendas for 2024–25, aiming to avoid duplication across six NARS institutes-BRRI, BINA, BJRI, BSRTI, BWMRI, and CDB. Scientists, academicians, and agricultural university faculty members participated as expert reviewers, offering critical feedback for future planning. Dr. Nazmun Nahar Karim, EC, BARC, attended as Chief Guest, and Dr. Md. Abdus Salam, Member Director (Crops), BARC, chaired the inaugural session. Dr. Karim commended scientists for advancing rice self-sufficiency and overall crop productivity, while urging research aligned with future global food demands. Dr. Salam expressed gratitude to session chairs, expert members, and participants for their valuable contributions.

Six expert members viz., Dr. Aziz Zilani Chowdhury, Former Member Director (Crops) BARC; Dr. Shahabuddin Ahmed, Former Director (HRC), BARI; Dr. Md. Abdur Rashid, General Manager, Lal Teer Seed Ltd. Dhaka; Dr. Md. Alamgir Hossain, Former CSO, GRSD, BRRI; Prof. Dr. Naheed Zeba, Department of GPB, SAU and Prof. Dr. Nasrin Akter Ivy, Department of GPB, BSMRAU attended the technical sessions for overviewing and providing suggestions for further improvement. There were four technical sessions chaired by Prof. Dr. Lutfur Rahman, Former Dean, Faculty of Agriculture, BAU; Dr. Md. Matiur Rahman, Former Director General, BARI; Dr. Mohammad Khalequzzaman, Director General, BRRI and Dr. Md. Abdus Salam, Member Director (Crops), BARC, respectively. The event concluded with a summary of expert opinions and recommendations, forming a roadmap for strengthening future crop research initiatives.

Inaugural Session of the Annual Research Review Workshop on Crop Improvement Program

B. Annual Review Workshop on Crop Production Program of NARS Institutes: Research Progress (2023-24) & Research Program (2024-25)

The Annual Review Workshop on the Crop Production Program of NARS Institutes was held at BARC on October 2-3, 2024. The workshop aimed to assess the research progress for 2023-24 and outline the research program for 2024-25 across eight NARS institutes: BARI, BRRI, BINA, BJRI, BSRI, BWMRI, BTRI, and CDB. Key objectives included reviewing achievements, preventing research duplication, and aligning proposed programs with national vision documents and research priorities. Scientists and academics from relevant research institutes and agricultural universities attended as expert members, offering remarks and suggestions for research planning. The inaugural session was graced by Dr. Nazmun Nahar Karim, Executive Chairman, BARC, as Chief Guest. Dr. Md. Abdus Salam, Member Director (Crops), BARC, chaired the session. Dr. Md. Jahirul Islam, PSO (Crops), BARC, welcomed the participants and provided an overview of the recommendations from the previous year.

Six expert members Dr. Shahabuddin Ahmed, Former Director (HRC), BARI, Professor Dr. Ahmed Khairul Hasan, Dept. Agronomy, BAU, Professor Dr. M. Abdul Karim, Dept. Agronomy, BSMRAU, Dr. Md. Khalequzzaman Akand Chowdhury, Former Executive Chairman, BARC, Dr. Muhammad Nasim, Former CSO & Head, RFS, BRRI and Dr. Md. Abdul Quayyum, Former CSO, OFRD, BARI attended the technical sessions to provide an overview and offer suggestions for annual research progress and future program improvements of the NARS Institutes. The workshop featured four technical sessions chaired by Dr. Md. Abdus Salam, Member Director (Crops), BARC, Professor Dr. Abdul Hamid, Dept. of Agronomy, BSMRAU, Dr. Md. Khalequzzaman Akand Chowdhury, Former Executive Chairman, BARC, and Dr. Md. Abdur Razzak, Former Executive Chairman, BARC. Valued experts and participants provided a good number of opinions and recommendations, which were forwarded through a proceeding to the concerned institutes for consideration.

Inaugural Session of the Workshop on Crop Production Program of NARS Institutes

C. Annual Review Workshop on Insect Management Program: Research Progress, 2023-24 and Research Program, 2024-25

The annual review workshop on the Insect Management Program of NARS institutes (BARI, BRRI, BJRI, BINA, BSRI, BWMRI, BTRI, and CDB) was held at BARC on October 6, 2024. The workshop aimed to assess the research progress for the year 2023-24 and the research program for 2024-25 of NARS institutes. Its objectives were to prevent research duplication, address research needs on climate change issues, and initiate future research programs in alignment with various vision documents and research priorities. The workshop featured the participation of scientists and academicians from relevant research institutes and agricultural universities, serving as expert members. They provided valuable insights and suggestions to inform the development of future research programs. The inaugural session was graced by Dr. Nazmun Nahar Karim, Executive Chairman, BARC, as the Chief Guest. Dr. Md. Abdus Salam, Member Director (Crops), BARC, chaired the session. Dr. Md. Jamal Uddin, PSO (Crops), BARC, welcomed the participants and provided an overview of the recommendations from the last year. Six expert members viz., Mr. Md. Yousuf Mian, Former DG, BARI; Dr. Khandakar Shariful Islam, Former Professor, Dept. of Entomology, BAU; Prof. Dr. Md. Ramiz Uddin Miah, Dept. of Entomology, BSMRAU; Prof. Dr. Masum Ahmad, Dept. of Entomology, BAU; Dr. Mainul Haq, Ex-CSO and Head, Entomology Division, BRRI; and Prof. Dr. Md. Razzab Ali, Dept. of Entomology, SAU, and followed by giving their valuable comments and suggestions. During the workshop, two technical sessions were chaired by Mr. Md. Yousuf Mian, Former DG, BARI, and Dr. Md. Abdus Salam, Member Director (Crops), BARC, respectively. A recommendation session was also conducted based on the comments and suggestions provided by the participants and experts.

Dignitaries on the Dais during the Inaugural Session of the Workshop

D. Annual Review Workshop on Disease Management Program of NARS Institutes: Research Progress, 2023-24 and Research Program, 2024-25

The annual review workshop on the Disease Management Program of NARS institutes, viz., BARI, BRRI, BINA, BJRI, BSRI, BWMRI, CDB, and BTRI, was held at BARC on October 17, 2024. The purpose of the workshop was to review the research progress for 2023-24 and the research program 2024-25 of NARS institutes to avoid duplication of research, formulate need-based research due to climate change issues, and take initiatives for future research programs in alliance with various vision documents and research priorities. Scientists and academia of the relevant fields of research institutes and Agricultural Universities were present as expert members who provided their valuable remarks and suggestions for formulating future research programs. The inaugural session was chaired by Dr. Md. Abdus Salam, Member Director (Crops), BARC. Dr. Md. Mahfuz Alam, PSO, Crops Division, BARC, welcomed the participants and provided an overview of the recommendations from the previous year.

Three expert members, namely, Prof. Dr. Md. Rafiqul Islam, Dept. of Plant Pathology, SAU; Dr. Mohammad Hossain, Former Director (Pulse Crop), BARI; and Dr. Mossammat Samsunnahar, Former Director (HRC), BARI, were present in the day-long workshop. There were two technical sessions chaired by Prof. Dr. Md. Ismail Hossain, Dept. of Plant Pathology, BAU, and Dr. Md. Abdus Salam, Member Director (Crops), BARC.

All the events of the day-long workshop were lively and highly participatory. The discussion part was well participated in, emphasizing the improvement of further research programs in some areas of specific crops. The suggestions were related to quality research, need-based research, and strengthening research activities towards the demand of specific regions of the country, e.g., saline and drought areas should be represented as priority research in the 'plan of action for implementation of the National Agriculture Policy-2018. However, distinguished experts and participants provided several opinions and recommendations to include into future research programs for further improvement.

Distinguished Guests on the Dais of the Workshop

E. Annual Review Workshop on Biotechnological Program: Research Progress, 2023-2024 and Research Program, 2024-2025

The Annual Review Workshop on the Biotechnological Program of NARS Institutes was held on 14 October 2024 at BARC, Dhaka, to review 2023-24 progress and plan 2024-25 programs of NARS institutes (BARI, BRRI, BINA, BJRI, BSRI, BWMRI), universities (BAU, BSMRAU), NIB, and private organizations (BRAC, ACI). The goal was to avoid research duplication and align initiatives with national priorities.

Dr. Nazmun Nahar Karim, EC, BARC, attended as Chief Guest; Dr. Md. Khalequzzaman, DG, BRRI, as special guest; and Dr. Md. Abdus Salam, Member Director (Crops), chaired the session. Eighty-five participants from research institutes, universities, and the private sector joined. Dr. Karim emphasized developing biofortified crops, sustainable and profitable farming systems, and equipping scientists with advanced technologies to address climate stress, rising food demand, and shrinking arable land. Dr. Salam highlighted the need for nutrient-enriched, stress-tolerant, and extended shelf-life varieties through advanced biotechnological tools.

Expert members-Dr. Shamsul Haque Prodhan (SUST), Dr. Aziz Zilani Chowdhury, Former MD (Crops), BARC, and Dr. Ashraful Haque (BSMRAU) made significant contributions. Two technical sessions, led by Dr. Khalequzzaman and Dr. Salam, generated recommendations focused on crop resilience, nutrition, and shelf life.

Key outcomes included: launching a national CRISPR project, holding a national biotech priority workshop, and expanding capacity-building for young scientists, with strong emphasis on inter-institutional collaboration.

F. Workshop on Biotechnology Research based on Biotechnology Policy 2012

Two Progress Review Workshops on Biotechnology Research based on the National Biotechnology Policy 2012 were held at BARC on 19 January 2025 and 18 June 2025. Under the guidance of the Plant Biotechnology Technical Committee, the crop-related NARS institutes, agricultural universities, and the private sector have prepared a short-term (2017-2019), mid-term (2017-2022), and long-term (2017-2027) biotechnology research plan based on the Biotechnology Policy 2012.

The research areas of the time-bound plan are: i) Developing standard of tissue culture/micropropagation method for prompt production of high quality and disease-free seed/ sapling of important plants crops, bamboo and timber, ii) Selection/ reproduction of very important crops (paddy, wheat, pulse, oilseed, etc.) by marker for specific use, iii) Developing nutritional value of crops; producing transgenic plants which are resistant to insects and diseases, abiotic stress-tolerant and harmonious to climate change, iv) Identification and characterization of important genes to develop plant variety by transferring genes, v) Determination and conservation of molecular characteristics of plant (including medicinal plants) genetic resources and necessary microorganisms in agriculture sector, vi) Revealing genome of important crops and forest plants for specific use, vii) Introduction, evaluation and testing of transgenic crops and viii) Identification of plant diseases at the molecular level. The progress of mid and long-term activities was presented in the workshop. The compiled report was sent to the Ministry of Agriculture.

G. National Workshop on Challenges and Opportunities of Seed Sector in Bangladesh: Public and Private Partnership

Dr. Mohammad Emdad Ullah Mian, Secretary, MoA, was present as Chief Guest.

A workshop titled Challenges and Opportunities of the Seed Sector in Bangladesh: Public and Private Partnership was held on December 22, 2024, at BARC. The event aimed to enhance coordination between government and private seed-producing organizations to ensure the production and supply of high-quality seeds across the country. The workshop was graced by Dr. Mohammad Emdad Ullah Mian, Secretary of the Ministry of Agriculture, as the Chief Guest. It was presided over by Dr. Nazmun Nahar Karim, EC, BARC. Special guests included Mr. Md. Ruhul Amin Khan, Chairman, BADC; Ms. Mosammat Johra Khatun, Director General of the Seed Wing, Ministry of Agriculture; and Mr. Md. Anis Ud Dowla, President of the Bangladesh Seed Association (BSA). Additionally, the workshop was attended by heads of various departments and agencies under the Ministry of Agriculture, representatives from agricultural universities, members of the Bangladesh Seed Association, and stakeholders from various private organizations. Subsequently, three papers were presented by NARS institutions, BADC, and BSA. On behalf of the NARS institutions, Dr. Khondoker, Md. Iftekharuddaula, Chief Scientific Officer and Head of the Plant Breeding Division, BRRI, presented a paper on the current challenges and solutions in quality seed research, production, storage, and supply in Bangladesh. The workshop provided a platform for meaningful discussions and collaboration between public and private stakeholders, fostering strategies to strengthen the seed sector in Bangladesh.

H. Workshop on Review and Finalization of Plant Varieties Protection Rules, 2024 (Draft)

A workshop was held on 10 September 2024, organized by the Crops Division, BARC, to review and finalize the revised Plant Variety Protection Rules, 2024 (Draft) in line with the decisions of the earlier workshop held on 9 June 2024. The event brought together members of the Plant Variety Protection Rules and Regulations Formulation Committee, representatives from the National Agricultural Research System, the Seed Division of the Ministry of Agriculture, as well

as scientists and officials directly engaged in drafting the rules. In addition, the Additional Secretary (Extension Division) and the Additional Secretary & Director General (Seed Division), Ministry of Agriculture joined the workshop virtually and provided valuable feedback.

I. Workshop on Accelerated Breeding Program in Rice

Crops Division, Bangladesh Agricultural Research Council (BARC) organized a day-long workshop titled Accelerated Breeding Program in Rice which was held on 5 May 2025 at BARC. The main objective of this workshop is to create a sustainable and innovative rice breeding framework through a combination of advanced technology, policy-making and practical research. The program was presided over by Dr. Md. Abdus Salam, Member Director (Crops), BARC. The Chief Guest, Dr. Nazmun Nahar Karim, Executive Chairman of BARC, graced the occasion with her presence. Dr. Mohammad Khalequzzaman, Director General, Bangladesh Rice Research Institute (BRRI) attended as the special guest. Dr. Md. Rezwan Molla, Principal Scientific Officer (Crops), BARC, delivered the welcome address and extended warm greetings to the distinguished guests and participants. The keynote presentation on 'Modernization of Plant Breeding Utilizing Frontier Technologies Leading to Accelerated Genetic Gain' was delivered by Dr. Khondaker Md. Iftekharuddaula CSO and Head, Plant Breeding Division, BRRI. The keynote presentation featured a comprehensive overview of the ongoing initiatives and progress within the accelerated rice breeding program.

Accelerated Breeding Program in Rice

J. Workshop on Plant Introduction System in Bangladesh: Challenges, Opportunities and Way Forward

Crops Division of Bangladesh Agricultural Research Council (BARC) has been organized a day-long workshop titled 'Plant Introduction System in Bangladesh: Challenges, Opportunities and Way Forward' which was held on 24 June 2025, BARC. The main objective of this workshop to identify the background, current status, problems and way forward of the overall system of introduction, variety development, registration or release of various crops in Bangladesh. Dr.

Nazmun Nahar Karim, Executive Chairman of BARC, chaired the program. The event was graced by the presence of the Chief Guest, Md. Abu Zubair Hossain Bablu, Additional Secretary, Research Wing, Ministry of Agriculture. Dr. Md. Abdus Salam, Member Director (Crops), BARC delivered the welcome address, and extended warm greetings to the distinguished guests.

The keynote presentation was delivered by Prof. Dr. Nasrin Akter Ivy, Department of Genetics and Plant Breeding, Gazipur Agricultural University, Gazipur, who provided a comprehensive overview of the Plant Introduction System in Bangladesh including its opportunities, challenges, and future directions.

Plant Introduction System in Bangladesh: Challenges, Opportunities and Way Forward

K. Workshop on Transforming Bangladesh Agriculture: Outlook 2050 (Activities of BARC)

A day-long workshop on "Workshop on Transforming Bangladesh Agriculture: Outlook 2050 (Activities of BARC)" was held on 15 June 2025 at BARC. The main objective of this program was

Workshop on Transforming Bangladesh Agriculture: Outlook 2050

to share inputs of different divisions/units of BARC for formulating Agency Planning 2050. Dr. Nazmun Nahar Karim, EC, BARC presided over the workshop. The session commenced with the recitation from the Holy Quran. The technical session started with a brief presentation by Dr. Md. Rezwan Molla, Principal Scientific Officer (Crops), BARC and BARC Focal Point for formulation of the MoA Perspective Plan 2025-2050. Mr. Molla outlined the background and objectives of the workshop. Then nominated scientist/officer of the different divisions/units of BARC presented their inputs in prescribed format for formulating Agency Planning 2050. The open discussion event was moderated by the Chair and Scientists/officers from various divisions/units of BARC actively participated in a lively and constructive discussion.

L. Workshop on Pesticide Risk Reduction and Safe Handling in Bangladesh: Current Status, Challenges and Way Forward

A workshop on "Pesticide Risk Reduction and Safe Handling in Bangladesh: Current Status, Challenges and Way Forward" was held at Bangladesh Agricultural Research Council (BARC), auditorium on 17 June 2025. The session was graced by Dr. Nazmun Nahar Karim, Executive Chairman, BARC as Chief Guest. Dr. Md. Abdus Salam, Member Director (Crops), BARC, chaired the session. Dr. Md. Mahfuz Alam, Principal Scientific Officer (Crops), BARC, welcomed the participants and provided an overview of the workshop. Professor Dr. Md. Ramiz Uddin Miah, Dean, Graduate Studies, GAU, Professor Dr. Ismail Hossain and Professor Dr. Khandakar Shariful Islam, IUBAT, Uttara, Dhaka was present in the workshop as an expert member. The workshop aimed at assessing the current status and challenges related to pesticide use, management and associated risks in Agricultural sector of Bangladesh; to promote awareness and best practices for the safe handling, application and disposal of pesticides among concerned stakeholders including farmers, extension workers, and policymakers; and to develop actionable recommendations and strategies for improving pesticide regulation, promoting Integrated Pest Management (IPM) and ensuring environmental and human health safety. The workshop featured with the participants from BARI, BRRI, BINA, BJRI, BSRI, BWMRI, CDB, DAE, BADC, BIRTAN, BCPA, Hortex Foundation, BAU, GAU, SAU, SyAU, PSTU and BARC. In their presentation they opined valuable insights and suggestions to guide the formulation of the future research activities.

Workshop on Pesticide Risk Reduction and Safe Handling in Bangladesh

Training Program

Awareness Building on Act and Policies of Bangladesh Agriculture

According to the annual work plan, Crops Division of Bangladesh Agricultural Research Council (BARC), organized 3 days long Training program on Awareness Building on Act and Policies of Bangladesh Agriculture on 25-27 February, 2025 at Conference Room-2, BARC. A total of 40 participants from 10 NARS institutes, DAE, BADC, SCA, NATA, BARTAN, NIB, Lal Teer Seed Ltd., ACI Seed, BRAC Seed, Supreme Seed Ltd. and BELA were present as participants. The objective of the training course was to enhance participant's understanding on act and policies of Bangladesh agriculture. Dr. Md. Abdus Salam, Member Director, Crops Division inaugurated the training program on 25 February, 2025 as Chief Guest while Dr. Shah Md. Monir Hossain, Chief Scientific Officer (Crops), BARC chaired the program. Participants were engaged in dynamic presentations and brainstorming sessions to achieve the training objectives. Scientists, academicians and officials experienced in policy, action plan, act and rules delivered lectures on different topics focusing the background, objectives, contents, gaps, implementation challenge, way forward etc. On 27 February, 2025, a closing ceremony marked the successful completion of the training program by awarding certificates to the participants. Dr. Mohammad Rafiqul Islam, Member Director, Planning and Evaluation Division, BARC distributed the certificates among the participants and delivered insightful remarks.

Hands-on Training on ITPGRFA Data Management

Crops Division, Bangladesh Agricultural Research Council (BARC), organized 3 days long 'Hands-on Training on ITPGRFA Data Management' on 10-12 February, 2025 at Computer and GIS Lab., BARC. The main objective of the training program was to develop the necessary skills of participants to enhance data management and accessibility of Plant Genetic Resources (PGRs) within the framework of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). Twenty-three participants from 18 institutions, including 10 research institutes of the National Agricultural Research System (NARS), different public universities and private organizations attended the training. The inaugural ceremony of the training program was graced by the Chief Guest Dr. Md. Abdus Salam, Member Director, Crops Division, BARC. Mr. Hasan Md. Hamidur Rahman, Director and Mr. Md. Abeed Hossain Chowdhury, Former Director, Computer & GIS Unit Computer and GIS Unit, BARC attended as a special guest. Dr. Md. Rezwan Molla, Principal Scientific Officer (Crops), BARC gave the welcome address and highlighted the objectives of the training program as the course coordinator. The Chief Guest shared the necessities and importance of ITPGRFA data management and reporting system as National Focal Point of ITPGRFA. Scientists, academicians and officials experienced in ITPGRFA data management delivered 15 lectures on different topics focusing on introduction to PGRFA database, updating PGRFA database, introduction to WIEWS, application of GIS in PGRFA data management, protection of PGRs in Bangladesh etc. After successful completion, the training program ended with a closing ceremony. Dr. Md. Abdus Salam, Member Director, Crops Division, BARC distributed the certificates among the participants and thanked the guests and the trainees. Participants appreciated the course of ITPGRFA Data Management, its practical value and comprehensive approach.

Training on Phytosanitary Measures in Bangladesh

A three-day training program on Phytosanitary Measures in Bangladesh was held from 22-24 December 2024. Inaugural session featured a welcome address by Dr. Md. Jamal Uddin, Principal Scientific Officer (Crops), BARC. The session was chaired by Dr. Md. Abdus Salam, Member Director (Crops), BARC. The training program was attended by 30 participants from various NARS institutions, including BARC, BARI, BRRI, BJRI, BSRI, BFRI, BWMRI, SRDI, CDB, and DAE. These sessions provided in-depth knowledge on key topics related to phytosanitary measures. The trainers and experts also responded to participants' queries, fostering an interactive and engaging learning environment. Participants expressed their gratitude to the organizers, emphasizing the importance of such training programs for advancing the agricultural sector in Bangladesh. During the closing session, Dr. Md. Abdus Salam, Member Director (Crops), BARC, presented certificates to the participants and delivered concluding remarks, marking the successful completion of the program.

An Advanced Training on Use of Biotechnological Tools for Varietal Development

The Crops Division of the Bangladesh Agricultural Research Council is organizing a five-day advanced training program titled Use of Biotechnological Tools for Varietal Development. The training will be held from 12-16 January 2025 at BARC and at the Genome Research Centre, Bangladesh Jute Research Institute (BJRI), Dhaka.

Twenty-two participants from various NARS institutes (BARC, BARI, BRRI, BINA, BJRI, BSRI, CDB), as well as from BAU, GAU, and SAU, took part in the program. The program was directed by Dr. Abdus Salam and coordinated by Dr. Md. Mahfuz Alam. Over the course of the training, twenty-five lectures and hands-on sessions were conducted by esteemed resource persons, covering topics such as agricultural transformation in Bangladesh and bioinformatics for sustainable development.

Climate Adaptation for Sustainable Crop Production

A five-day training program on Climate Adaptation for Sustainable Crop Production was held from 7 to 12 December 2024 at BARC. The program was organized by the Crops Division of BARC and funded by the PARTNER (APCU-BARC) project. A total of 25 participants from DAE, BADC, and NARS institutes (BARC, BRRI, BARI, BSRI, BWMRI, BINA, BJRI, and CDB) took part in 15 sessions conducted by 11 experts from universities and research institutes. The program concluded on 12 December 2024 with a closing ceremony and distribution of certificates.

Hands-on Training on CRISPR-Cas9 for Crop Improvement

The Crops Division organized a three-day hands-on training program on CRISPR-Cas9 for crop improvement, jointly held at BARC and BRRI from 03 to 05 February 2025. The training aimed to strengthen national capacity in gene-editing technologies and promote their application in agricultural research and crop development. Thirty scientists from NARS institutes, universities, and the private sector participated in the program. Practical sessions were conducted in the Biotechnology and Entomology laboratories of BRRI, where participants received hands-on experience in critical genome editing techniques. These included guide RNA (gRNA) design and target gene selection, gene transformation protocols, DNA quantification methods, and callus induction procedures using rice as a model system. The training significantly enhanced participants'

technical expertise and understanding of CRISPR-Cas9 applications, while also fostering collaboration among researchers working to advance crop biotechnology in Bangladesh.

Training on Seed Quality Management

A three-day training program on Seed Quality Management was held from 22-24 February 2025. The event was organized by Crops Division, BARC with the financial assistance from PARTNER Program, APCU-BARC. Inaugural session featured a welcome address by Dr. Md. Jamal Uddin, PSO(Crops), BARC. The session was chaired by Dr. Md. Abdus Salam, Member Director (Crops), BARC. The training program was attended by 25 participants from various NARS Institutions (BARC, BARI, BRRI, BINA, BJRI, BSRI, BFRI, BWMRI, CDB, SCA, BADC and BMDA) and Agricultural Universities (BAU, Mymensingh; SAU, Dhaka; GAU, Gazipur and SAU, Sylhet). Over the course of the program, participants engaged in 15 technical sessions, featuring lectures delivered by renowned resource persons, including scientists, university teachers, and officers from public and private sectors. These sessions provided in-depth knowledge on key topics related to seed quality and its management. During the closing session, Dr. Md. Abdus Salam, Member Director (Crops), BARC, presented certificates to the participants and delivered concluding remarks, marking the successful completion of the program.

Advanced Training on Production and Quality Control of Biopesticides

An advanced training on Production and Quality Control of Biopesticides was organized by the Crops Division of BARC from February 18 to 20, 2025. The program was held at BARC, as well as at the Plant Pathology and Entomology Divisions of BARI and Ispahani Agro Limited. Participants included representatives from various NARS institutes, including BARC, BARI, BRRI, BINA, BJRI, BSRI, and CDB, along with faculty from BAU, GAU, and SAU. The program, directed by Dr. Abdus Salam and coordinated by Dr. Md. Mahfuz Alam of BARC, featured a series of lectures and practical sessions on Good Agricultural Practices, beneficial insects, and biopesticide formulation in Bangladesh. Topics covered included commercial production, formulation, and quality management of biopesticides, as well as the opportunities and challenges of using microbial biopesticides in agriculture. Hands-on training focused on mass rearing techniques for biocontrol of major insect pests, culturing of Trichoderma species, and the commercialization of biopesticides for pest and disease control.

Hands-on Training on International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) Data Management

Crops Division, BARC, organized 3 days long *'Hands-on Training on ITPGRFA Data Management'* on 10-12 February, 2025 at Computer and GIS Lab., BARC. The main objective of the training program was to develop the necessary skills of participants to enhance data management and accessibility of Plant Genetic Resources (PGRs) within the framework of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). Twenty-three participants from 18 institutions, including 10 research institutes of the National Agricultural Research System (NARS), different public universities and private organizations attended the training. The inaugural ceremony of the training program was graced by the Chief Guest Dr. Md. Abdus Salam, Member Director, Crops Division, BARC. Mr. Hasan Md. Hamidur Rahman, Director and Mr. Md. Abeed Hossain Chowdhury,

Former Director, Computer & GIS Unit Computer and GIS Unit, BARC attended as a special guest. Dr. Md. Rezwan Molla, Principal Scientific Officer (Crops), BARC gave the welcome address and highlighted the objectives of the training program as the course coordinator. The Chief Guest shared the necessities and importance of ITPGRFA data management and reporting system as National Focal Point of ITPGRFA. Scientists, academicians and officials experienced in ITPGRFA data management delivered 15 lectures on different topics focusing on introduction to PGRFA database, updating PGRFA database, introduction to WIEWS, application of GIS in PGRFA data management, protection of PGRs in Bangladesh etc. After successful completion, the training program ended with a closing ceremony. Dr. Md. Abdus Salam, Member Director, Crops Division, BARC distributed the certificates among the participants and thanked the guests and the trainees. Participants appreciated the course of ITPGRFA Data Management, its practical value and comprehensive approach.

ToT on Advance Breeding Techniques for Major Crops in Bangladesh

According to the annual work plan, Crops Division of BARC, organized 3 days long Training of Trainers (ToT) on Advance Breeding Techniques for Major Crops in Bangladesh on 28-30 April, 2025 at BARC funded by PARTNER Program, APCU-BARC. A total of 30 participants from BARC, BARI, BRRI, BINA, BJRI, BSRI, BWMRI, CDB, BRAC, BAU, SAU, GAU, HSTU, Lal Teer Seed Ltd., ACI Seed, Seed and Supreme Seed Ltd. were attended. The main objective of the training course was to strengthen the knowledge and technical skills of agricultural scientists, and researchers on advanced breeding techniques such as marker-assisted selection, genomic selection and speed breeding. The inaugural ceremony of the training program was graced by the Chief Guest Dr. Md. Abdus Salam, Member Director, Crops Division, BARC. The Chief Guest shared the necessities and importance of the training program focused on capacity building to develop a pool of national trainers who can further disseminate advanced breeding knowledge and practices across different institutions in Bangladesh. Dr. Md. Rezwan Molla, Principal Scientific Officer (Crops), BARC gave the welcome address and highlighted the objectives of the training program as the course coordinator. Participants were engaged in dynamic presentations and brainstorming sessions to achieve the training objectives. Scientists, academicians and officials experienced in modernization of breeding program utilizing frontier techniques, genetic mapping for identifying stress resilient loci, hybrid seed production, population genetics etc. After successful completion, the training program ended with a closing ceremony. Dr. Md. Abdus Salam, Member Director, Crops Division, BARC distributed the certificates among the participants and thanked the guests, resource speaker and the trainees. Participants appreciated the course of the training program, its practical value and comprehensive approach.

5. Events Attended

Twelfth Session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture

The Twelfth Session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture (Working Group) was held in Rome, Italy from 10-12 December 2024. The Members and alternates of the Working Group, elected by the Commission on Genetic Resources for Food and Agriculture (Commission) at its 19th regular session, attended the meeting.

Representing the Asia region, Dr. Md. Abdus Salam, Member Director (Crops), BARC and National Focal Point (NFP) of ITPGRFA for Bangladesh, participated in the meeting.

Ms. Imke Thormann (Germany), Chairperson of the 11th session of the Working Group, opened the session and welcomed delegates and observers. The Working Group then elected Mr. William Wigmore (Cook Islands) as its new Chair. Additionally, Mr. Alberto Fallas Barrantes (Costa Rica), Mr. Godefroid Kabala Lunga (Democratic Republic of the Congo), Mr. Behzad Sorkhilalehloo (Islamic Republic of Iran), Mr. Arif Surahman (Indonesia), Mr. Ignazio Verde (Italy), and Ms. Gayle Volk (United States of America) were elected as Vice-Chairs, representing their respective regions. Ms. Volk was also appointed as Rapporteur.

Dr. Md. Abdus Salam, Member Director (Crops) at the Bangladesh Agricultural Research Council (BARC) and National Focal Point (NFP) of ITPGRFA, attended the Twentieth Regular Session of the Commission on Genetic Resources for Food and Agriculture (CGRFA) in Rome, Italy, from March 23–28, 2025. Total 275 contracting parties were attended the meeting. The session was preceded by one day of regional and inter-regional consultations. Key discussions during the session included the role of genetic resources for food and agriculture in mitigating and adapting to climate change, reports from various sessions of technical and legal expert teams, and the implementation of access and benefit-sharing measures. The session also addressed issues such as digital sequence information, biodiversity for food and agriculture, aquatic genetic resources, and animal genetic resources, with particular attention to their conservation, sustainable use, and development. Furthermore, the session focused on the preparation of several state reports, including those on plant, aquatic, and animal genetic resources. Other discussions covered the role of microorganisms and invertebrates in food processing, edible fungi, seed policies, forest genetic resources, and cooperation with international organizations and instruments.

Crawford Fund 7th Master Class on Agricultural Research Management and Leadership

Representatives from Different Countries Participated the Crawford Fund 7th Master Class on Agricultural Research Management and Leadership

Dr. Shah Md. Monir Hossain, CSO (Crops), BARC attended the workshop titled Crawford Fund 7th Master Class on Agricultural Research Management and Leadership held from 04 to 09 May 2025 in Penang, Malaysia. During the program, Dr Monir actively engaged in learning session, exchanged views with experts, and delivered oral presentations on learning session.

AFACI Technical Workshop 2024

Dr. Md. Mahfuz Alam, Principal Scientific Officer (Crops), BARC and Principal Investigator of Asia Regional FAW and BPH Diagnostics and Monitoring and Surveillance Program, Bangladesh attended the 2024 AFACI Technical Workshop which took place on September, 02-06, 2024, was held at Peradeniya, Kandy, Sri Lanka. The Asian Food and Agriculture Cooperation Initiative (AFACI) organized the second leg of its 2024 Technical Workshop, focusing on enhancing molecular diagnostic capacities. Principal and Co-Principal Investigators from Bangladesh, Bhutan, Indonesia, and Sri Lanka attended the workshop.

The Commonwealth Scientific and Industrial Research Organization (CSIRO) led the 2024 AFACI Technical Workshop, serving as both the expert and facilitator. The workshop covered essential topics such as basic molecular diagnostic concepts and the use of sequencing software like Staden and CLC Free Sequence Viewer. By bringing together experts from multiple countries, AFACI aims to foster collaboration, knowledge-sharing, and capacity-building to combat agricultural threats in Asia.

In addition to enhancing participants' knowledge and technical skills, the workshop was designed to help member countries gather critical insights on pests like FAW and BPH. These insights are intended to contribute to the development of more efficient, targeted management strategies, aligning with the overall goals of the project. By improving pest diagnostics and surveillance, the workshop plays a vital role in supporting sustainable agriculture in the region.

Participants from Different Countries Attended the AFACI Technical Workshop

Precision, Policy, and People: A Genome Editing Workshop for Crop Improvement

Dr. Md. Panna Ali, PSO (Crops), participated in the regional workshop titled Precision, Policy, and People: A Genome Editing Workshop for Crop Improvement, held from 13 to 16 May 2025 in Bangkok, Thailand. The workshop was jointly organized by the International Rice Research Institute (IRRI), the CGIAR Initiative on Genetic Innovation, and the Bureau of Rice Research and Development (BRRD), bringing together key stakeholders in agricultural biotechnology across Asia. The event provided a dynamic platform for representatives from eight countries to share their national experiences and policy frameworks related to genome editing in agricultural research and the variety release process. Discussions focused on regulatory approaches, opportunities and challenges in genome editing, and strategies for harmonizing policies to ensure responsible innovation and regional cooperation.

Dr. Panna actively participated in technical sessions, contributed to expert dialogues, and shared Bangladesh's progress by delivering an oral presentation on the country's regulatory framework for genome editing research and the approval process for genome-edited crop varieties. Presentation highlighted the current institutional landscape, policy developments, and the importance of science-based decision-making in promoting safe and effective use of genome editing technologies in crop improvement. The workshop served as a valuable opportunity to strengthen regional collaboration, promote evidence-based policy development, and align innovation efforts with public interests and food security goals.

Scaling Next Generation Rice Production Program at IRRI, Philippines

Dr. Md. Panna Ali, PSO (Crops), participated in the event Scaling Next Generation Rice Production Program organized by the World Bank, held on 10 to 11 June 2025 at the International Rice Research Institute (IRRI), Los Baños, Laguna, Philippines. The program brought together representatives from seven major rice-producing countries, along with experts from the World Bank and IRRI. The objective of the event was to identify and prioritize country-specific needs and collaborative opportunities to accelerate the transformation of rice production systems through innovation, technology, and policy support. During the program, Dr. Panna actively engaged in discussions focused on national research priorities, technological gaps, and investment needs. He exchanged views with international experts and fellow delegates and delivered an oral presentation outlining the prospects and strategic priorities of Bangladesh in scaling up next-generation rice production.
One of the key outcomes of the event was the collaborative development of a priority list for each participating country. Participants were asked to identify and present the top areas in which support from the World Bank would be most impactful. These proposals were then reviewed and ranked through a participatory voting process involving all country representatives. The final list reflected a consensus on the most urgent and promising areas for international support and investment to enhance sustainable low carbon rice production across the region.

Workshop on Capacity Development and Knowledge Exchange with the National Genebanks

Dr. Md. Rezwan Molla, PSO (Crops) at BARC, attended a program organized by the Fit for Future Genetic Resources (FFGR) Unit of IRRI, Los Baños, Laguna, Philippines. This event was part of a collaborative program funded by the 'Working Together to Support the Global System for PGRFA'

initiative under the CGIAR Genebank Initiative. Dr. Molla participated in the training workshop, which brought together thirty-one participants from twelve countries, including Bangladesh. The primary focus of the workshop was the capacity building of national partners, a critical task for CGIAR genebanks, as well as promoting the automation of genebank operations and facilitating the exchange of knowledge and information among participants. During the program, participants explored various aspects of modern genebank management techniques, including the introduction of barcoding systems, software-based genebank management systems (GMS), management of wild germplasm, acquisition of germplasm, data management, and conducting collaborative international research for mutual benefit.

Program on Pest Control and Integrated Pest Management (IPM) research

Dr. Md. Panna Ali, PSO (Crops), undertook an official visit to Zhejiang Normal University (ZNU), China, from 12 to 18 January 2025. The purpose of the visit was to explore ongoing research programs related to pest control and IPM being conducted at ZNU, with a particular focus on their applicability and potential for adaptation in the context of Bangladesh. During the visit, Dr. Panna closely examined the university's research initiatives on ecological pest control, sensor-based insect pest monitoring, and long-term ecological engineering approaches. He attended several meetings with leading researchers and faculty members to understand the research-to-application framework employed by ZNU for technology dissemination and on-farm adoption.

As part of the academic engagement, Dr. Panna actively participated in technical discussions and knowledge-sharing sessions with Chinese scientists and postgraduate researchers. He delivered two oral presentations on pest management strategies and crop protection challenges in Bangladesh, which fostered fruitful dialogue on collaborative research opportunities. In addition, Dr. Panna visited ZNU's experimental research stations, including long-term ecological engineering plots and precision pest surveillance sites equipped with smart sensor systems. These visits provided valuable insights into sustainable and technology-driven pest management techniques that could be contextualized and potentially piloted in Bangladeshi agricultural systems. Overall, the visit contributed to strengthening bilateral academic and research cooperation between ZNU and relevant agricultural research institutions in Bangladesh.

6. Publications

Scientific Article/ Books/ Popular Article

i. **Salam, M. A.,** Uddin, M. J. (2024.) Development and Dissemination of Biofortified Varieties of Different Crops in Bangladesh. In Development and Dissemination of Biofortified Varieties of Different Crops in SAARC Members States. Editors: Tanveer S. K. Rashid M. H. and Razzaque M. A. SAARC Agriculture Centre. PP. 09 - 21.

ii. Islam, M. Z., Tonmoy Chakrabarty, Nadia Akter, Mohammad Khalequzzaman, Md. Ferdous Rezwan Khan Prince, Barry Robert Pittendrigh, M. Tomita and **Md. Panna Ali.** 2025. Genetic variability, correlation and path coefficient analysis of phenotypic traits and genetic diversity of Aman rice landraces *(Oryza sativa L.).* Scientific Report 15; 18606.

iii. **Alam, M. M.,** Alam, K. M., Arifunnahar, M., Karim, M. R. & Siddique, S. S. (2024). Assessing seed health and resistance traits in watermelon against gummy stem blight. Bangladesh Journal of Agriculture. 2024, 49(1): 68-85.

iv. **Alam, M. M.,** Alam, K. M., Arifunnahar, M., Momotaz, R. and Siddique, S. S. (2024). Assessing the seed health status and seeking out sources of resistance of watermelon against Fusarium wilt disease. Journal of Agriculture Innovation and Development. 3(1): 50-65.

v. Sultana, N.A., Islam, M.S., Islam, S.M.A., **Alam, M.M.** and Alam, K.M. (2025). Molecular Characterization and Phylogenetic Analysis of Sclerotium rolfsii Isolates from Sunflowers Affected by Collar Rot Disease in the Southern Coastal Region of Bangladesh. European Journal of Ecology, Biology and Agriculture, 2(1), 28-37.

vi. Sultana, N. A., Islam, M. A., Islam, M. S., **Alam, M. M.,** Bell, R.W. and Mainuddin, M. (2024) In vitro control of Sclerotium rolfsii, the causal agent of collar rot in sunflower using fungicides, botanicals and organic matter. Bangladesh Journal of Agriculture. 49(2):1-15 DOI: https://doi.org/10.3329/bjagri. v49i2. 78230

vii. Shah, M. M. R. Munira, M. S., Hossen, M. F. and **Alam, M. M.** (2024) Efficacy of biopesticides and insecticides against fall armyworm, Spodoptera frugiperda (Lepidoptera: Noctuidae) on maize. Bangladesh Journal of Entomology. 32(2): 71-90

viii. Momotaz, R., **Alam, M. M.,** Arifunnahar, M., Islam, M. M. and Ali, M. S. (2024) Efficacy of chemical fungicides for the management of powdery mildew in pumpkin. Bangladesh Journal of Agricultural Research, 49(4): 363-371

ix. Alam, T., **Islam, M.J.,** Habib, M.A., Begum, M.K., Arefin, M.S., Hossain, M.S. and Hossain, M.A., 2024. Effects of Various Chemical Treatments on Ripening Acceleration and Quality Attributes of Sukkari Dates. Sugar Tech, 26(6), pp.1690-1703.

Popular Article

i. **Dr. Md. Mahfuz Alam,** Principal Scientific Officer Crops Division, BARC. Potato Cultivation Management and Techniques in Bangladesh. The Daily Observer. November 29, 2024.

ii. **Dr. Md Mahfuz Alam** and Khondokar Mohammad Alam. How to control gummy stem blight disease of watermelon. The Daily Observer. November 19, 2024.

iii. **Dr. Md. Mahfuz Alam,** Principal Scientific Officer (Crops), BARC, Dhaka. Watermelon Fusarium Wilt Disease: Incidence, Damage and Mitigation. The Country Today, November 15, 2024.

iv. Dr. Md. Mahfuz Alam, Principal Scientific Officer (Crops), BARC, Dhaka. Anthracnose and Stem end rot of Mango: Causes, Damage and Control Measure. The Asian Age, May 07, 2025.

v. **Dr. Md. Mahfuz Alam,** Principal Scientific Officer (Crops), BARC, Dhaka. Blast of Rice: Causes, Symptoms, Yield Loss and Control. The Asian Age, April 10, 2025.

vi. **Dr. Md. Mahfuz Alam,** Chief Scientific Officer (Crops), BARC, Dhaka. Modern Potato Cultivation in Bangladesh: Seed, Irrigation, Fertilizer, and Disease Management. (বাংলাদেশে আলু চাষে আধুনিক উৎপাদন পদ্ধতি: বীজ, সেচ, সার ও মড়ক রোগ দমন ব্যবস্থাপনা) agrilife24.com, December 3, 2024.

vii. **Dr. Md. Mahfuz Alam.** Brown Plant Hopper Infestation in Aman Rice: Yield Loss and Management Strategies. (আমন ধানে ব্রাউন প্ল্যান্ট হপার আক্রমণ: ফলনের ক্ষতি ও করণীয়।) sangbadlive24.com, November 19, 2024

viii. **Dr. Md. Mahfuz Alam.** Anthracnose and Stem-End Rot Diseases in Mango. Editorial (আমের অ্যানথ্রাকনোজ ও বোঁটা পঁচা রোগ ।) sangbad.net.bd, Tuesday, June 17, 2025.

7. Other Activities

Event Management

- Served as Member Secretary in organizing World Food Day 2024 and the National Fruit Fair 2025.
- Coordinated Pesticide Technical Advisory Committee (PTAC) and Sub-PTAC meetings.
- Managed submission of the National Technical Committee on Crop Biotechnology (NTCCB) Core proposal to the Ministry of Agriculture, including evaluation and recommendations for NCB approval to conduct Contained Trials (CT) and Confined Field Trials (CFT) of transgenic golden rice enriched with Provitamin A.
- Convened OFANS Project Coordination, Crop Zoning Advisory Committee, NTCCB meeting on 3R gene late blight-resistant potato, World Food Day 2024 Seminar Committee, and preparatory meetings for the Seed Workshop.
- Facilitated review workshops on Crop Production (2024–25), Insect Management (2024–25), Disease Management (2024–25), and Fisheries (2024–25).
- Organized and led workshops addressing Challenges and Opportunities in the Seed Sector in Bangladesh: Public-Private Partnership, Biotechnology Program Planning (Short, Medium, and Long Term), GAP 7 Crops Protocol Finalization, and GAP Orientation.
- Conducted GAP ToT Training at BADC and oversaw the GAP Protocol Finalization Meeting.

Representation, Meetings, and Consultation

- Attended technology adoption workshops in Dinajpur, ARI, and Sylhet.
- Participated in PARTNER Project meetings covering seed/sapling distribution, deworming, vaccination, research priorities, lab facilities, strategic action plans, and PEC/SMC sessions.
- Shared results and led preparatory sessions for GAP validation trials and development of 7 new crop GAP protocols.
- Conducted SAU research monitoring visits, and participated in World Food Day, Kunming-Montreal Global Biodiversity Framework, BINA promotion & seniority selection, Plant Variety Rules 2024, NSB Technical Committee, and CGRFA 20th Regular Session meetings.
- Attended BARI DPC-1, Board Meetings, and BRRI review workshops.
- Engaged in EC, EPE, FAO MAFAF, AFACI SHR, and ADB Digital Infrastructure Development meetings.
- Held discussions with USAID Food Safety Policy Development Team, PULA Agriculture Insurance Organization, and Northwest A&F University, China.
- Participated in Crop Zoning DPP meetings, including Pest Apps inclusion at Khamari Apps.

Training, Capacity Building, and Resource Person Engagement

- Served as resource person for Nutrition, Foundation, Farming System, GPA, Phytosanitary, and ToT on BARI-developed Oilseeds and Spices technologies.
- Delivered a keynote on Agricultural Biotechnology Policy and Research in Bangladesh at the USDA-Bangladesh Stakeholder Consultation.

- Served as Chief Guest at CIMMYT trainers training program on developed IPM packages.
- Represented Graduate School at final examinations at BSMRAU.

Monitoring, Evaluation, and Field Visits

- Monitored GAP validation trials for Potato (Rangpur), Bitter Gourd (Srimongal), and Yearlong Bean (Chandina).
- Oversaw OFANS activities at GAU.
- Participated in seaweed evaluation and other project-specific field programs.

International and National Collaborations

- Attended seminars and workshops including Canola Breeding, Alberta University, Canada, IRRI Climate Smart Mapping, CABI Digital Advisory Policy Workshop, D-8 Agricultural Development Webinar, and BIMSTEC Agricultural Trade and Investment sessions.
- Participated in BARC Editorial Board, ISO 9001/14064/22000/45001 trainings, Agriculture Sector Reform Meeting, Smart Greenhouse Fertigation, GHG Emission in Agriculture Seminar, and preparation/review of GAP Checklists, Protocols, and Rules.

Selected Professional Engagements

- Oral Presentation: Green Synthesis of Mesoporous Silica Nanoparticles from Rice Husk at International Biotechnology Conference 2025, BRAC University, Dhaka.
- Strategic Research Planning: Contributed to IRRI's 10-year Research for Development Strategies survey, Dhaka.
- Agricultural Biotechnology Workshop: Bangladesh Stakeholder Consultation, EMK Center, Dhaka.
- National Policy Dialogue: Inclusive Canal Water Management for Resilient Agri-Food Systems, BARC, Farmgate, Dhaka.
- Syllabus Development: Expert member, undergraduate Agriculture program, BSMRSTU, Gopalganj.
- Research Project Evaluation: Proposed projects in Biotechnology, Environment, Climate Resilience, and Waste Management, Bangladesh Livestock Research Institute (BLRI), FY 2024-25.

Committee Memberships and Key Roles

- Member Secretary: NTCCB Core Committee, Seed Regulatory Reform Committee, Plant Variety Protection Rules Committee
- Member: National Seed Vision Committee-2041, BINA recruitment, PTAC, NSB Technical Committee, GAP unit (BARC), National Taskforce on Fall Armyworm Management, SAU Research System Technical Committee, TAC Krishi Gobeshona Foundation, General Council Hortex Foundation
- Focal Points: SDG (BARC), Smart Bangladesh, Investment Forum 2024 preparatory work
- Other Engagements: 4IR Member, Alternate Focal Point NIS

GAP Unit

Good Agricultural Practices (GAP) are science-based guidelines that ensure the production of safe, high-quality, and environmentally sustainable crops. GAP focuses on soil health, water use efficiency, pest and disease management, and postharvest handling to boost productivity, reduce environmental impact, and ensure safe, nutritious, and quality products that meet market standards. Recognizing its importance, the Government of Bangladesh adopted the Bangladesh Good Agricultural Policy 2020, prioritizing safe and quality food production. Under the PARTNER Program (funded by the World Bank and IFAD), key initiatives have been launched to implement GAP nationwide. As the Bangladesh GAP Scheme Owner, BARC is leading the development of protocols for 15 priority crops-10 vegetables and 5 fruits-based on the national GAP standard (BDS 2025:2023). In 2023-24, protocols were developed for eight crops: Mango, Jackfruit, Guava, Brinjal, Bottle Gourd, Yard Long Bean, and Green Papaya. In 2024-25, seven additional protocols are being developed, viz., Potato, Aroid Stolon, Cabbage, Bitter Gourd, Snake Gourd, Pineapple, and Citron. These protocols are being validated in 15 high-potential districts to ensure local relevance, enhance farmer capacity, and support export readiness.

The GAP Unit of BARC was formed on 8 September 2021 with three members under the office order of the Ministry of Agriculture. This unit coordinates the PARTNER Project activities and the Scheme Owner's GAP initiatives to ensure effective implementation and alignment with national standards.

Name of the Professionals	
Name	**Designation**
Dr. Md. Abdus Salam	Member Director (Crops) and Convenor, GAP Unit, BARC
Dr. Shah Md. Monir Hossain	Chief Scientific Officer (Crops) and Member, GAP Unit, BARC
Dr. Zakiah Rahman Moni	Principal Scientific Officer (Nutrition) and Member Secretary, GAP Unit, BARC
Dr. Md. Jahirul Islam	Principal Scientific Officer (Crops), BARC and Working Scientist (PARTNER)

1. Project Development and Implementation

In the financial year 2024-25, the GAP Unit of BARC completed all activities under the Program on Agricultural and Rural Transformation for Nutrition, Entrepreneurship, and Resilience in Bangladesh (PARTNER Programme), supported through DLI-1: Development, Rollout, and Adoption of GAP Standards for Fruits and Vegetables. The Unit is specifically responsible for DLR 1, which focuses on the development of GAP standards and crop-specific protocols for selected fruits and vegetables.

As the Scheme Owner of the Bangladesh Good Agricultural Practices (GAP), the Bangladesh Agricultural Research Council (BARC) developed 15 crop-specific GAP protocols covering 5 fruits

(Mango, Jackfruit, Guava, Pineapple, Citron) and 10 vegetables (Brinjal, Bottle Gourd, Yard Long Bean, Potato, Cabbage, Aroid Stolon, Bitter Gourd, Pointed Gourd, Snake Gourd, and Green Papaya).

In addition to protocol development, validation trials were conducted for seven crops: Potato, Aroid Stolon, Cabbage, Bitter Gourd, Snake Gourd, Pineapple, and Citron. Evaluation trials were completed for eight crops: Mango, Jackfruit, Guava, Brinjal, Bottle Gourd, Yard Long Bean, and Green Papaya across 15 districts.

To strengthen capacity on GAP, the following initiatives were undertaken:

- 15 farmer trainings and 4 sensitization programs on Potato, Jackfruit, Snake Gourd, and Green Papaya were held in Rangpur, Mymensingh, Chattogram, and Pabna.
- 5 Training-of-Trainers (ToT) sessions on GAP were conducted.
- 3 specialized ISO training batches were organized, covering ISO 9001:2015, ISO 45001:2018, ISO 17065:2012, ISO 17067:2013, and ISO 22000:2018.

A GAP field audit checklist and a Certification Agreement for the GAP Scheme were finalized and signed with BACB (DAE). The technical report on the 2023-24 GAP validation trials has also been published.

Development of Bangladesh GAP Protocol

As the Scheme Owner of Bangladesh GAP, BARC developed and approved GAP protocols for seven crops: Potato, Cabbage, Aroid Stolon, Bitter Gourd, Snake Gourd, Pineapple, and Citron (Jaralebu). These protocols were formulated based on the Bangladesh GAP standard, with contributions from scientists at the Bangladesh Agricultural Research Institute (BARI), including pathologists and entomologists.

The development process involved six technical meetings between BARI-nominated scientists, the GAP Unit-BARC, and relevant stakeholders from different institutes. Draft protocols were shared during a stakeholder meeting, leading to the formation of a review committee that incorporated feedback and finalized the documents.

The finalized protocols were presented to the Technical Committee and subsequently submitted to the Steering Committee. After several reviews, the GAP protocols for the seven crops were approved by the Steering Committee and officially endorsed by the Ministry of Agriculture through a circular issued on June 30, 2025.

GAP Protocal of Seven Different Crops

GAP Protocal of Seven Different Crops

GAP Field Validation Trials

To ensure the practical application of Good Agricultural Practices (GAP) across Bangladesh, the GAP Unit-BARC, in collaboration with the Bangladesh Agricultural Research Institute (BARI) and the Department of Agricultural Extension (DAE), initiated comprehensive field validation trials in seven districts, each focusing on a specific crop. The selection of Upazilas within these districts was meticulously approved by both the Technical and Steering Committees.

Nominated scientists from BARI led these trials, receiving full support from DAE officials and Sub-Assistant Agriculture Officers (SAAOs) at the field level. The trials included thorough analyses of soil and water samples to assess environmental suitability, while pesticide residue levels were carefully examined by SGS, a globally recognized inspection and verification company.To bolster GAP adoption, targeted training sessions were conducted for farmers cultivating the selected crops, emphasizing sustainable practices, safety protocols, and compliance with international standards. This integrated approach not only validated the effectiveness of the GAP protocols but also empowered local farmers with the knowledge and tools necessary for sustainable and safe agricultural production. Crop wise location of the validation trial (Upazilla and district) as follows:
Crop wise location of the validation trial.

SN	Crop under Validation Trail	Location of the validation trial	
		Upazilla	District
1	Potato	Mithapukur	Rangpur
2	Cabbage	Shibganj	Bogura
3	Aroid Stolon	Patchbibi	Joypurhat
4	Bitter Gourd	Sreemangal	Moulovibazar
5	Snake Gourd	Shitakundo	Chattrogram
6	Pineapple	Modhupur	Tangail
7	Citron (Jaralebu)	Jaintapur	Sylhet

2. Policy level Contribution

As the Scheme Owner of Bangladesh GAP, BARC developed and finalized the Certification Agreement for the GAP Scheme in collaboration with BACB (DAE). A GAP field audit checklist was also prepared to guide the certification process. In addition, the technical report on the 2023-24 GAP validation trials has been published. To ensure legal protection of the certification system, GAP regulations (Probidhi) were formulated to support the trademark registration of the GAP certification marks/logo developed by BARC.

3. Monitoring, Evaluation and Review

Monitoring plays a crucial role in the effective implementation of GAP at the field level. To assess the applicability of GAP across diverse crops and regions, seven validation trials have been established for new crops, including Potato, Cabbage, Aroid Stolon, Bitter Gourd, Snake Gourd, Pineapple, and Citron (Jaralebu), each conducted in different districts. In addition, eight evaluation trials are underway across separate districts. These trials are collaboratively monitored by teams comprising members from the GAP Unit of BARC, scientists from BARI, officers from DAE, and representatives from the APCU-BARC, PARTNER Programme. Given that GAP is a relatively new concept in Bangladesh, continuous learning and adaptation are essential for farmers, Sub-Assistant Agriculture Officers (SAAOs), and scientists alike. The monitoring teams provide on-site guidance and recommendations to ensure proper implementation of GAP standards, thereby facilitating the production of safe, high-quality, and market-ready agricultural products.

Pictorial View of Field Monitoring

Field Evaluation Trial on Published GAP Protocols

To assess the effectiveness and adoption of GAP among farmers, BARC, in collaboration with BARI and DAE, conducted comprehensive field evaluation trials across eight districts, each focusing on a specific crop. The specific objectives of the trials were: i) to evaluate the performance of GAP versus non-GAP fields, and ii) to assess farmers' interest, adoption, and perception of GAP practices. These trials employed a three-tiered treatment approach: T1 involved full implementation of GAP protocols by BARI scientists; T2 provided farmers with the necessary inputs, allowing them to apply GAP practices independently; and T3 observed traditional farming methods without GAP intervention. BARI scientists led the trials with substantial support from DAE officials and Sub-Assistant Agriculture Officers (SAAOs) at the field level. To ensure compliance with safety standards, pesticide residue levels in the produce were meticulously analyzed by SGS, a globally recognized inspection and verification company. Additionally, targeted training sessions were conducted for farmers cultivating the selected crops, emphasizing sustainable practices, safety protocols, and alignment with international standards. This integrated research approach not only validated the effectiveness of GAP protocols in real-world settings but also empowered local farmers with the knowledge and tools necessary for sustainable and safe agricultural production.

Crop wise location of the evaluation trial

SN	Crop under Validation Trail	Location of the validation trial	
		Upazilla	District
1.	Mango	Nachole	Chapainawbabganj
2.	Jackfruit	Valuka	Mymensingh
3.	Guava	Godagari	Rajshahi
4.	Brinjal	Shibpur	Norsingdhi
5.	Bottle gourd	Sadar	Manikganj
6.	Yardlong bean	Chandina	Cumilla
7.	Pointed gourd	Sadar	Jashore
8.	Green Papaya	Atghoria	Pabna

4. Events Organized

Meeting of the Technical Committee formulated for GAP Implementation in Bangladesh

BARC, as the Scheme Owner of Bangladesh GAP, continues to spearhead efforts to institutionalize GAP across the country. The governance structure overseeing this initiative comprises the GAP Steering Committee, the GAP Technical Committee, and the Certification Committee. The 5th Technical Committee Meeting on Bangladesh GAP was held at BARC on 20 March 2025, chaired by Dr. Nazmun Nahar Karim, Executive Chairman, BARC. The meeting was convened to evaluate and endorse seven newly developed GAP protocols for Potato, Cabbage, Aroid Stolon, Bitter Gourd, Snake Gourd, Pineapple, and Citron (Jaralebu). During the session, the crop-specific protocols were presented for review, and the committee recommended adding a chapter on "Postharvest Handling and Transportation" to each protocol to enhance their comprehensiveness prior to

submission to the forthcoming Steering Committee meeting. Additionally, the draft version of the GAP Protocol Checklist was shared and received in-principle approval, pending final editing by a designated sub-committee. Representatives from the Department of Agricultural Extension (DAE), acting as the Bangladesh Agricultural Certification Body (BACB), presented updates on GAP implementation and certification activities. The Department of Agricultural Marketing (DAM) and the Hortex Foundation also shared progress reports, highlighting ongoing efforts to strengthen market linkages and promote GAP-certified produce.

Technical Committee for GAP Implementation

Meeting on Introduction of Bangladesh GAP in the Agriculture Sector of the Country

A high-level meeting titled "Introduction of Bangladesh Good Agricultural Practices (GAP) in the Agriculture Sector of the Country" was held at the Ministry of Agriculture (MoA) on 17 May 2025 to assess the implementation status of the eight approved GAP protocols and to review seven newly developed protocols proposed for future adoption. The approved GAP protocols cover seven key crops: Potato, Cabbage, Aroid Stolon, Bitter Gourd, Snake Gourd, Pineapple, and Citron (Jaralebu). During the meeting, the newly developed protocols, initially approved by the Technical Committee, were presented for further evaluation. A review committee, headed by the Director General of the Bangladesh Agricultural Research Institute (BARI), was recommended to conduct the final assessment of the proposed protocols. This meeting played a pivotal role in aligning national strategies for the widespread adoption of GAP and in evaluating the progress achieved to date.

Meeting of the Steering Committee formulated for GAP Implementation in Bangladesh

The 7th Steering Committee meeting on Good Agricultural Practices (GAP) implementation in Bangladesh was held on 29 June 2025 at the Ministry of Agriculture (MoA). Dr. Mohammad Emdad Ullah Mian, Secretary, MoA, presided over the meeting as Convenor. Dr. Nazmun Nahar Karim, Executive Chairman, BARC and Member (Steering Committee), along with Dr. Md. Abdus Salam, Member Director (Crops), BARC and Member Secretary of Steering Committee, was also present at the meeting. In this meeting, the Committee approved GAP protocols for seven priority crops - Potato, Cabbage, Aroid Stolon, Bitter Gourd, Snake Gourd, Pineapple, and Citron (Jaralebu). The

approval was formally endorsed through a government circular issued on 30 June 2025, which provides official recognition and guidance for the adoption of GAP protocols nationwide. With this milestone, Bangladesh takes a crucial step towards strengthening food safety, environmental sustainability, and international market competitiveness for its agricultural products.

Hon'ble Secretary, MoA Presiding over the Steering Committee Meeting

Stakeholder Meeting

On 23 January 2025, BARC hosted a pivotal stakeholder consultation meeting focused on the development of GAP protocols. The event brought together 100 participants from various organizations, representing a broad spectrum of expertise and interest in advancing agricultural standards in Bangladesh. Dr. Zakiah Rahman Moni, PSO (Nutrition) and Member Secretary of the GAP Unit, presented an overview of the GAP protocol development process, highlighting the methodologies and stakeholder engagements involved.

Distinguished Guests on the Dais of the Workshop

A key feature of the meeting was the presentation of draft GAP protocols for seven crops-five vegetables: Potato, Cabbage, Aroid Stolon, Bitter Gourd, and Snake Gourd; and two fruits: Pineapple and Citron-by BARI-nominated scientists. These protocols, developed through rigorous research and field validations, were opened for stakeholder feedback to ensure their relevance and applicability. To incorporate recommendations effectively, two dedicated review committees were established, one for vegetables and another for fruits, tasked with finalizing the protocols.

In her address, Dr. Nazmun Nahar Karim, Executive Chairman of BARC, emphasized the transformative potential of GAP in advancing safe food production and promoting agricultural commercialization in Bangladesh. She highlighted that adoption of GAP protocols is essential for meeting both domestic and international food safety standards, thereby enhancing the country's agricultural competitiveness. This consultation marked a significant step in BARC's ongoing efforts to institutionalize GAP across Bangladesh's agricultural sector, fostering a collaborative approach to sustainable and safe food production.

In addition of technical and steering committee meeting GAP Unit BARC conducted a good number of coordination meeting that support GAP validation trial and protocol development are as follows:

Meeting and Workshop Conducted During 2024-25 GAP Unit, BARC

S. N.	Meeting Title	Date	Location / Venue
1	Orientation Workshop on Bangladesh GAP Standard and GAP Protocol	3 Dec 2024	BARC
2	Coordination Meeting on GAP Protocol Development	04 Jan 2025	BARC
3	Coordination Meeting on GAP Protocol Development	07 Jan 2025	BARC
4	Coordination Meeting on GAP Protocol Development	08 Jan 2025	BARC
5	Stakeholder Meeting on GAP Protocol Development	23 Jan 2025	BARC
6	Meeting of the Technical Committee Formulated for GAP Implementation in Bangladesh	23 Jan 2025	BARC
7	Meeting on Postharvest and Transportation Section Inclusion in GAP protocol	10 Apr 2025	BARC
8	ToT training on Bangladesh Good Agricultural Practice (GAP) for Safe Fruits and Vegetables Production	12-16 Jan 2025	Seed testing Laboratory, BADC, Gabtoli
9	Technical Meeting on Presentation of Draft GAP Protocols for 7 Selected Crops	4 Apr 2025	BARC
10	Training on Bangladesh Good Agricultural Practice (GAP) for Safe Fruits and Vegetables Production for SAAO (DAE) & Scientific Assistance (BARI)	4-6 Feb 2025	Mashroom Development Institute, Savar, Dhaka
11	Meeting on Certification Agreement Preparation between the Bangladesh GAP Scheme Owner and the BACB	8 May 2025	BARC
12	Meeting (2nd) on Checklist Updating Prepared Based on Bangladesh GAP Standards.	9 Apr 2025	BARC

S. N.	Meeting Title	Date	Location / Venue
13	Meeting on Checklist Finalization Prepared Based on Bangladesh GAP Standards.	15 Apr 2025	BARC
14	Technical Meeting on Finalization of GAP Protocols for 7 Selected Crops.	16 Apr 2025	BARC
15	Review Meeting on Finalizing the Draft of the Technical Report of Gap Validation	22 Apr 2025	BARC
16	Internal Auditor Training course on ISO 9001: 2015, ISO 45001:2018	4-8 May 2025	SAC
17	ToT on Bangladesh Good Agricultural Practice (GAP) for Safe Fruits and Vegetables Production	16-20 Feb 2025	BARC
18	Meeting on Introduction of Bangladesh GAP in the Agriculture Sector of the Country	7 May 2025	MoA
19	Meeting on Operational Agreement for Bangladesh GAP Certification between Bangladesh GAP Scheme Owner and BACB	28 May 2025	BARC
20	Progress Review Meeting on GAP Evaluation Trial Implementation of 8 Crops	2 Jun 2025	BARC
21	Finalization Committee Meeting for the Review of Marks/Logo Probidhi	2 Jun 2025	BARC
22	Meeting for Technical Report Writing of Validation Trial of 7 Selected Crops	22 Jun 2025	BARC
23	Programme Budget Preparation Meeting for 2025-26	25 Jun 2025	BARC
24	Meeting for the Updating of Bangladesh GAP to BARC	26 Jun 2025	BARC
25	Finalization Committee 2nd Meeting for the Review of Marks/Logo Probidhi	24 Jun 2025	MoA
26	7th Steering Committee Meeting	29 Jun 2025	MoA

Workshop

Orientation Workshop on the Bangladesh Good Agricultural Practices (GAP) Standard and Protocols

A full-day orientation workshop on the Bangladesh Good Agricultural Practices (GAP) Standard and Protocols was held on 3 December 2024 at the BARC. The workshop aimed to introduce and enhance awareness of Bangladesh's GAP framework among key stakeholders. During the session, the comprehensive Bangladesh GAP Standard and crop-specific GAP Protocols were formally distributed to all participants, providing them with the necessary resources to support the effective adoption and implementation of GAP across the country.

Dignitaries on the Dais during the Inaugural Session of the Workshop

Training

Recognizing the pivotal role of capacity development in the successful implementation of GAP in Bangladesh, the GAP Unit, BARC has initiated a comprehensive training program targeting key stakeholders across the agricultural sector. This initiative aims to enhance the knowledge, skills, and competencies of farmers, Sub-Assistant Agriculture Officers (SAAOs), and officers from the Department of Agricultural Extension (DAE), Bangladesh Agricultural Development Corporation (BADC), Department of Agricultural Marketing (DAM), and scientists of the National Agricultural Research System (NARS).

The training sessions provide participants with a thorough understanding of GAP principles, including the Bangladesh GAP Standard, modules, and crop-specific production technologies. Special emphasis is placed on sustainable practices, safety protocols, and compliance with international standards, thereby aligning Bangladesh's agricultural practices with global benchmarks.

This capacity-building initiative forms a key part of a broader strategy to institutionalize GAP nationwide. By equipping farmers and agricultural professionals with the necessary knowledge and practical tools, BARC aims to promote sustainable farming, enhance food safety, and improve the

quality of agricultural produce. These efforts are crucial for achieving the government's objective of nationwide GAP implementation, contributing significantly to the country's food and nutritional security and advancing agricultural sustainability goals.

Farmers' Training

Recognizing the critical need to familiarize farmers with GAP, the GAP Unit, BARC has proactively initiated a series of training programs aimed at strengthening field-level implementation. During the reporting period, a total of 15 day-long, in-house training sessions were conducted across selected districts, each coordinated with ongoing GAP validation and evaluation trials.

These sessions provided participants with a comprehensive understanding of GAP, including the Bangladesh GAP Standard modules and crop-specific production technologies. Importantly, a significant number of female farmers participated, reflecting BARC's commitment to inclusive agricultural education. The active engagement and enthusiasm demonstrated by these farmers underscore a growing interest in adopting GAP methodologies, which are crucial for producing safe, high-quality agricultural products and meeting both domestic and international market standards.

The list of farmer training conducted trial

S. N.	Title of the Training	Location	Date	Participants	
				Male	Eemale
1.	Cabbage	UAO, Office, Shibganj, Bogra	11/112024	19	6
2.	Bollte gourd	UAO, Office, Sadar, Manikganj	14/11/2024	14	11
3.	Brinjal	UAO, Office, Shibpur, Narsingdi	27/11/2024	25	0
4.	Jara Lemon	UAO, Office, Jaintapur, Sylhet.	12/12/2024	23	1
5.	Potato	UAO, Office, Mithapukur, Rangpur.	19/12/2024	25	0
6.	Pineapple	UAO, Office, Modhupur, Tangail.	23/12/2024	25	0
7.	Stolen	UAO Office, Panchbibi, Joypurhant	24/12/2024	16	9
8.	Guava	UAO Office, Goadagari, Rajshahi	29/01/2025	25	0
9.	Mango	UAO Office, Nanchol, Chapainawabganj	30/01/2025	25	0
10.	Bitter Gourd	UAO, Office, Srimangal, Moulvibazar	12/22/2025	24	1
11.	Jackfruit	UAO, Office, Valuka, Mymenshing	19/12/2024	25	0
12.	Yard Long Beran	UAO, Office, Chandina, Cumilla	23/12/2024	22	3
13.	Green Papaya	UAO, Office, Atghoria, Pabna	25/05/2025	25	0
14.	Pointed gourd	UAO, Office, Sadar, Jashore	20/06/2025	18	7
15.	Snake gourd	UAO, Office, Shitakundo, Chattragram	21/06/2025	25	0
	Total			**332**	**52**

Staff Training

To facilitate field-level implementation of GAP, the GAP Unit, BARC organized two batches of three-day training sessions for Sub-Assistant Agriculture Officers (SAAOs) from relevant upazilas and districts. Each batch comprised 25 participants, including Scientific Assistants from the Bangladesh Agricultural Research Institute (BARI).

The primary objective of these trainings was to enhance the capacity of frontline extension workers, equipping them with the necessary knowledge and skills to effectively implement GAP standards and promote safe, sustainable agricultural practices among farmers. The organized trainings are as follows:

The SAAO training conducted

S. N.	Title of the Training	Location	Date	Participants	
				Male	Eemale
1	Training on Good Agricultural Practices (GAP) for Safe Fruits and Vegetables Production (2nd batch)	Mushroom dev. Institute, Savar Dhaka	4-6 February 2025	43	7

Officers' Training

During the 2024-2025 fiscal year, BARC, through its GAP Unit, conducted three batches of Training of Trainers (ToT) programs on Good Agricultural Practices (GAP) for the safe production of fruits and vegetables. Each training session spanned five days, comprising 25 lectures per batch, and was attended by 25 participants.

The training aimed to enhance the capacity of key stakeholders involved in GAP implementation and certification, including officers from the Department of Agricultural Extension (DAE), Department of Agricultural Marketing (DAM), BARC, Bangladesh Agricultural Research Institute (BARI), Bangladesh Rice Research Institute (BRRI), Bangladesh Institute of Nuclear Agriculture (BINA), Soil Resource Development Institute (SRDI), private universities, and AR Mallick Seeds. The ToT programs were designed to equip these professionals with the knowledge and skills necessary to effectively implement and promote GAP standards, thereby contributing to the production of safe and high-quality fruits and vegetables in Bangladesh.

In addition, the GAP Unit, BARC organized two comprehensive five-day training courses on internal auditing, aimed at enhancing understanding and implementation of GAP in alignment with international standards. These sessions covered ISO 9001:2015 (Quality Management Systems), ISO 45001:2018 (Occupational Health and Safety Management Systems), ISO/IEC 17065:2012 (Conformity Assessment for Product Certification), ISO/IEC 17067:2013 (Fundamentals of Product Certification), and ISO 22000:2018 (Food Safety Management Systems).

The objective of these trainings was to equip participants with the skills necessary to conduct effective internal audits, ensuring compliance with GAP protocols and promoting continuous improvement within agricultural practices.

The officers' trainings organized are as follows: ToT for Scientists/Officers on GAP training conducted

S. N.	Title of the Training	Location	Date	Participants	
				Male	Eemale
1.	Training of Trainer (ToT) on Good Agricultural Practices (GAP) for Safe Fruits and Vegetables Production (1st batch) for BADC officers only	BARC	12-16 January 2025	16	9
2.	Training of Trainer (ToT) on Good Agricultural Practices (GAP) for Safe Fruits and Vegetables Production (2nd batch)	BARC	16-20 February 2025	37	13
3.	Internal Auditor Training Course on ISO 9001:2015, ISO 45001:2018	BARC	04-08 May 2025	21	4
4.	Internal Auditor Training Course on ISO 17065:2012, ISO 17067:2013 & ISO 22000:2018	BARC	22-26 Jun 2025	34	16
			Total	**111**	**39**

Awareness Campaign (Sensitization) on GAP Validation Trial

Potato

A farmer sensitization program on the Potato GAP validation trial was organized at Aviram Noionpur village, Mithapukur Upazila, Rangpur. The event was attended by approximately 120 farmers, who participated in a comprehensive field-level awareness session on Good Agricultural Practices (GAP). Officials from the Department of Agricultural Extension (DAE) at regional, district, and upazila levels, along with scientists from the local Bangladesh Agricultural Research Institute (BARI) centre, attended the program.

The program was chaired by Dr. Md. Abdus Salam, Member Director (Crops) and Convener of the GAP Unit, BARC. Following the main session, participants were guided through a field visit, where they received on-site briefings on GAP implementation techniques and benefits. The event played a key role in enhancing farmers' understanding of GAP and promoting sustainable, safe, and high-quality agricultural practices.

Jackfruit

A farmer sensitization program on the Jackfruit GAP evaluation trial was organized at Chanpur village, Valukha Upazila, Mymensingh district. The event was attended by approximately 120 farmers, who participated in a comprehensive field-level awareness session on Good Agricultural Practices (GAP). Officials from the Department of Agricultural Extension (DAE) at regional, district, and upazila levels, along with scientists from the local Bangladesh Agricultural Research Institute (BARI) Horticulture Research Centre (HRC), attended the program.

The program was chaired by Dr. Md. Faruque Ahmed, Director of HRC, BARI. Following the main session, participants were guided through a field visit, where they received on-site briefings on GAP

implementation techniques and benefits. The event played a key role in enhancing farmers' understanding of GAP and promoting sustainable, safe, and high-quality agricultural practices.

Snake Gourd

A farmer sensitization program on the Snake Gourd GAP validation trial was organized at Nuniachara village, Chitakundo Upazila, Chattogram district. The event was attended by approximately 100 farmers, who participated in a comprehensive field-level awareness session on Good Agricultural Practices (GAP). Officials from the Department of Agricultural Extension (DAE) at regional, district, and upazila levels, along with scientists from the local Bangladesh Agricultural Research Institute (BARI) centre, attended the program.

The program was graced by Dr. Shah Md Monir Hossain, Chief Scientific Officer (Crops), BARC, as the Chief Guest. Participants were subsequently guided through a field visit, where they received on-site briefings on GAP implementation techniques and benefits. The event played a key role in enhancing farmers' understanding of GAP and promoting sustainable, safe, and high-quality agricultural practices.

5. Transferable Technologies

Fifteen GAP protocols have been developed and distributed to DAE for field implementation. Besides, DAE GAP protocols were distributed among other related organizations and stakeholders.

1. Bangladesh GAP Protocol: Pineapple
2. Bangladesh GAP Protocol: Citron (Jara Lebu)
3. Bangladesh GAP Protocol: Cabbage
4. Bangladesh GAP Protocol: Potato
5. Bangladesh GAP Protocol: Aroid Stolon (kochur Loti)
6. Bangladesh GAP Protocol: Bitter gourd
7. Bangladesh GAP Protocol: Snake gourd

6. Collaborative Work (National and International)

As the Scheme Owner of Bangladesh GAP, BARC collaborates closely with the Ministry of Agriculture (MoA) and all institutes within the governing structure, including BACB (DAE), DAM, Hortex Foundation, BARI (for protocol development and validation), academic institutions, SGS (for testing facilities), as well as various supermarkets and other relevant stakeholders involved in GAP implementation.

7. Publications

List of important Publication during 2024-25 under GAP Unit, BARC

i. Re-print of Bangladesh GAP standard (BDS, 2025:2023).
ii. Seven GAP protocols of Potato, Cabbage, Aroid Stolon, Bitter Gourd, Snake Gourd, Pineapple and Citron (Jara Lebu).
iii. Bangladesh GAP standard aduitor's Checklist.
iv. Technical Report on GAP Validation Trials 2023-24.

Scientific Publication

i. Quamruzzaman, A. K. M., Rabiul Islam, M., Akter, L., Ziaur Rahman, A. K. M., Mezba, M. S. A., **Salam, M. A.**, **Moni, Z. R.**, and **Hassan, M. S.** (2025). Good Agricultural Practice (GAP) Trials in Brinjal: A Step Toward Safer, Nutritious, and Secure Food Systems in Bangladesh. *Discoveries in Agriculture and Food Sciences,* 13(3):64-79

8. Other Activities

At BARC, the GAP Unit is driven by a team of distinguished scientists who contribute their expertise across workshops, certification committees, training programs, and various technical committees. Dr. Md. Abdus Salam, Member Director (Crops) and Convener of the GAP Unit, leads the team. He consistently convenes expert meetings, oversees GAP certification efforts, and directs trainings and workshops for NATA, DAE, DAM, and BADC.

As Chief Scientific Officer (Crops), Dr. Shah Md. Monir Hossain plays a pivotal role as a member of the GAP Unit. He actively participates in certification committees and conducts awareness-raising seminars to promote Good Agricultural Practices (GAP).

Dr. Zakiah Rahman Moni, Principal Scientific Officer (Nutrition) and Member Secretary of the GAP Unit, brings professionalism and depth to the curriculum. She serves as a professional member and trainer in various training programs and consistently presents scheme-owner activities at technical sessions, steering committees, and workshops. Her authorship in the Bangladesh GAP standards highlights her scholarly and applied contributions.

Dr. Md. Jahirul Islam, Principal Scientific Officer (Crops) and working scientist under the PARTNER project, strengthens the unit's efforts by actively participating in meetings, training sessions, workshops, and farmer sensitization programs across the country. Together, this cohesive team blends scientific rigor with hands-on training and policy-level engagement, advancing GAP awareness, certification, and implementation across Bangladesh's agricultural sector.

Dr. Mian Sayeed Hassan, GAP Protocol Development and Training Consultant at BARC-PARTNER, spearheads the design of GAP policies, standards, protocols, and checklists. He drafts certification agreements between the scheme owner and the Bangladesh Agricultural Certification Body (BACB), and develops comprehensive training programs ranging from Training of Trainers (ToT) to farmer-level sessions. Beyond strategy, he excels in creating engaging presentations and detailed reports, while actively monitoring field trials for validation and evaluation of GAP practices in farmers' fields. Research Presentation Crop-based nominated scientists of BAPI have been presented progress review meeting on GAP Evaluation Trial Implementation of 8 crops of research activities according the structure format developed by GAP unit, BARC on 2 June 2025.

Development of GAP Checklist for Auditing

The GAP Unit, BARC has developed a comprehensive field-level auditing checklist based on the Bangladesh GAP Standards, serving as a foundational tool for implementing GAP nationwide. This checklist guides farmers, extension officers, and auditors in evaluating and ensuring compliance with GAP standards, covering various aspects of agricultural practices such as land preparation,

crop production, harvesting, post-harvest handling, and record-keeping.
By systematically addressing these areas, the checklist promotes food safety, environmental sustainability, and the well-being of agricultural workers. Its adoption represents a significant step toward standardizing GAP implementation in Bangladesh, providing farmers with a clear framework to follow, facilitating the certification process, and enhancing market access for agricultural products. Moreover, the checklist aligns with national objectives for producing safe and high-quality food, contributing to public health and economic development. By adhering to international best practices, it also positions Bangladesh to meet global market requirements, potentially increasing agricultural exports.

Agreement for Bangladesh GAP Scheme

The Agreement for Bangladesh GAP Scheme formalizes the collaborative framework between the Bangladesh Agricultural Research Council (BARC), acting as the Scheme Owner (SO), and the Department of Agricultural Extension (DAE), serving as the Bangladesh Agricultural Certification Body (BACB). This agreement clearly delineates the roles and responsibilities of each party to ensure effective implementation and governance of the Bangladesh GAP Certification Scheme.

As the Scheme Owner, BARC is entrusted with the strategic development, oversight, and maintenance of GAP standards, including the preparation of technical documents, regular updates, and regulation of the official certification mark. The agreement also specifies mutual obligations regarding data management, compliance monitoring, training, and the use of the certification mark, thereby establishing a robust framework to promote safe and sustainable agricultural practices throughout Bangladesh.

Technical Report on GAP Validation Trials 2023-24

With increasing concern over food safety in Bangladesh, the adoption of Good Agricultural Practices (GAP) has become a key initiative for safer and more sustainable farming. The Bangladesh Agricultural Research Council (BARC), in collaboration with the Bangladesh Agricultural Research Institute (BARI) and the Department of Agricultural Extension (DAE), launched a nationwide program to validate crop-specific GAP protocols.

Field trials conducted across eight districts on selected fruits and vegetables demonstrated that GAP adoption enhances yields, improves product quality, and ensures food safety. These findings provide a strong foundation for broader GAP adoption, supporting national goals to strengthen food security, agricultural competitiveness, and sustainable farming practices in Bangladesh.

TECHNOLOGY TRANSFER AND MONITORING UNIT

Technology transfer is vital for sustainable agricultural growth and food security in Bangladesh. The Government has accordingly prioritized it in the national development agenda. The Technology Transfer and Monitoring Unit (TTMU) of BARC is mandated to facilitate, monitor, and evaluate the transfer of agricultural technologies developed by NARS institutes and other organizations.

Its core functions include strategy formulation, policy input, preparation of policy documents, and supervision of technology transfer projects. TTMU coordinates with NARS institutes, universities, DAE, BADC, DLS, DoF, the private sector, and international organizations (FAO, CIMMYT, IRRI, SAARC). It organizes seminars, workshops, and training programs, reviews scientific papers, and provides policy and technical advisory services.

By strengthening research–extension–farmer linkages, TTMU promotes adoption of innovations, enhances agricultural productivity, and supports socio-economic development of Bangladesh.

Name of the Professionals	
Name	**Designation**
Dr. Suraya Parvin	Director (C.C.)
Dr. Md. Iqbal Hosen	Senior Scientific Officer
Md. Anowarul Haque	Senior Scientific Officer

1. Project Development and Implementation

Status of the Projects

i) Asian Food and Agriculture Cooperation Initiative (AFACI)

Funded Improvement of Rural Agricultural Extension System in Asia (RATES) Project: Ongoing (currently in the 3rd year of implementation) under TTMU, BARC.

ii) KGF-Funded Project on Improving Research Quality of ARIs through Review and Evaluation by an External Panel of Experts: Ongoing (currently in the 4th year of implementation).

Project Implementation Highlights

a) Progress of the Improvement of Rural Agricultural Technology Extension System in Asia (RATES) Project

Basic Information

This project is being implemented by the Principal Investigator (PI) from the Bangladesh Agricultural Research Council (BARC), in coordination with two Co-PIs from the Bangladesh Agricultural Research Institute (BARI) and the Department of Agricultural Extension (DAE).

The PI from the Technology Transfer and Monitoring Unit (TTMU), BARC, holds overall responsibility for compiling collected information on transferred technologies, as well as coordinating, monitoring, and evaluating the project.

Progress (2nd year), BARC Component

- Conducted 3 field monitoring visits.
- Published 3 manuals.
- Produced a video documentary on the RATES project.
- Prepared and submitted the annual report to AFACI.
- Participated in the AFACI RATES Project Evaluation Workshop.

Progress (2nd year), DAE Component

- Established 16 trial plots in research fields (out of 22 planned) to assess yield gaps.
- Formed 5 farmers' groups (30 farmers each, including demonstration and non-demonstration farmers). Group meetings were held every 15 days under the supervision of SAAOs to share production-related learnings.
- Set up 20 crop demonstration plots (4 spices and 1 oilseed crop; 5 plots each) in two selected upazilas with extension services (1 crop demonstration pending).
- Set up another 20 crop demonstration plots (4 spices and 1 oilseed crop; 5 plots each) in farmers' fields in two selected upazilas without extension services (1 crop demonstration pending).
- Organized 4 batches of farmers' training programs.
- Organized 1 batch of training for extension personnel.
- At the end of the production season, organized 2 field days to share demonstration outcomes with stakeholders in common village meeting places.

Progress (2nd year), BARI Part

- A Progress Review Meeting was held on 26 November 2024 at BARI, Gazipur.

Progress (3rd Year), BARC Part

Training and Publications

- 3 training manuals and 2 leaflets on mobile app user guidelines have been published by BARC with assistance from BARI and DAE.
- These manuals were distributed by the local Agriculture Office.

Technology Integration

- Technological details are being integrated into the existing mobile app "Khamari", led by BARC.

Progress (3rd Year), BARI Part

Quality Seed Production

- 4 demonstration plots for quality seed production were established.
- Activities included selection of farmers and land, establishment of seed demo plots, crop management, data collection, analysis, and farmer training programs.

Farmers' Training

- 6 training batches conducted (30 farmers per batch) in two upazilas.
- Topics: seed production, processing, and preservation.
- Timeframe: February to April 2025.

Progress (3rd Year), DAE Part

- Adoption Study: Questionnaire prepared, data collected, and analysis ongoing for adoption report of 5 transferred technologies.
- Yield Gap Assessment: Comparison of yield between research fields and farmers' fields conducted.
- Follow-up Demonstration Plots: Selection of farmers/land, plot establishment, crop management, data collection, training programs, and Field Days organized by local Upazila Agriculture Office, Tangail.
- Farmers' Group Meetings: Regular meetings conducted by local DAE Office.
- Market Orientation & Linkage Workshop:

A Market Linkage Workshop under the AFACI-RATES Project was organized on May 24, 2025, at the Upazila Parishad Conference Room, Ghatail Upazila, Tangail District. The workshop was chaired by Mohammad Ali Jinnah, Additional Director, DAE, as part of the project's ongoing initiatives to strengthen agricultural value chains.

The event brought together diverse stakeholders from the two implementing upazilas, including farmers, dealers, NGO professionals, private company field officers, Sub-Assistant Agricultural Officers (SAAOs), and designated officials from BARC, BARI, and DAE. This multi-stakeholder participation ensured inclusive discussions on strengthening market linkages, fostering collaboration, and enhancing opportunities for farmers to access markets more effectively.

Recommendations and Suggestions

Following the brief discussions during the workshop, the following recommendations and suggestions were shortlisted:

Timely and Accessible Availability of Improved Seeds

Ensure the supply of newly released, research-based varietal seeds for spices, pulses, and oil crops through enhanced coordination among research institutes, extension services, and private sector actors.

Strengthening Market linkages

Map crop-specific value chains, identify viable markets, and facilitate multi-stakeholder platforms to improve farmers' access to markets.

Capacity Building Initiatives

Prioritize targeted training programs for farmers, field-level extension personnel, and market actors on value chain development, market literacy, and the application of smart farming technologies.

Market-Driven Production Planning

Integrate market analysis into seasonal crop planning to align production with demand, avoid market gluts, and ensure better price realization for farmers.

Institutional Sustainability of Farmer Groups

Institutionalize and strengthen project-formed farmer groups by linking them with credit facilities, input support, and market actors to ensure long-term sustainability.

b) KGF Funded Project

Improving Research Qualities of ARIs through Review and Evaluation by an External Panel of Experts

- In compliance with Clause 9 and Sub-clause 2(cha) of the BARC Act 2012, and with prior approval from the Ministry of Agriculture, BARC constituted a 10-member External Panel of Experts (Panel) to recommend measures for improving the quality of research being conducted at six NARS institutes. The Panel's mandate included reviewing existing facilities and research programs. To support the work of the Panel, BARC requested funding from KGF through a dedicated project.

- The Panel developed a methodology and activity plan consistent with its Terms of Reference (ToR) to achieve the project objectives. In the process, the Panel visited the headquarters of each of the six ARIs, along with selected outlying research stations. They interacted with scientists, evaluated physical facilities, administrative and research infrastructure, and reviewed ongoing research programs and their implementation. The Panel also assessed research quality through a questionnaire survey and conducted technology uptake workshops in 14 agricultural regions. During the ongoing implementation phase, the Panel identified institutional strengths and weaknesses, suggesting measures to strengthen research capacity and improve quality. Additionally, the extent of farm-level adoption of ARI-released technologies was examined as a measure of research effectiveness. The Panel also engaged in discussions with senior scientists and ARI management, incorporating their feedback into the Actionable Areas of Concern prepared for each institute. The compiled findings and recommendations were formally submitted to BARC.

- For the third year's plan of activities, the Panel targeted the organization of regional workshops in collaboration with DAE officials to map out the farm-level adoption of crop varieties and production technologies released by the six ARIs during 2017–2021. It also planned visits to outlying regional stations of the institutes to better understand the quality and scale of research being undertaken. Consultations with ARI scientists were also scheduled to further deliberate on the identified areas of concern. As DAE operates in 14 agricultural regions, these workshops were planned accordingly.

- In the second year, the Panel successfully organized six technology uptake workshops. The remaining eight workshops were scheduled for the third year. In addition to the technology uptake workshops, the Panel also arranged stakeholders' workshops focusing on research-extension linkages and R&D initiatives involving agribusiness entrepreneurs engaged in seed business and farm machinery manufacturing in Bangladesh.

2. Policy-Level Contribution

Involvement in National Policy formulation, advisory roles or strategic inputs or comments provided to policy makers. Some of the major findings and Policy level recommendations provided by the Expert Panel are summarized below (Approved by BARC Executive Council meeting held on 6 March 2025)

i. Unified Service Rules, and Recruitment & Promotion of Scientists for NARS Institutes:
The Panel developed a policy document recommending the introduction of a uniform recruitment, management, and promotion system for scientists across all NARS institutes. The proposed Unified Service Rules were submitted to BARC for necessary action.

The document was appraised at a high-level meeting at BARC in the presence of the Honourable Minister and Senior Secretary of the Ministry of Agriculture, along with the heads of ARIs. A follow-up meeting resolved that a Unified Service Rule (NARS Service) and an Independent Recruitment Board (IRB) for NARS Institutes be established. Accordingly, the Ministry of Agriculture (MoA) constituted a committee comprising representatives from MoA and ARIs, with the BARC Executive Chairman as Convener. The Committee finalized the Unified Service Rules, which were then submitted to MoA. The Ministry reviewed, finalized, and subsequently forwarded the Service Rules to the Ministry of Finance for consideration.

ii. Strategic Plan: Strategic planning is essential for aligning institutional vision with national agricultural transformation goals. The Panel recommended that each ARI develop a Strategic Plan with near- to short-term goals, clearly defining its role and responsibilities in driving transformational change in agriculture. The plan should:

- Identify research areas crucial for sustainability of farming, competitive land use, and commercialization of agriculture.
- Highlight gaps in physical facilities and human resources.
- Set realistic timelines for achieving priority objectives.

iii. Human Resources Development (HRD)
To ensure ARIs remain effective and responsive to national demand, the Panel emphasized the need for robust HRD programs. Recommendations include:

- Each ARI should develop HRD plans with clear provisions for higher studies and career training of scientists.
- Adequate budgetary allocation for HRD should be ensured as a line-item in annual budgets.
- A medium-term HRD plan should be developed in alignment with current and future research programs.

iv. Infrastructure, Laboratories, and Other Facilities at Headquarters and Research Stations
The Panel recommended

- Procurement of modern equipment, appliances, glassware, and chemicals through competitive bidding to ensure quality.
- Establishment of controlled environment facilities (greenhouses, phytotrons, net houses) for advanced experiments.

- Development of policies for the utilization of housing facilities at outstations to maximize staff benefit and revenue generation.
- Consolidation of research stations and sub-stations across ARIs to eliminate duplication and inoperative stations, with no further proliferation except where strategically necessary.

v. Quality of Research

The Panel used two indicators to judge research quality:
Number of acceptable/adopted technologies developed, and quality publications.

Recommendations include:

- Review of Annual Performance Assessment (APA) indicators to better reflect high-quality research.
- More stringent evaluation and release criteria for varieties and production technologies.
- Encouragement of publications in high-standard journals (with impact factor or professional reputation).
- Provision of funding support for publication fees.
- Discouragement of publication in low-standard or predatory journals.

vi. Research Environment

- Strict adherence to government service rules; scientists should not be involved in political activities.
- Ensuring fair treatment and equal opportunity for all scientists as guaranteed by law.
- Rewarding good work to motivate quality research outputs.

vii. Accountability of Scientists

- Fair distribution of workload among scientists.
- Reasonable limits on the number of experiments per scientist.
- Limiting the number of co-investigators to ensure accountability and productivity.

viii. Promotion of Scientists

- Promotion should be merit-based, following stringent criteria, irrespective of vacant positions.
- This will foster a competitive environment, improve research quality, and incentivize high-quality publications and outputs.

ix. Technology Adoption

The Panel reviewed technology adoption rates across ARIs for 2017–2021 and found limited uptake:

- BRRI released 29 rice varieties (12 T. Aman, 11 Boro, 5 Aus, 1 B. Aman); only 7 (24%) varieties were widely adopted: BRRI Dhan 75, 76 & 87 (T. Aman); BRRI Dhan 81 & 89 (Boro).
- BARI released 94 varieties (17 potato, 5 oilseed, 3 pulses, 29 vegetables, 25 fruits, 3 flowers, 12 spices) and 11 farm machinery technologies; only a few adopted, e.g., BARI Malta 2 & 3, BARI Labu 4, BARI Hybrid Tomato 10 & 11, BARI Masur 8.
- BINA released 17 varieties; only BINA Dhan 24 and BINA Sarisa 11 were adopted.
- BSRI released 7 varieties; only BSRI Akh 47 & 48 saw small-scale adoption.
- BJRI released 8 varieties; adoption of BJRI varieties was negligible as farmers (92%) continue to use Indian variety JRO 524. Some adoption of BJRI's Mesta and Kenaf was reported in Char areas.
- BWMRI released 12 varieties (6 wheat, 6 maize). Only BARI Gom 33 and BWMRI Gom 2 showed adoption; other wheat and maize varieties remain largely unadopted.

Reasons for slow adoption were identified, including limited dissemination, weak extension linkage, and inadequate farmer awareness.

x. Policy Document for BJRI

The Panel developed and submitted a policy paper on jute, reviewing the national and global status of jute, and suggesting measures to:

- Augment jute seed production.
- Enhance jute production and exports.
- Strengthen collaboration with the private sector.

xi. Basic and Applied Research on Jute (BARJ) Project

The Panel noted that world-class biotechnological research facilities were developed under the BARJ Project at BJRI. These facilities could serve as a national platform for biotechnology research and training for all ARIs. The Panel recommended formal transfer of the project and its trained manpower to the proposed national centre.

xii. Policy Document on Sugarcane

A Sugar Policy was prepared to revitalize sugarcane production and sugar industry operations by leveraging BSRI technologies. The policy emphasizes running sugar mills profitably and was submitted to BARC for necessary action.

Follow-Up Activities and Consultations

- A discussion meeting with BARC high officials and the Expert Panel was held on 13 January 2025 at BARC.
- Agricultural Research Workshop at Seminar Room, RARS, Rahmatpur, Barisal on 24 April 2025.
- Agricultural Research Workshop at Conference Room, AD Office, Sylhet on 13 May 2025.
- A group discussion meeting with BARC officials on the current situation, problems, and way forward of BARC was held on 21 May 2025. A report on "Proposals for Enhancing Capacity Building of BARC" was subsequently submitted.

Inputs/Comments

Last financial year TTMU, BARC provided comments on

S. N.	Topic	Date
1.	Provide opinion on the amendment of 'The University Grants Commission of Bangladesh Order, 1973.	07 July/24
2.	Identification of Planning Concerned with the Agencies/Institutes in Time Bound Action Plan of MoA .	04 November 2024
3.	Provide comments on Update of National Science and Technology Policy 2011.	27 November 2024
4.	Update activities of Agencies/Institutes of MoA.	30 April 2025
5.	Provide comments on The Public Demands Recovery Act, 1913"	30 June 2025
6.	Amendment of 101 No. recommendations of Bangladesh Labor Law, 2006 (Revised 2018)	14 January 2025

3. Research & Financial Management

- Coordinate the activities of External Expert Panel formed by BARC through the approval of MoA.
- Coordinate the RATES project activities as Pi of the project.
- Project fund was disbursed from BARC to DAE and BARI part.
- Institutional management and research management recommendations by Expert Panel were provided to 6 ARIs.

4. Monitoring, Evaluation & Review

- As PI of RATES Project, Dr. Suraya Parvin, Director (TTMU), monitored the implementation status of RATES project at Dhanbari and Ghatail Upazila, Tangail.
- In consistent with BARC Act-2012, Director TTMU coordinates the review process of the research activities and Institutional Management of 6 ARIs (BARI, BRRI, BINA, BSRI, BJRI and BWMRI

5. Events Organized

Five programs were coordinated by TTMU Unit during last financial year (2024-25). Details were given below:

i) Training: Vegetable Crop (Potato, Tomato, Sweet Gourd, Bitter Gourd) Technologies Generated by BARI

On December 17–18, 2024, the Technology Transfer and Monitoring Unit (TTMU) of the Bangladesh Agricultural Research Council (BARC) organized a Training of Trainers (ToT) program at BARC, Farmgate, Dhaka. The training was designed to enhance the technical capacity of extension officers in effectively disseminating vegetable crop technologies developed by the Bangladesh Agricultural Research Institute (BARI). The sessions covered a comprehensive range of topics, including:

- Post-harvest handling and reduction of post-harvest losses.
- Value chain development and strategies for improving farmer-to-market linkages.
- Promotion and adoption of BARI-developed hybrid varieties such as BARI Hybrid Tomato-8, BARI Hybrid Sweet Gourd-1, and BARI Hybrid Bitter Gourd-3, which were highlighted for their strong agronomic traits, disease resistance, and adaptability to local environments.
- Farmer-level potato seed production methods to improve local seed quality and ensure timely availability.

Special emphasis was placed on addressing challenges in technology transfer at the field level and ensuring the sustainability of improved practices.

The training significantly strengthened the technical capacity of field officers, equipping them with the knowledge and practical skills required to disseminate and promote BARI-developed vegetable crop technologies at the grassroots level, thereby supporting enhanced productivity, food security, and farmer incomes.

ii) Training: Oilseeds and Spices Crop Technologies Generated by BARI

A two-day Training of Trainers (ToT) program on Oilseeds and Spices Crop Technologies Generated by the Bangladesh Agricultural Research Institute (BARI) was held on 20-21 April 2025 at BARC. The training was organized to build the capacity of Upazila Agriculture Officers/Agriculture Extension

Group Photo of Dignitaries and Participants of the Training

Officers from the Department of Agricultural Extension (DAE), equipping them with updated knowledge and practical skills to disseminate research-based technologies for oilseed and spice crop production.

Dr. Suraya Parvin, Director, TTMU, delivered the welcome address, followed by remarks from the chief guest, Dr. Nazmun Nahar Karim, Executive Chairman, BARC. The session was chaired by Dr. Md. Abdus Salam, Member Director (Crops), BARC, who emphasized the role of coordinated efforts among researchers, extension officers, and farmers in scaling up agricultural innovations.

Throughout the two-day program, participants attended technical sessions conducted by NARS scientists from BARI and BARC, covering topics such as pest and disease management, the status and prospects of oilseed cultivation, agronomic practices, technology transfer approaches, quality seed production, and the performance of improved varieties. The participants actively engaged in discussions, shared field-level experiences, and expressed appreciation for the practical insights provided by the experts. Insect and disease management in oilseed and spice crops.

iii) Review Workshop on Transferable Technologies Developed by NARS Institutes (2010–2024)

The Technology Transfer and Monitoring Unit (TTMU) of the Bangladesh Agricultural Research Council (BARC) organized the "Review Workshop on Transferable Technologies Developed by NARS Institutes (2010–2024)" on 28 May 2025 at BARC, Dhaka. The workshop was presided over by Dr. Md. Abdus Salam, Member Director (Crops), BARC, and attended by scientists and officials from 13 NARS institutes, as well as representatives from DAE, DLS, DOF, and BADC.

In his inaugural address, Dr. Salam highlighted the importance of coordinated research efforts and the sustainable dissemination of technologies to enhance agricultural productivity. Dr. Suraiya Parvin, Director of TTMU, BARC, moderated the workshop and stressed the need for systematic studies on technology adoption, impact assessment, and dissemination challenges.

Hon'ble Guests and the Expert Members of the Workshop

During two technical sessions, scientists presented approximately 400 technologies developed between 2010 and 2024. The sessions were chaired by Dr. Md. Abdus Salam and Dr. Md. Abdur Razzaque, Former Executive Chairman, BARC. Expert reviews and guidance were provided by Dr. Nathu Ram Sarker, Executive Director, KGF; Dr. Md. Aziz Zilani Chowdhury, Former Member Director, BARC; Dr. Md. Khalilur Rahman, KGF; and Dr. Md. Abdul Qaiyum, Former CSO, BARI.

The subsequent open discussion led to several key decisions and action points, including organizing a dedicated workshop on adoption rate methodology, identifying extension challenges through a national-level workshop, prioritizing climate-resilient crop varieties, strengthening seed systems for wider access and quality assurance, and validating technologies at the farmer level to ensure adaptability. Enhanced research coordination between BINA and BARI in horticulture, reassessment of intercropping practices by BSRI, development of affordable jute-based products through BJRI, availability of hybrid maize seeds via BWMRI and BADC, strengthened collaboration between BLRI and DLS for livestock innovations, new research on fisheries biodiversity and marine resources by BFRI, and improvements in technology evaluation mechanisms, return-on-investment analysis, seed availability, and capacity building across all NARS institutes were also emphasized.
The workshop concluded with a vote of thanks from the chair, who urged all stakeholders to work collaboratively to promote sustainable agricultural innovations and facilitate wider adoption of transferable technologies for the benefit of farming communities.

iv) Meeting

Agriculture Technology Extension Coordination Committee (ATECC) Meeting for Rabi Season 2024

The Agriculture Technology Extension Coordination Committee (ATECC) meeting for Rabi Season 2024 was held on 08 October 2024 at BARC. The meeting was chaired by the Executive Chairman, BARC, and co-chaired by the Director General, DAE. The Director, Field Service Wing, DAE acted as the Member Secretary.

The meeting was attended by members from NARS institutes, Department of Agricultural Extension (DAE), Department of Agricultural Marketing (DAM), Bangladesh Agricultural Development Corporation (BADC), Agricultural Information Service (AIS), Bangladesh Institute of Research and Training on Applied Nutrition (BIRTAN), Seed Certification Agency (SCA), Hortex Foundation, BARC, and representatives from private sector organizations.

The session served as a high-level platform to review agricultural technology dissemination strategies, assess seasonal crop planning, and strengthen coordination among stakeholders for effective implementation during the Rabi season.

Recommendations

i. Undertake targeted research and implement measures to ensure the availability of quality chili seeds and the effective management of chili pests.
ii. Incorporate farmers' feedback into the presentations during the regional review workshops of NARS Institutes.
iii. Present detailed information on major crops and their respective varieties across all 14 agricultural regions at the ATECC meetings.
iv. In line with the earlier decision, ensure that each Sub-Assistant Agriculture Officer (SAAO) supports 100 farmers in using the Khamari mobile app. Region-wise usage data of the app should be compiled and reported at the ATECC meeting.
v. BADC should report on the availability of seed, while DAE should present data on farm-level adoption of Alternate Wetting and Drying (AWD) technology.
vi. Promote companion cropping by encouraging the intercropping of BJRI Tosha Pat-9 with cotton. Additionally, encourage farmers to cultivate Mesta and BINA Pat Shak 1, 2, and 3 as leafy vegetables, and promote BSRI 42 (Rangbilash) for home gardens.
vii. To increase the production of export-quality, dry matter-rich potatoes, BARI should select suitable varieties and take necessary actions. In the next meeting, BARI should also present data on production trends, factors contributing to yield decline, and relevant climate-related challenges.
viii. SRDI should conduct soil testing and implement measures to prevent and mitigate soil salinity.
ix. Encourage the practice of zero-tillage mustard sowing on flood-affected land.
x. Establish a dedicated WhatsApp group to improve communication and coordination among ATECC members.

Meeting

Technology Extension Coordination Committee (ATECC) – Meeting for Kharif-1 Season 2025

The 18th Agricultural Technology Extension Coordination Committee (ATECC) meeting was held at BARC on 13 April 2025, focusing on preparations for the Kharif-1 Season. The meeting was presided over by Dr. Nazmun Nahar Karim, EC, BARC, with Mr. Obaydur Rahman, Director, Field Service Wing, DAE, as Co-hair. Participants included representatives from NARS institutes (BARI, BRRI, BINA, BSRI, BJRI, BWMRI, CDB, SRDI), DAE, DAM, BADC, AIS, BSA, BIRTAN, SCA, BWDB, as well as executives from KGF, Hortex Foundation, Alim Industries, and BARC. During the meeting, Dr. Moniruzzaman, Deputy Director, FSW, DAE, presented the work plan for crop demonstrations, technology demos, field days, trainings, and follow-up activities for Kharif-1 2025.

Hon'ble Guests and the Expert Members

Recommendations

i. BJRI will supply 1.5 tons of BJRI Tosha Pat-9 seeds for cultivation in the Faridpur area. DAE will encourage farmers to adopt BSRI Sugarcane varieties 42, 47, and 49 in homestead areas, with special focus on Sugarcane-42 in hilly regions.
ii. A formal request should be sent to the Forest Department (through the Deputy Commissioner of Mymensingh) to initiate tree plantation along regional roadsides.
iii. Promote Zero Tillage technology for mustard cultivation among farmers in flood-affected areas to enhance productivity and resilience.
iv. The Member Director (Crops), BARC should be included as a member of the ATECC.
v. In coastal regions, ensure accurate measurement of soil salinity levels and prioritize the development of salt-tolerant crop varieties, along with the timely supply of suitable seeds.
vi. Technology leaflets developed by NARS institutes should be distributed during DAE training sessions. Additionally, AIS should prepare farmer success stories and develop video documentaries based on DAE training modules.

6. Events Attended

The Director of TTMU serves as the Principal Investigator of the project "Improvement of Rural Agricultural Technology Extension System in Asia (RATES)," funded by the Asian Food & Agriculture Cooperation Initiative (AFACI), Korea. She participated in the second-year project evaluation workshop held from 25 to 30 August 2024 in Hanoi, Vietnam, where she presented the project's second-year progress. In her capacity as Director and Senior Scientific Officer of TTMU, she also attended numerous meetings, workshops, seminars, and training programs.

7. Research Presentations

Presented the 2nd year progress of RATES project in the project evaluation workshop in Hanoi, Vietnam. As a coordinator cum PI of Improving Research Qualities of ARI project, presented 3rd year progress of ARI project at Annual workshop, BARC.

8. Publications

Book

i. Transferable technologies developed by NARS institutes during 2020–21 to 2022–23
ii. Manual on varietal identification and cultivation practices for BARI Sarisha-18
iii. Guide on onion bulb and seed production techniques for BARI Piaz-6
iv. Manual on turmeric rhizome and seed cultivation practices for BARI Halud-4
v. Guide on garlic bulb and seed production methods for BARI Roshun-2
vi. Manual on varietal identification and cultivation practices for BARI Morich
vii. Overview of spice and oilseed crop varieties with their production technologies

Training Manuals

i. Farmers Training Manual on Quality Seed Production of BARI Generated Spices and Oil seed Crop.
ii. Training Manual on Vegetable Crop Technologies Developed by BARI.
iii. Training Manual on Oilseed & Spices Crop Technologies Developed by BARI.

Leaflets

i. Khamari Mobile App User manual
ii. Value Chain and Market Linkage of Agricultural Products

Video Documentary on RATES project

i. Video documentary On RATES Project uploaded in BARC website
ii. Published RATES project activity in the in Daily newspaper

9. Other Activities

Regular Activities

Speech Formation:

i. Prepared the speech of Special Guest-2 for the National Fruit Fair 2025 seminar entitled: Food, Nutrition and Commercialization of local Fruits: current situation, Challenge and Possibilities
ii. Prepared the speech of Special Guest-2 for World Food Day 2024
iii. Prepared the speech of Special Guest for the event of Annual Research Review (2023-24) and Proposed Plan (2024-25) Workshop of BSRI
iv. Participated to make a speech on the Sonali Phoshol programme at Bangladesh Betar on 05 April 2025.

Linkage

i. Linkage with KGF, DAE, DoF, DLS and other national and international organization.
ii. Coordinated and given cooperation to the activities of Executive Chairman, BARC and successfully carried out the different tasks.
iii. Preparation of Meeting Minutes.
iv. Work-plan preparation.
v. Divisional Annual progress report preparation.
vi. Budget preparation for future training and workshop.
vii. Ministry Report.
viii. Report for Newsletter of BARC.
ix. Reporting for APA (upto December 2024)

PLANNING AND EVALUATION DIVISION

PLANNING AND EVALUATION DIVISION

The Planning and Evaluation Division is one of the core divisions of BARC, entrusted with designing, implementing, and evaluating projects and programs to strengthen the Council's research and development activities. It reviews and revises project proposals prepared by NARS institutes as per the directives of the Ministry of Agriculture and provides expert opinions, inputs, and policy support at the national level. The division also assists in drafting and reviewing Memoranda of Understanding (MoU), Memoranda of Agreement (MoA), and Letters of Agreement (LA) to facilitate agricultural cooperation and research development, both nationally and internationally. Furthermore, it provides valuable inputs on MoUs, MoAs, and LAs between agencies of the Ministry of Agriculture and foreign universities, institutes, and organizations, ensuring quality, compliance, and alignment with national priorities. Professionals working in the division play a vital role in bridging agricultural research with policy, institutional planning, and global collaboration.

Name of the Professionals

Name	Designation
Dr. Md. Kabir Uddin Ahmed	Member Director
Dr. Md. Ashraful Alam	Principal Scientific Officer (Deputation for PARTNER Program)
Dr. A B M Khaldun	Principal Scientific Officer
Dr. Md. Iqbal Hosen	Principal Scientific Officer (A. C.)

1. Project Development and Implementation

- Establishment of Bangabandhu-Pierre Eliot Trudeau Agricultural Technology Center (BP-ATC) and Enhancement of Agricultural Research Capability in Bangladesh: Project activities were completed, though some components remain pending for further action.
- Establishment of the Institute of Agricultural Economists, Bangladesh: The project proposal was submitted but has not yet been approved.
- Technical Support to Sustainable and Resilient Investment Towards Agriculture Sector Transformation Programme of Bangladesh: Responsibility for this initiative has been handed over to the Crops Division, BARC.

2. Policy-Level Contributions

The unit has played a proactive role in reviewing international agreements, policy documents, project proposals, and memoranda, and in providing timely opinions and comments to the Ministry of Agriculture (MoA) and other relevant authorities. Key contributions include:

A. Comments/opinions on international documents (MoU/MoA/projects, etc.)

During the reporting period, the Council provided substantive inputs and technical comments on numerous bilateral, regional, and multilateral initiatives. Key contributions included:

Bilateral and Multilateral Agreements

- Agreement on Scientific and Technological Cooperation (Bangladesh-Indonesia).
- Draft MoU on bilateral cooperation in agriculture (Bangladesh-Mexico).
- MoU on Simplified Elevator Dam (SED) technology transfer between BADC and Beijing IWHR Corporation (China).
- Draft MoU on cooperation in agriculture (Bangladesh-Timor-Leste; Bangladesh-

Institutional Collaboration and MoU

- BINA-Dalian Institute of Chemical Physics, CAS (China).
- CDB-National Institute of Agricultural Technology (Argentina).
- CDB-Cotton Connect Limited.
- BARI-Cornell University (USA).
- BARC-Pakistan Agricultural Research Council (PARC).
- SAC-CIMMYT; SAC–CABI.

Partnerships with International Organizations

- Bill & Melinda Gates Foundation-draft MoU.
- FAO projects:
- Technical support to sustainable and resilient investment towards agriculture sector transformation.
- Enhancing food systems in Bangladesh with emphasis on safe foods.
- IFAD Country Strategic Opportunities Programme (COSOP) 2023–2028.
- Japan SATREPS program proposal.

Portfolio and Programming Consultations

- ADB–ERD Tripartite Portfolio Review Meetings (October 2024; February 2025).
- Bangladesh Country Programming Mission (CPM) 2024 Aide Memoire.
- Proposed High-Value Crop Commercialization and Productivity Improvement Project (ADB, February 2025).

Other Agreements and Submissions

- LoA between DAE and Welthungerhilfe.
- Priority project proposals under regional and sub-regional development partner funding.
- Agenda for the Joint Agricultural Working Group (JAWG) meeting under the Bangladesh-China MoU.

B. Comments/opinions on national documents (MoU/MoA/projects, etc.)

Key Inputs on Policy, Projects, and Agreements (July 2024-June 2025)

- Provided technical opinions on major project proposals, including:
- Agricultural Research Sub-Center in Subarnachar (char & coastal crops).
- Salinity-tolerant varieties for coastal fallows.
- Climate-resilient jute & kenaf cultivation in char and haor regions.

- Laboratory infrastructure for charcoal & activated carbon from jute sticks.
- Reviewed and guided multiple MoUs/MoAs between NARS institutes and national/international partners, e.g.:
- BRRI-ICT Division; BWMRI-Caritas Bangladesh; BINA-Haychem (Bangladesh) Ltd.; BARC-Teesta University; BARI-IUBAT; BSRI-GSM Engineering; SRDI-HPIB.
- Contributed to national policy and planning exercises through comments and data support on:
- National Social Security Strategy (NSSS) Progress Report 2024.
- Revised ADP (FY 2024-25).
- Sector Development Plan (2026-2040).
- Climate Financing for Sustainable Development: Budget Report 2025-26.
- Gender Budget Report 2025-26.
- Time-bound Reform Plans of MoA.
- Participated in cross-cutting initiatives by sharing inputs on:
- Shock Responsive Social Protection (SRSP) SOP.
- SDG Indicator 17.19.1 (statistical capacity funding).
- Updates on MoA agencies activities and international cooperation memoranda.

3. Monitoring, Evaluation, and Review

The Planning and Evaluation Division is Actively Coordinating and Monitoring three Key Projects:

- Omics Food and Nutritional Security (OFANS)-*KGF-funded (ID: TF-92-FNS/21)*
- Fourth year research activities are underway.
- Project Completion Report (PCR) is prepared and ready for submission.
- Capacity Building for Adaptive Trials on Seaweed Cultivation in Coastal Areas-*KGF-funded*
- Project concluded on 30 June 2025.
- Proposal under consideration for a one-year extension to further strengthen outcomes.
- Fitting New HYV Crop Varieties in Existing Farming Systems for Productivity Improvement-PARTNER-funded (BARC component, DLI-Activities 8.1.3.6)
- Second year research activities are currently being implemented.

The Planning and Evaluation Division conducted five field monitoring visits across two projects during the fiscal year 2023–24:

i) Capacity Building for Adaptive Trials on Seaweed Cultivation in Coastal Areas (KGF-funded)

Monitoring Dates & Location: 1 July 2024 and 12 April 2025, Cox's Bazar.

Team Members: Dr. Shaikh Mohammad Bokhtiar (Former EC), Dr. Md. Abdus Salam (MD, Crops), Dr. Kabir Uddin Ahmed (Former PI & MD, P&E), Dr. Mohammad Rafiqul Islam (PI & MD, P&E, BARC), Dr. Md. Mostak Ahmed (Co-PI & SSO, BARI, Cox's Bazar).

Key Findings

- Successful extraction of agar from Gracilaria tenuistipita.
- Commercially valuable carrageenan extracted from Hypnea boergesenii.
- Large-scale seaweed production technology developed for coastal applications.

ii) Fitting New HYV Crop Varieties in Existing Farming Systems for Productivity Improvement (PARTNER Project, Activities 8.1.3.6)

Monitoring Dates & Locations: 12 July 2024 and 6 February 2025 (Satkhira, Dumuria, Khulna), 22 February 2025 (Kalapara, Patuakhali).

Team Members: Dr. Md. Abdus Salam (MD, Crops), Dr. Kabir Uddin Ahmed (Former PI & MD, P&E), Dr. A B M Khaldun (PSO, P&E, BARC), Kamrul Islam (PSO, OFRD, BARI, Khulna), Dr. Khairul Bashar (SSO, OFRD, BARI, Patuakhali).

Key Findings

- Improved methods increased vegetable yield and returns by 90–226%; vegetable intake rose by 48–174%.
- Enhanced management of existing fruit trees is projected to increase annual fruit intake.
- Fodder production, combined with de-worming and vaccination programs, improved livestock health and productivity.

4. Events Organized

(a) Annual Review Workshop on Implementation Progress of Work Plan 2023–24 and Proposed Work Plan 2024–25

A two-day programme titled Annual Review Workshop on Implementation Progress of Work Plan 2023-24 and Proposal Work Plan 2024-25 was held on 5 and 8 September 2024 at BARC. The workshop focused on reviewing achievements of FY 2023-24 and evaluating the proposed work plan for FY 2024-25. The inaugural session was graced by Dr. Nazmun Nahar Karim, Executive Chairman of BARC, as the chief guest, while Dr. Kabir Uddin Ahmed, Member Director (Planning & Evaluation), BARC, chaired the session and delivered the welcome address. Over the course of two days, two technical sessions, both chaired by Dr. Karim, provided a platform for presenters to summarize progress and outline the upcoming work plan. Each presentation was followed by discussions among participants, aimed at formulating actionable recommendations to guide the implementation of future activities.

Annual Review Workshop on Implementation Progress and Proposed Work Plan

(b) Training on Project Development and Management

The Planning and Evaluation Division of BARC organized the 16th batch of a five-day training program on Project Development and Management from 8-12 December 2024 at BARC. The program brought together 30 scientists and officers from NARS and other organizations as participants. Over the five days, 24 topics on Project Development and Management were presented and discussed through interactive lectures and practical sessions conducted by expert resource persons. Upon successful completion of the training, certificates were awarded to all participants, recognizing their active participation and learning.

Closing-day moment of Project Development and Management

(c) Training on Farming System Research and Development

The Planning and Evaluation Division of BARC organized the first batch of a five-day training program on Farming System Research and Development from 16-20 February 2024 at BARC. The program brought together 25 scientists and officers from NARS and other agricultural organizations. Funded by the PARTNER Program (Program on Agricultural and Rural Transformation for Nutrition, Entrepreneurship, and Resilience in Bangladesh) and APCU-BARC, the training covered 25 topics on Project Development and Management through interactive lectures and practical sessions conducted by expert resource persons. Upon successful completion, certificates were awarded to all participants.

Certificate Giving Moment of the Training

d) Meeting on coordinated projects

A total of five project monitoring meetings were conducted at BARC, Dhaka, across different months. Two meetings focused on the Capacity Building for Conducting Adaptive Trials on Seaweed Cultivation in Coastal Areas project, funded by KGF, while three meetings addressed the "Fitting New HYV Crop Varieties in Existing Farming Systems for Productivity Improvement" project under PARTNER (DLI-Activities 8.1.3.6, BARC component).

5. Events Attended

Training attended by Dr. Md. Iqbal Hosen, PSO (A.C.), P&E, BARC

- Public Private Partnership (PPP) in Bangladesh, held in PPP Authority, Agargaon, 22-24 June 2025.
- N-29th Foundation Training Course, held in National Agriculture Training Academy, Gazipur on 5 February 2025 to 4 June, 2025.
- Project Financial Management, held in Bangladesh Agricultural Research Council, Dhaka on 5-9 January 2025.
- Phytosanitary Measures in Bangladesh, held in Bangladesh Agricultural Research Council, Dhaka on 22-24 December 2024.
- Development of Upazila Land Suitability Assessment and Crop Zoning System of Bangladesh, held in Institute of Water Modeling (IWM), Uttara on 3-7 November 2024.

6. Publications

a) Scientific Paper

- Dong J, Xu Y, Jiang Q, **Hosen MI** & Zhao C (2025). A new genus and two new species of Auriculariales (Basidiomycota) from southwest China, evidenced by morphological characteristics and phylogenetic analyses. Mycological Progress 24(1): 4. https://doi.org/10.1007/s11557-024-02027-2

- Groover E, Njuguna E, Bansal KC, Muia A, Kwehangana M, Simuntala C, Mills RL, Kwakye E, Rocha P, Amedu J, Morillo E, Anthonysamy MA, **Khaldun ABM**, Chimpepo L, Akoudjin M, Senanayake DMJB, Wangmo D, Atnafu D, Eusebio GP, Kongsawat C & Kliegman M (2024). A technical approach to global plant genome editing regulation. Nature Biotechnology 42(12): 1773-1780.

- Molla MM, Khan MHH, Dey BC, Sabuz AA, Chowdhury MGF, Shahinuzzaman M, Khatun A, Salam MA, **Khaldun ABM**, Bhowmik P & Podder R (2024). Decorticated and non-decorticated BARI lentil varieties: An ample source of essential nutrients, minerals and bioactive compounds. Food Chemistry Advances 5: 100818.

b) Training Manual/Report

- Report on Progress of Annual Work Plan 2023–2024 and Proposed Work Plan 2024-2025.
- Training Manual on Project Development and Management (16th Batch) funded by GOB.
- Training Manual on Farming System Research and Development (1st Batch) funded by PARTNER Program.

7. Other Activities

The Planning & Evaluation Division actively participated in various trainings, workshops, and meetings throughout the year. On a monthly basis, updates on BARC's MoU activities were maintained via the Ministry of Agriculture's designated portal, and reports were regularly submitted to the Ministry for appropriate follow-up actions. Additionally, quarterly newsletter write-ups highlighting key events organized by the division were prepared and submitted to the Agricultural Information Center (AIC) for publication. The division also compiled and finalized its annual report, which was submitted to AIC for documentation and dissemination.

MANPOWER AND TRAINING UNIT

Human resources are the most vital inputs for leveraging science and technology, which are essential for economic development and social progress. Given that agriculture forms the backbone of Bangladesh's economy, skilled human resources are a prerequisite for carrying out diverse agricultural R&D activities aimed at sustainable growth. The transformation of Bangladesh's agriculture from subsistence-based to commercially oriented, along with the sector's current growth achievements, is largely attributable to the concerted efforts of skilled human resources. Through the combined efforts of all NARS institutes, BARC has consistently developed scientists via training, higher education (MS and PhD programs), seminars, workshops, and study tours under its periodic Human Resource Development (HRD) plans. The HRD Plan 2009-2025 laid the foundation for the current HRD initiatives, including the NARS HRD Plan 2009-2025 and the updated HRD Plan 2023-2041.

The Manpower and Training Unit of BARC is entrusted with developing the capacity of human resources from NARS institutes and associated organizations through higher studies, training programs, seminars, workshops, and study visits both at home and abroad. The Unit also manages national and international communication activities, particularly relating to the nomination of scientists and officers for training, seminars, workshops, and meetings, as well as organizing national and international events, facilitating visits of foreign delegations, and providing inputs and opinions to the Ministry of Agriculture and other organizations on various national and international issues.

During the financial year 2024-2025, the Manpower and Training Unit organized key residential training programs as part of its capacity development initiatives for NARS scientists and officers. These included a four-month Foundation Training for NARS scientists and a two-week training on Administrative and Financial Management for CSO/PSO. The specific activities carried out by the Unit during the year are outlined below.

Name of the Professionals

Name	Designation
Mr. Md. Mustafizur Rahman	Director (C.C)
Mr. Md. Al Mobasher Hussen	Principal Training Officer
Dr. Mohammed Khorshed Alam	Senior Training Officer

1. Project Development and Implementation

Project Name: Omics Food and Nutritional Security (OFANS) Project

A joint initiative of the Global Institute for Food Security (GIFS), Canada, and BARC

Theme 1.4: Establishing advanced and gender-balanced training programs at graduate, master's, doctoral, and post-doctoral levels between Bangladesh and Canada
Project Duration: 17 November 2021-16 July 2025

Funding Source: Krishi Gobeshona Foundation (KGF)
Budget Utilized: 18.65 lakh BDT
Principal Investigator (PI): Dr. Md. Baktear Hossain, MD (NRM)
Co-PI: Md. Al Mobasher Hussen, PTO

The primary objective of Theme 1.4 is to establish a long-term sustainable training program in bioinformatics and statistical genomics for students, researchers, scientists, and technicians in Bangladesh. To identify training needs, a web-based bioinformatics survey was conducted in November 2022 with 26 nominated Bangladeshi participants, covering four broad areas: Introductory, Genomics, Genetics, and Phenomics. Based on survey results, GIFS Data Management and Analytics (DMA) Group outlined the topics for 2-hour virtual training sessions, including Linux, R, Python, machine learning, long-read sequencing, genome assembly, genetic diversity analysis, GWAS, genomic selection, and digital phenotyping using UAVs.

Seven virtual sessions were successfully conducted in 2023, attended by 35 researchers, scientists, PhD and MS students, and post-doctoral fellows from Bangladesh. A face-to-face bioinformatics training workshop was held on 23–25 October 2023, covering genome assembly, genotyping-by-sequencing, genomic selection, and comparative genomics. The sessions were led by Mr. Kavin Koh and Dr. Andrew Sharpe in-person, with Dr. Raju Chowdhary and Dr. Nadeem Khan participating virtually as resource persons. A progress review workshop on 2 November 2023 at BARC evaluated the current status and outlined the next steps, with participation from both Bangladeshi and Canadian PIs and Co-PIs.

Additionally, Theme 1.4 focused on building capacity in international development, policy, regulatory, and socio-economic aspects of crop biotechnology. GIFS, under the leadership of Professor Dr. Stuart Smyth, developed a module on global benefits from crop biotechnology. A day-long workshop on 'Global Benefit from Crop Biotechnology' was jointly organized by BARC and GIFS on 28 March 2024, successfully training 50 officials, scientists, and representatives from government, public, and private sectors on crop gene-editing policies, biosafety regulations, and intellectual property rights, aiming to accelerate genome-editing research and informed regulatory policymaking in Bangladesh.

Theme 4.4: Design an online training module for postharvest food handling and processing in Bangladesh under OFANS project

Project Duration: 17 November 2021 – 16 July 2025
Funding Source: Krishi Gobeshona Foundation (KGF)
Budget Utilized: 17.64 lakh BDT
Collaborative Partners: GIFS, NRC, SFIDC, and USask, Canada

To strengthen capacity in postharvest food handling and processing, an Industry Need Assessment (INA) was conducted in Bangladesh with support from NRC and SFIDC, Canada, involving 14 public and private sector respondents. The INA results highlighted the need to focus on raw agricultural commodities, and the findings were submitted to NRC, Canada to set learning objectives, develop a training matrix/program outline, and prepare Training Modules 1 & 2.

Based on the MoU between GIFS and SFIDC, Canada, Module-1 (General Food Safety & Hygiene) and Module-2 (Safe Food Handling) were developed and shared with BARC for review. An expert

consultation was physically held on 25 July 2023 at BARC with 20 participants to review the modules and training outline. Specific recommendations were provided to SFIDC for finalization. A follow-up meeting on 5 September 2023 finalized 25 participants (15 from public and 10 from private sectors) for the first two online training batches.

SFIDC, Canada conducted the first two "train-the-trainer" online sessions for 25 participants on 18–19 October 2023 (1st batch) and 30-31 October 2023 (2nd batch), led by Ms. Erin Hiebert, covering general hygiene, safe food handling, and Good Agricultural Practices (GAP). Subsequently, GIFS, Canada conducted two additional three-day online training sessions for 25 participants on 28–30 October 2024 (3rd batch) and 12-14 November 2023 (4th batch), led by Professor Darren R. Korber and Dr. Adrienne Woytowich from USask, Canada.

Through these four training batches, 50 participants, including NARS scientists, representatives from Hortex Foundation, academia, industry, small-scale processors, students, technicians, and post-docs, enhanced their knowledge and skills in postharvest food handling and processing in Bangladesh, strengthening national capacity in safe food management.

2. Policy-Level Contributions

A. Processing Signing/Renewal of MoU (7)

- Processing Signing/Renewal of MoUs (7)
- Renewal of BARC & YAAS Framework Agreement.
- Signing of BARC–Cornell University (USA) MoU on 14 January 2025.
- Renewal of MoA & AFACI MoU in May 2025.
- BARC–PARC MoU under renewal process.
- BARC–Department of Agriculture (DoA), Bhutan MoU under renewal process.
- Lease Agreement between BARC & CABI sent to MoA for allocation of office space at BARC from February 2025.
- Processing of tripartite draft MoU among BARC, University of Saskatchewan (Canada), and Wageningen University & Research (Netherlands).

B. Comment/Input for Ministry of Agriculture (15)

Sl.	Subject	Date
1.	Draft Concept Note on the proposal for the establishment of BIMSTEC Food Reserve	18 June 2025
2.	Draft concept note regarding Sub-group of the Expert Group on Agricultural Cooperation (EGAC) on Intra-Regional Agricultural Trade proposed by BIMSTEC	30 June 2025
3.	Draft Concept Note for establishing BIMSTEC Centre of Excellence for Agriculture (BCEA)	3 June 2025
4.	Renewal of MoU between BARC and The Department of Agriculture, Ministry of Agriculture and Forests, Royal Government of Bhutan	2 Jan 2025

Sl.	Subject	Date
5.	Provided inputs on issues related to bilateral cooperation between the two countries during the Honorable Foreign Advisor's visit to China in January 2025.	2 Jan 2025
6.	As per decision No. 06(ii) of the 10th EGMAC meeting, the Concept Note and Agenda for a five-day training on Integrated Pest Management and Biopesticides Use to be held on 10-14 November 2024 have been sent to the Ministry of Agriculture.	6 August 2024
7.	AFACI) project implementation progress report was sent to the MoA	Every month
8.	Proposal to incorporate important contemporary issues related to the Ministry of Agriculture in various training courses conducted by Bangladesh Public Administration Training Center (BPATC)	8 Aug 2024
9.	Signing of Lease Agreement between BARC & CABI for the allocation of Office Space at BARC from February 2025	22 Jan 2025
10.	Establishment of a Belt and Road Laboratory jointly initiated by YAAS and BARC	23 Feb 2025
11.	Comments for the approval for signing a tripartite draft Memorandum of Understanding among BARC, the University of Saskatchewan in Canada, and Wageningen University & Research in the Netherlands	06 Mar 2025
12.	BARC's comments on the draft MoU proposed by the Asian Food and Agriculture Cooperation Initiative (AFACI)	19 May 2025
13.	CABI's 2025 Member Country Contribution invoice sent to MoA	27 Mar 2025
14.	APAARI forwarding and invoice sent to MoA for the payment of the annual membership fee for 2025 of the international organization APAARI	06 Mar 2025
15.	A comparative report detailing the amendments made to the MoU renewed in 2022, along with the recently sent draft MoU from the AFACI Secretariat, as well as a clear opinion on the election of the 7th Chair Group of AFACI, has been forwarded to the Ministry of Agriculture	May 2025

B. Comment/Input for Ministry of Agriculture

16.	Input/comment sent to GIFS regarding closure of Research Chair	Aug & Sept 2024

3. Events Organized

During July 2024 - June 2025, a total of 7,519 participants including scientists, officers, NARS representatives, partner organizations, and farmers attended BARC-organized or facilitated training, workshops, seminars, and higher studies programs both domestically and abroad. Among them, 525 farmers were trained on Good Agricultural Practices (GAP) for selected vegetables and fruits under the APCU-BARC PARTNER program.
The major activities that Manpower and Training Unit has accomplished/assisted in implementation during the reporting period are delineated below:

28th Foundation Training Course for NARS Scientists/Officers

The 28th four-month Foundation Training Course for forty (40) scientists and officers of the National Agricultural Research Systems (NARS) commenced on 15 September 2024 at the National Agricultural Training Academy (NATA), Gazipur, organized under the supervision and management of BARC. The inaugural ceremony was graced by Dr. Mohammad Emdad Ullah Mian, Secretary, Ministry of Agriculture, as Chief Guest, while Dr. Nurun Nahar Chowdhury, Additional Secretary (FMM), Mrs. Afsari Khanom, Additional Secretary (Research), Dr. Nazmun Nahar Karim, Executive Chairman, BARC, Dr. Md. Abdullah Yousuf Akhond, DG, BARI, Dr. Mohammad Khalequzzaman, DG, BRRI, and Mr. Md. Tajul Patwary, DG, DAE attended as special guests. The session was chaired by Dr. Md. Abdur Rahim, DG, NATA, with senior officials from MoA, BARC, and NARS institutes also present.

During the inaugural address, the Chief Guest emphasized the importance of the foundation training and encouraged participants to engage actively in both academic and extracurricular activities. He also instructed BARC to expand the program for scientists and officers who have yet to receive this critical training. Dr. Nazmun Nahar Karim highlighted the course objectives, focusing on enhancing participants' knowledge in administrative and financial management.

The training program ran from 15 September 2024 to 12 January 2025, concluding with a closing ceremony on 12 January 2025 at NATA, Gazipur. Mr. Md. Mahbubul Haque Patwary, Additional Secretary (PPC), Ministry of Agriculture, served as Chief Guest and distributed certificates to

Dr. Mohammad Emdad Ullah Mian, Secretary, MoA, Delivering Speech as Chief Guest

participants, while Dr. Nazmun Nahar Karim, EC, BARC, attended as a special guest. The program was chaired by Dr. Md. Abdur Rahim, DG, NATA, and attended by senior officials from MoA, BARC, and NARS institutes.

Training on Administrative and Financial Management for PSO/CSO Level Scientists of NARS

A 14-day training program on "Administrative and Financial Management" was conducted from 5–18 January 2025 at the Bangladesh Institute of Management (BIM), Dhaka, under the overall management and supervision of BARC. The program was attended by 30 senior scientists from the National Agricultural Research System (NARS), including Chief Scientific Officers (CSO), Principal Scientific Officers (PSO), and equivalent officers. The certificate awarding ceremony took place on 18 January 2025.

The program was presided over by Mr. Md. Matiar Rahman, Director General of BIM, and addressed by Dr. Md. Abdus Salam, Member Director (Crops), BARC, who served as Chief Guest. Dr. Salam highlighted the objectives of the training and emphasized BARC's role in the capacity development of NARS scientists. He expressed his hope that the program would enhance both managerial and professional skills of the participating senior scientists. The training concluded successfully with the distribution of certificates to all participants.

29th and 30th Foundation Training Course for NARS Scientists/Officers

The 29th and 30th batches of the four-month-long Foundation Training Course for 80 scientists and officers of the National Agricultural Research System (NARS) commenced simultaneously on 5 February 2025 at the National Agricultural Training Academy (NATA), Gazipur, under the supervision and management of BARC.

Distinguished Guests on the dais at the Inaugural Session of the FTC

The inaugural ceremony was graced by Dr. Mohammad Emdad Ullah Mian, Secretary, Ministry of Agriculture, as Chief Guest, with Dr. Nazmun Nahar Karim, Executive Chairman of BARC; Dr. Md. Abdullah Yousuf Akhond, Director General of BARI; and Dr. Mohammad Khalequzzaman, Director General of BRRI present as special guests. The ceremony was chaired by Dr. Md. Abdur Rahim,

Director General of NATA, and attended by senior officials from government organizations and NARS institutes.

The Chief Guest emphasized the importance of foundation training for entry-level officers and encouraged active participation in all academic and extracurricular activities. Dr. Nazmun Nahar Karim highlighted the training's objectives, focusing on enhancing scientists' understanding of administrative and financial management. Dr. Md. Abdur Rahim outlined NATA's facilities and capacity, expressing confidence that the training would produce capable and skilled officials.

The training was conducted from 5 February to 4 June 2025. The closing ceremony was held on 4 June 2025 at NATA, Gazipur, with Dr. Nazmun Nahar Karim as Chief Guest and Mr. Md. Saiful Azam Khan, Director General of NATA, presiding. The program concluded with the distribution of certificates to all participants.

Training on Human Resource Management (HRM)

The Manpower and Training Unit of BARC organized a three-day training program on Human Resource Management for NARS scientists and officers from 8–10 April 2025 at BARC, funded by the PARTNER Program, APCU-BARC.

The inaugural session was presided over by Mr. Md. Mustafizur Rahman, Director (Manpower & Training), BARC, with Dr. Mohammad Rafiqul Islam, Member Director (Planning & Evaluation), BARC, as Chief Guest. The program aimed to enhance participants' knowledge and skills in HRM to support organizational goals. Resource persons from public and corporate agencies conducted the sessions. The training concluded successfully, and certificates were awarded to all participants.

Train the trainer session on Level 1 (General food safety & hygiene) & Level 2 (Safe food handling)

Under Theme 4.4 of the OFANS Project-Designing an Online Training Module for Postharvest Food Handling and Processing in Bangladesh-two batches of Level 1 (General Food Safety & Hygiene) and Level 2 (Safe Food Handling) training were successfully conducted. The program was organized by BARC in collaboration with the Global Institute for Food Security (GIFS), with technical support from the National Research Council (NRC) and the University of Saskatchewan (USask), Canada.

The training sessions were conducted by Professor Darren R. Korber and Dr. Adrienne Woytowich of USask, Canada, during 28-30 October 2024 (3rd batch) and 12-14 November 2023 (4th batch) for public and private participants in Bangladesh.

A total of 25 participants from NARS institutes (BARC, BARI, BRRI, BWMRI), DAE, Hortex Foundation, Academia (BAU, GAU, SAU), and representatives of the food processing industry (Greenvia Int'l Ltd., BFVAPEA, SQUARE ACI, PRAN, Bombay Sweets, AgroTech Bd., and AgroFresh Bd.) attended the sessions.

This train-the-trainer package, supported by GIFS, NRC, and USask, Canada, is expected to strengthen the capacity of stakeholders involved in postharvest food handling, processing, and the food value chain in Bangladesh.

Workshop/Seminar/Meeting

Review Workshop on Citizen Charter of BARC

The Manpower and Training Unit organized a day-long review workshop on the Citizen Charter of BARC on 24 November 2024 at BARC. The workshop aimed to update the Citizen Charter by reviewing existing services and incorporating new and revised services with participation from all divisions and units of BARC. A total of 60 scientists and officers attended the workshop.

The technical session was chaired by Dr. Nazmun Nahar Karim, Executive Chairman, BARC. Key discussants included Dr. Md. Saifullah, Member Director (Admin & Finance); Dr. Md. Baktear Hossain, Member Director (NRM); and Mr. Md. Mustafizur Rahaman, Director (Manpower & Training). Mr. Md. Al Mobasher Hussen, Principal Training Officer and Focal Point Officer of Citizen Charter, presented a keynote paper on citizen charter guidelines and the 2024–25 work plan provided by the Cabinet Division.

Dignitaries on the Dais during the Inaugural Session

Divisions and Units were invited to present proposals for new and updated services. Through open discussion, several new and revised services were selected for inclusion in BARC's Citizen Charter, in accordance with the citizen charter guidelines.

Stakeholder Workshop on Good Governance and Reform Activities (NIS, Citizen Charter, GRS, and RTI)

The Manpower and Training Unit organized a stakeholder workshop on Good Governance and Reform Activities covering National Integrity Strategies (NIS), Citizen Charter, Grievance Redress System (GRS), and Right to Information (RTI) on 18 December 2024 at Tula Bhaban, Cotton Development Board, Krishi Khamar Sarak, Dhaka. The workshop aimed to enhance the implementation of BARC's good governance and reform activities in collaboration with key stakeholders.

The workshop was inaugurated by Dr. Md. Nazmun Nahar Karim, Executive Chairman, BARC, as the chief guest. A total of 100 representatives from various public and private organizations attended. Four focal point officers presented the 2024–25 work plans and progress on NIS, Citizen Charter, GRS, and RTI.

In the technical session, Dr. Md. Saifullah, Member Director (Admin & Finance), BARC, chaired the session, while Ms. Nazia Shirin, Joint Secretary, Ministry of Agriculture; Dr. Md. Abdus Salam, Member Director (Crops), BARC; and Mr. Md. Mustafizur Rahman, Director (Manpower & Training), BARC served as discussants.

D-8 Webinar on Agriculture held at BARC in Dhaka

The D-8 Webinar on Agriculture, titled "Agricultural Development in Bangladesh: Challenges and Way Forward", was organized by BARC, Dhaka, in collaboration with the Ministry of Agriculture on 30 September 2024 through a hybrid (virtual and in-person) platform. High-level experts from the D-8 member states-Islamic Republic of Iran, Malaysia, Federal Republic of Nigeria, Islamic Republic of Pakistan, Republic of Turkey-and the D-8 Secretariat participated virtually. Senior officers and scientists from BARC, BARI, BRRI, BADC, and DAE attended in person, presenting papers highlighting the activities of their respective organizations. The webinar was moderated by Dr. Md. Abdus Salam, Member Director (Crops), BARC.

Dr. Md. Mahmudur Rahman, Additional Secretary (PPC), Ministry of Agriculture, delivered the opening remarks, emphasizing the objectives of the webinar and the importance of technology sharing for enhanced agricultural production. A senior official from the D-8 Secretariat also addressed the participants, underlining the need to foster agricultural cooperation among the member states. Following five papers were presented in the webinar: (1) Review of NARS and Development Trajectory of Bangladesh Agriculture by Dr. Md. Harunur Rashid, Chief Scientific Officer (Crops), BARC; (2) Research Achievements and Progress in Crop improvement in Bangladesh: Challenges and Way Forward by Dr. Mohammad Jahirul Alam Talukder, Senior Scientific Officer, Plant Breeding Division, BARI; (3) Research Achievements and progress in rice production in Bangladesh: Challenges and Way Forward by Dr. Munnujan Khanam, Coordinator for Advanced Studies and Research CASR, BRRI; (4) Key roles of agricultural extension for technology dissemination: Challenges and Way Forward by Ms. Rezwana Rahman, Upazila Agriculture Officer, Planning, Project and ICT Wing, Department of Agriculture Extension; and (5) Seed production & Supply, Irrigation and fertilizer management in Bangladesh Agriculture: Challenges and Way Forward; by Dr. Md. Nazmul Islam, Chief Coordinator (Research Cell), BADC.

During the open discussion, participants from Pakistan, Iran, and Malaysia raised queries regarding Golden Rice production in Bangladesh, access to Basmati rice germplasm from Pakistan, food sustainability practices, and collaboration on tropical crop cultivation. The moderator and Bangladeshi participants responded to these queries comprehensively.

Dr. Nazmun Nahar Karim, Executive Chairman, BARC, delivered the concluding remarks, emphasizing the importance of effective collaboration among D-8 member states in agriculture and expressing gratitude to all involved in organizing the webinar.

9th CGIAR Advisory Committee (CAC) Meeting

The 9th CGIAR Advisory Committee (CAC) Meeting was jointly organized by BARC and CIMMYT on 28 November 2024 at BARC. The meeting was chaired by Dr. Nazmun Nahar Karim, EC of BARC.

The meeting commenced with the recitation from the Holy Quran, followed by self-introductions of the participants. Dr. Nazmun Nahar Karim, also serving as the Chairperson of the CAC, extended a warm welcome to all attendees, including CAC members, representatives from CGIAR Centers (IRRI, CIMMYT, WorldFish, IFPRI, IWMI, ILRI, and CIP), Director-Generals from DAE and NARS institutes, Member Directors from BARC, and other senior officials from BARC and NARS. She provided a brief overview of CGIAR activities in Bangladesh and outlined the objectives of the meeting.

The Chair sought approval for the minutes of the 8th CAC meeting and invited comments from the participants. Dr. Ismahane Elouafi, CGIAR's Executive Managing Director (EMD), delivered a pre-recorded video address highlighting ongoing management issues and CGIAR research programs.

Dr. Timothy J. Krupnik, CGIAR Country Convener for Bangladesh and Member Secretary of CAC, as well as CIMMYT Country Representative-Bangladesh, presented the CGIAR 2025–2030 Portfolio, emphasizing: Transitioning to CGIAR's 2025–2030 Science and Innovation Portfolio and enhancing support for Bangladesh, Addressing evolving challenges in food systems, climate resilience, and urbanization, Enhancing collaborations to align with government policies and global sustainability targets, CGIAR's pivotal role in fostering innovation, improving livelihoods, and advancing sustainable development in Bangladesh

Representatives from CGIAR Centers (IRRI, WorldFish, CIP, IWMI, ILRI, IFPRI, and CIMMYT) delivered PowerPoint presentations on ongoing projects, achievements, and future plans in Bangladesh.

Distinguished Guests on the Dais at the Inaugural Session

Recommendations (summarized from presentations and discussions)

- Follow up with ILRI's Director General regarding establishing a formal presence in Bangladesh;
- Continue to communicate the importance of food safety research to the wider CGIAR network;
- Work with CGIAR centers to improve and increase training support for national scientists;
- Develop more climate-resilient and heat-tolerant rice varieties;
- Increase focus on low-carbon rice production research;
- Strengthen partnerships with Bangladesh Fisheries Research Institute (BFRI);
- Develop high dry matter content potato varieties for processing;
- Increase collaboration with BARI and BRRI in water management research;
- More research collaboration with agricultural universities; and
- Undertake more capacity building programs for NARS scientists.

Second Workshop on Promotion of Agricultural Trade and Investment among the BIMSTEC Member States

The Second BIMSTEC Workshop on Promotion of Agricultural Trade and Investment was held in hybrid mode at BARC on 24 December 2024 in Dhaka, Bangladesh. Delegations from Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand participated, while the host country Bangladesh attended in person. Organized by BARC in collaboration with the Ministry of Agriculture (MoA) and the Ministry of Foreign Affairs (MoFA), the workshop aimed to explore opportunities for advancing regional agricultural trade through collaboration, innovation, and sustainable practices to ensure food security and strengthen economic resilience across the BIMSTEC region.

Dr. Md. Mahmudur Rahman, Additional Secretary (PPC), MoA, welcomed the delegates and expressed hope for strengthened collaboration to promote agri-product trade within BIMSTEC. His Excellency Ambassador Mr. Abdul Motaleb Sarker, Director General (SAARC & BIMSTEC), MoFA, attended as Chief Guest and emphasized regional cooperation to enhance agricultural investment opportunities, stressing the importance of joint strategies and action plans for food security and sustainability.

Mr. Si Thu Aung, Director, BIMSTEC Secretariat, conveyed remarks on behalf of the Secretary General, thanking Bangladesh for hosting and reiterating that agriculture remains central to BIMSTEC economies. He noted that agricultural trade and investment could be expanded through reducing trade barriers and harmonizing regulatory frameworks.

In her concluding remarks, Dr. Nazmun Nahar Karim, Executive Chairman of BARC, thanked participants for their active engagement and the Secretariat for coordination. The workshop discussed pathways for enhancing agricultural trade and investment in the region and formulated recommendations to be placed before the 11th BIMSTEC Expert Group Meeting on Agricultural Cooperation.

National Technical Workshop for the AFACI-AFCD (2nd phase)

The National Technical Workshop for the AFACI–AFCD (2nd Phase) on Quality Improvement of the Asian Food Composition Database was held on 6 February 2025 at BARC. Members of the AFACI–AFCD Phase-2 Steering Committee along with scientists from NARS institutes attended the workshop.

Professor Dr. Nazma Shaheen Delivering Speech

Dr. Nazma Shaheen, Professor, Institute of Nutrition and Food Science, University of Dhaka, and Principal Investigator of the AFACI-AFCD (2nd Phase) Project, delivered a presentation outlining the project's objectives, ongoing activities, and the process of selecting food items for nutrient analysis.

The workshop was chaired by Dr. Nazmun Nahar Karim, Executive Chairman of BARC. During the technical discussions, a list of 100 food items was finalized for inclusion in the National Food Composition Database.

Opinion Exchange Meeting between the Cotton Advisory Committee (ICAC) Delegation and BARC Senior Officers

A meeting between the International Cotton Advisory Committee (ICAC) delegation, led by Mr. Eric Bertram Trachtenberg, Executive Director, and Mr. Kanwar Muhammad Usman, Head of Textiles, and senior scientists/officers of BARC was held on 29 January 2025 at BARC.

Dr. Nazmun Nahar Karim, Executive Chairman of BARC, and Dr. Md. Fakhre Alam Ibne Tabib, Executive Director, Cotton Development Board (CDB), along with senior scientists from CDB, attended the meeting. The discussions focused on identifying potential areas of cooperation for the promotion of cotton production and trade between BARC and ICAC.

Opinion Exchange Meeting' between ICAC Delegation and BARC Senior Officers'

Seminar on Reducing GHG Emissions and Improving Environmental Outcomes in Agriculture

A seminar on Reducing GHG Emissions and Improving Environmental Outcomes in Agriculture was jointly organized by the Bangladesh Agricultural Research Council (BARC) and The British Standards Institution (BSI) on 12 March 2025 at the BARC Auditorium, with organizational support from the Manpower & Training Unit. Around seventy (70) participants from NARS institutes and private organizations attended the event.

Dr. Jane Gilbert, Associate Plastics and Economy Expert, UK Representative and Chair of the International Solid Waste Association's (ISWA) Biological Treatment Working Group, delivered the keynote presentation. Dr. Nazmun Nahar Karim, Executive Chairman of BARC, chaired the seminar. Participants actively exchanged views on possible mechanisms for reducing GHG emissions in Bangladesh's agriculture sector.

Meeting of APAARI with High-Level Officials of Bangladesh

The Manpower & Training Unit organized a meeting between APAARI and high-level officials from BARC, NARS institutes, DAE, CIRDAP, BSA, BRAC, Ispahani Agro, and BFVAPEA on 11 February 2025 at BARC. Dr. Ravi Khetarpal, Executive Director of APAARI, delivered a presentation on APAARI and its ongoing activities in Bangladesh. The meeting was chaired by Dr. Nazmun Nahar Karim, Executive Chairman of BARC. Discussions focused on identifying areas of common interest (bilateral and multilateral) and exploring synergies through joint scoping of collaborative projects to strengthen agricultural partnerships in Bangladesh.

Dignitaries and Participants of the Meeting

Opinion Exchange Meeting between Northwest A&F University, China, and BARC Senior Scientists/Officers

The Manpower and Training Unit organized a meeting between Northwest A&F University, China, and senior scientists of BARC on 8 April 2025 at BARC. A five-member delegation from the university, including Ms. Kang Jile, Mr. Huang Lüwen, Prof. Wang Hongmei, Prof. An Xiaopeng, and Prof. Fan Lichao, attended the meeting. The purpose of the meeting was to exchange ideas with agricultural experts and promote the enrolment of international students at Northwest A&F University.

Opinion Exchange Meeting between Northwest A&F University, China, and BARC Senior Scientists/Officers

7. Events attended

Foreign events

During the reporting period 2024-25 apart from in-country activities, Manpower and Training unit conducted the nomination process for participation in the international seminar/workshop/meeting. A total number of 21 scientists and Officers under different fields of agriculture and cross-cutting issues attended 36 programs (training/seminar/workshop/meeting) to enrich their professional expertise and skills with a view to achieving the country's ultimate goal to ensure food and nutrition security. Details are as follows:

Foreign Events (Training/Workshop/Seminar/Visit//Meeting)

Sl	Name, Designation & Organization	Name of Program	Duration	Country	Funding Org.
1.	Dr. Nazmun Nahar Karim, Executive Chairman	Consortium for Scaling-up Climate Smart Agriculture in South Asia (C-SUCSeS) Project and High -Level Policy Forum of the C-SUCSeS	13-15 November 2024	Maldives	C-SUCSeS Project
2.	Dr. Md. Baktear Hossain, Member Director (NRM)	High Level Policy Forum of the C-SUCSeS Project	14-15 November 2024	Maldives	C-SUCSeS Project
		International Conference on Innovations in Soil Fertility and Precision Nutrient Management	30 Sept–2 October	Nepal	CIMMYT
3.	Dr. Md Abdus Salam, Member Director (Crops)	20th Regular Session of the Commission o Plant Genetic Resources for Food and Agriculture (CGRFA)	23-28 March 2025	Italy	FAO, CGRFA
		12th Session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture (ITPGRFA)	10-12 December 2024	Italy	FAO
		Regional Consultation for Asia-Pacific on the review of the Second Global Plant of Action for Plant Genetic Resource for Food and Agriculture	23-25 July 2024	Thailand	ITPGRFA
4	Dr. Kabir Uddin Ahmed, Member Director (P&E)	Policy Round-Table Meeting on Effective Implementation of the Material Transfer Agreement (MTA) among SAARC Member States	11-12 Sept 2024	Nepal	SAC
5.	Dr. Md. Saifullah, Member Director (A&F)	International Conference on Climate-resilient agriculture for sustainable food systems in the Hindu Kush Himalaya	1-3 October	Nepal	ICIMOD
		21st CGIAR System Council Meeting and related events	9-13 December 2024	Germany	CGIAR

Sl	Name, Designation & Organization	Name of Program	Duration	Country	Funding Org.
6.	Dr. Md. Mosharraf Uddin Mollah, Member Director (AERS)	22nd CGIAR System Council meeting and related events	2-6 June 2025	Malaysia	CGIAR System Organization
7.	Mr. Mustafizur Rahman, Director (M&T)	New Approaches for Data Collection on National Agricultural Research System	15-17 January 2025	Thailand	FAO, AFAARI.
		7th AFACI General Assembly	28-31 May 2025	Nepal	FAO
8.	Dr. Md. Harunur Rashid, CSO (Crops)	60th Session of the Programming Committee Meeting of SAARC	27-30 Apr 2025	Nepal	SAARC
		11th Meeting of BIMSTEC Expert Group on Agricultural Cooperation (11th EGMAC)	28-29 March 2025	Thailand	FAO
		Developing Regional Agri-Business and Product Development & Marketing	25-28 February 2025	Nepal	SAARC
		Project Steering Committee meeting and High-Level Policy Forum Meeting and follow up & monitoring the SDF funded Livelihood Project Sites in Male	13-16 Nov 2024	Maldives	IFAD funded C-SUCSeS Project
		AFACI Project Evaluation Workshop on SHR+ and Digitized Data Collection and management for AFACI SRH+ Project partners	26-30 August 2024	Vietnam	AFACI,
		Policy Round-Table Meeting on Effective Implementation of the Material Transfer Agreement	11-12 September 2024	Nepal	SAC

Sl	Name, Designation & Organization	Name of Program	Duration	Country	Funding Org.
		(MTA) among SAARC Member States			
		Regional Consultation Meeting on Preparedness of Member Countries for addressing Anti-Microbial Resistance (ARM) in Livestock, Meeting with PGIA Director and attend a SAARC Ph.D seminar and Visit C-SUCSeS Project sites	28 July-2 August 2024	Sri-Lanka	SAC
9	Dr. Suraya Parvin, Director (TTMU)	2024 Project Evaluation Workshop on RATES	26-30 August 2024	Vietnam	RATES
10	Dr. Faridul Alam, PSO (Soils)	Reducing air pollution by creative use of crop residue Palletization	18-19 July 2024	Nepal	ICIMOD
11	Md. Rezwan Molla, PSO (Crops)	Capacity Development and Knowledge Exchange with the National Gene banks	7-18 October 2024	Philippines	PGRFA under the CGIAR Gene bank Initiative
12	Dr. Susmita Das, Principal Documentation Officer (AIC)	National Conference on Access to Scholarly Information: Research & Academic Communities Role in Building a Sustainable Knowledge Society	20-21 September 2024	India	SNDT Women's University ,Mumbai, India
13	Dr. Md. Golam Mahboob, PSO (Forestry)	Changing Environment in the Himalayan Region	13-15 September	Nepal	Neeti Anusandh
		ACASA Use Cases Workshop	1-3 Oct 2024	Sri Lanka	BISA, India
		LiDAR Applications in Agriculture and Flood Risk Mapping	3-15 July 2024	AIT, Thailand	FAO & AIT
14	Dr. Md. Mahfuz	2024 AFACI Project Technical Workshop on PMP+	2-6 Sept 2024	Sri-Lanka	AFACI

Sl	Name, Designation & Organization	Name of Program	Duration	Country	Funding Org.
	Alam, PSO (Crops)	Annual workshop of AFACI, South Korea funded program on Asia regional FAW and BPH Monitoring and Surveillance Program PMP+	25-26 Sept 2024	Virtual	AFACI
15	Dr. Panna Ali, PSO (Crops)	Precision, Policy, and People: A Genome Editing Workshop for Crop Improvement	13-16 May 2025	Thailand	CGIAR Genome Editing Initiative
		A brief visit and discussion for effective cooperation in IPM implementation	12-18 Jan 2025	China	Zhejiang Normal University and Zhejiang Academy of Agricultural Sciences
16	Dr. Md. Abdus Salam, PSO (AERS)	ACASA Use Cases Workshop	1-3 Oct 2024	Sri Lanka	BISA, India
17	Hasan Md. Hamidur Rahman, Director (Computer & GIS)	ACASA Use Cases Workshop	1-3 Oct 2024	Sri Lanka	BISA, India
		ACASA Climatic Risks and Adaptations Write-Shop	10-12 Sept 2024	Nepal	BISA
		LiDAR Applications in Agriculture and Flood Risk Mapping	3-15 July 2024	Thailand	
18	Dr. Ali Akbar Bhuiyan, PSO (livestock)	ACASA Climatic Risks and Adaptations Write-Shop	10-12 Sept 2024	Nepal	BISA
19	Dr. Md. Jamal Uddin, PSO (Crops)	APSA regional Plant Variety Protection and Biodiversity Consultation Program to be held in Thailand.	24-25 April 2025	Thailand	ASPA

Sl	Name, Designation & Organization	Name of Program	Duration	Country	Funding Org.
20	Dr. Md. Shofiqul Islam, PSO (AERS)	Workshop on Sharing national Export Strategies to enhance or promote agricultural trade and investment in the Region (BIMSTEC member states)	18 June 2025	Virtual	Myanmar
Total Programs (36)					

7.2: Local events: The Manpower and Training unit carried out the nomination process for participation in local training, seminars, workshops, and meetings organized by BARC and various organizations during the 2024-25 reporting period. A total number of 38 scientists/officers under different fields of agriculture and cross-cutting issues attended 106 programs (training/seminar/workshop/meeting) to enrich their professional expertise and skills with a view to achieving the country's ultimate goal to ensure food and nutrition security.

Attended in local Training/Workshop/Seminar 2024-2025

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
1.	Dr. Md. Baktear Hossain, MD (NRM)	Workshop on Service Process Simplification	20-22 April 2025	a2i	a2i
2.	Dr. Mohammad Rafiqul Islam, Member Director (P&E)	Workshop on National Adaptation Plan (2023-2050)	6 Nov 2024	DLS, Dhaka	DLS
3.	Dr. Md. Jamal Uddin, Principal Scientific Officer (Crops)	Training on Apprising Bangladesh Delta Plan-2100	20-22 Oct 2024	Planning Commission, Sher-e-Bangla Nagar, Dhaka	Bangladesh Planning Commission
		Training on Farming System Research and Development	16-20 Feb 2025	BARC	BARC
		Training on Crop Zoning System Development	31 May to 4 June 2025 & 15-19 June 2025	BARC & IWM, Uttara, Dhaka	BARC
4.	Dr. Md. Ashraful Alam, Agency Program Director APCU-BARC, Partner & PSO (P&E)	Training on iBAS++ System 2024-25	27 Nov 2024	Segunbagicha, Dhaka	MoF
5.	Dr. A B M Khaldun, PSO (P&E)	Training on iBAS++ System 2024-25	27 Nov 2024	Segunbagicha, Dhaka	MoF

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
		Training on Advanced Technology of Oil Crop Production and Post-Harvest Processing	26-30 Jan 2025	NATA, Gazipur	NATA
		Training on Crop Zoning System Development	31 May to 4 Jun 25 & 15-19 Jun 25	BARC & IWM, Uttara, Dhaka	BARC
		Training on Leadership in Agricultural Research and Development	22-26 June 2025	BARC	BARC
		Workshop on Reporting on BDP 2100 Monitoring & Evaluation	8 Dec 2024	Planning Commission, Agragaon	Planning Commission
6.	Mr. Rashedul Islam, Data Entry Officer (Computer & GIS)	Training on Advanced Information & Communication Technology (AICT)	26 Nov-9 Dec 2024	NATA, Gazipur	NATA
		Training on Crop Zoning System Development	31 May - 4 Jun 25 & 15-19 Jun 25	BARC & IWM, Uttara, Dhaka	BARC
7.	Md. Sazzadur Rahman, PSO (Add. Charge) (In Deputation), AERS	Training on Commercial Farm Management	29 Dec 2024-2 Jan 2025	NATA, Gazipur	NATA
		Training on Production and Market Trends Forecasting Using Statistical Modeling	5-9 Jan 2025	BARC	BARC
8.	Dr. Md. Mahfuz Alam, PSO (Crops)	Training on Fertilizer Recommendation Guide-2024	20-22 Oct 2024	BARC	BARC
		Training on Nutrition and Food Safety	1-5 Dec 2024	NATA, Gazipur	NATA
		Training on Climate Adaptation for Sustainable Crop Production	8-12 Dec 2024	BARC	BARC
		Internal Auditor Training Course on ISO 14001:2015 (Environmental Management Systems)	12-13 Feb 2025	Dhaka	BSI

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
		Awareness training on ISO 9001:2015 & ISO 45001:2018)	4-8 May 2025	BARC	BARC
9.	Md. Nura. Alam Uzzal, Data Entry Officer (Computer & GIS)	Training on Fundamentals of GIS and Remote Sensing	27-31 Oct 2024	NATA, Gazipur	NATA
		Training on Production and Market Trends Forecasting Using Statistical Modeling	5-9 Jan 2025	BARC	BARC
		Foundation Training for NARS scientists and officers (N-29th and N-30th)	120 days 5/2/2025 to 4/6/2025	NATA, Gazipur	BARC
10	Dr. Md. Rezwan Molla, PSO (Crops)	Training on Project Development and Management	8-12 Dec 2024	BARC	BARC
		Training on Fertilizer Recommendation Guide-2024	17-19 Dec 2024	BARC	BARC
		Training on Crop Zoning System Development	31 May to 4 June 2025 & 15-19 June 2025	BARC & IWM, Uttara, Dhaka	BARC
11	Dr. Md. Jahirul Islam, PSO (Crops)	Awareness training on ISO 9001:2015 & ISO 45001:2018)	4-8 May 2025	BARC	BARC
		Administrative and Financial Management Training for NARS scientists (PSO/CSO level)	5-18 Jan.2025	BIM, Dhaka	BARC
12	Dr. Shirin Sultana, PSO (Fisheries)	Training on Project Development and Management	8-12 Dec 2024	BARC	BARC
		Training on Bioinformatics for Sustainable Development in Agriculture	17-21 Nov 2024	BARC	BARC
		Training on Project Monitoring and Evaluation	22-16 June 2025	SRDI	BARC

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
		Training on Global Trade Strategies for Agriculture Commodities	4-8 May 2025	BARC	BARC
		Administrative and Financial Management Training for NARS scientists (PSO/CSO level)	5-18 Jan.2025	BIM, Dhaka	BARC
13	Dr. Md. Shofiqul Islam, PSO (AERS)	Training on Project Development and Management	8-12 Dec 2024	BARC	BARC
		Training on Technical Report Writing and Editing (27th batch)	19-23 Jan 2025	BARC	BARC
		Training on Crop Zoning System Development	31 May to 4 June 2025 & 15-19 Jun 2025	BARC & IWM, Uttara, Dhaka	BARC
		Seminar on Agri Entrepreneurship: Opportunities and Challenges	23 Oct 2024	NATA	NATA
14	Dr. Ahmad Numery, Ashfaqul Haque, PSO (Soil)	Project Development and Management	8-12 Dec 2024	BARC	BARC
		Climate Change, Carbon Sequestration and Adaptation Strategies (8th Batch)	8-12 Dec 2024	BARC	BARC
		Technical Report Writing and Editing (27th batch)	19-23 Jan 2025	BARC	BARC
		Farming System Research and Development	16-20 Feb 2025	BARC	BARC
		Annual Technical Workshop:2024-25	1-2 June 2-25	SRDI, Dhaka	SRDI
15	Dr. Faridul Alam, PSO (Soil)	Foundation Training Course on Greenhouse Gas Accounting and Energy management (Based on ISO 14064, Part 1&2 and ISO 50001)	15-19 June 2025	BARC	BARC

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
		Training on Crop Zoning System Development	31 May to 4 June 2025 & 15-19 June 2025	BARC & IWM, Uttara, Dhaka	BARC
		Workshop on Service Process Simplification	20-22 April 2025	a2i	a2i
		Annual Technical Workshop: 2024-25	1-2 June 2-25	SRDI, Dhaka	SRDI
16	Dr. Kazi Noor-E-Alam Jewel, PSO (Forestry)	Training on Climate Adaptation for Sustainable Crop Production	8-12 Dec 2024	BARC	BARC
		Awareness training on ISO 9001:2015 & ISO 45001:2018)	4-8 May 2025	BARC	BARC
17	Dr. Md. Panna Ali, PSO (Crops)	Training on Climate Adaptation for Sustainable Crop Production	8-12 Dec 2024	BARC	BARC
		Training on Climate Change, Carbon Sequestration and Adaptation Strategies	20-24 April 2025	BARC	BARC
		Training on Bioinformatics for Sustainable Development in Agriculture	17-21 Nov 2024	BARC	BARC
18	Dr. Md. Masud Rana, PSO (Livestock)	Administrative and Financial Management Training for NARS scientists (PSO/CSO level)	5-18 Jan.2025	BIM, Dhaka	BARC
		Training on Farming System Research and Development	16-20 Feb 2025	BARC	BARC
		Training on Human Resource Management	8-10 Apr 2025	BARC	BARC
		Training on Global Trade Strategies for Agriculture Commodities	4-8 May 2025	BARC	BARC
		BIRTAN Research Review Workshop 2023-24	24 Nov 2024	BIRTAN	BIRTAN
		Annual Research Review Workshop-2024	1-2 Dec 2024	BLRI	BLRI

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
19	Dr. Md Golam Mahboob, PSO (Forestry)	Training on Fertilizer Recommendation Guide-2024	17-19 Dec 2024	BARC	BARC
		Training on Leadership in Agricultural Research and Development	22-26 June 2025	BARC	BARC
		Training on Financial Management	5-9 Jan 2025	BARC	BARC
		Foundation Training Course on Greenhouse Gas Accounting and Energy management (Based on ISO 14064, Part 1&2 and ISO 50001)	15-19 June 2025	BARC	BARC
		Training on Crop Zoning System Development	31 May to 4 June 2025 & 15-19 June 2025	BARC & IWM, Uttara, Dhaka	BARC
		National Validation Workshop on the Generation of the Land Cover and Natural Capital Map and Developing Integrated Forest Management Plan of Bangladesh	28 June 2025	Agargaon Dhaka	Dept. of Forest
		Workshop on Land Degradation Neutrality (LDN)	19 May 2025	Dept. of Environment	DoE & UNCCD
		National Seminar on Progress in Earth Surface Monitoring Utilizing Remote Sensing Techniques: Bangladesh Perspective	12 May 2025	SPARRSO	SPARRSO
		National Consultation Workshop on NDC Progress Tracking Framework Development	10 Feb 2025	DoE	DoE
		Workshop on Global Sheild against Climate Risks	18-19 Dec 2024	Dhaka	MOF & IWM
		Learning Sharing Workshop on Agromet FARRM School	25 Nov 2024	Dhaka	USAID

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
		Workshop on Programmatic Approach for Climate Change Adaptation in Bangladesh	22 Oct 2024	CEGIS, Dhaka	CEGIS
		National Level Consultation Workshop for the Climate Change Local Adaptation Plan of Action (LAPA) Development Project	29 Sept 2024	Crowne Plaza Dhaka Gulshan	International Rescue Committee
20	Md. Al Mobasher Hussen, PTO (M&T)	Training on Leadership in Agricultural Research and Development	22-26 June 2025	BARC	BARC
		Training on Global Trade Strategies for Agriculture Commodities	4-8 May 2025	BARC	BARC
		Workshop on Course Content Upgradation and Validation of the Foundation Training Course for the NARS Scientists & Officers	21 Jan 2025	NATA	NATA
21	Dr. Md. Iqbal Hosen, PSO (P&E)	Training on Financial Management	5-9 Jan 2025	BARC	BARC
		N-29th and N-30th Foundation Training (2 batches simultaneously)	120 days 5/2/2025 to 4/6/2025	NATA, Gazipur	BARC
		Training on Public Private Partnership (PPP) in Agriculture	22-24 June 2025	PPPA office, Agargaon	BARC
22	K.M. Ali Haider, Sr. AD (Establishment)	Training on Financial Management	5-9 Jan 2025	BARC	BARC
23	MD. Al Amin, Protocol Officer (A&F)	Training on Human Resource Management	8-10 April 2025	BARC	BARC
		N-28th Foundation Training	15/9/24 to 12/1/25	NATA	BARC
24	Dr. Ali Akbar Bhuiyan, PSO (Livestock)	Training on Project Monitoring and Evaluation	22-16 June 2025	SRDI	BARC
		Annual Research Review Workshop -2024	1-2 Dec 2024	BLRI	BLRI

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
25	Hasan Mahmud, Sr. System Analysist (Computer & GIS)	Training on Technical Report Writing and Editing (27 th batch)	19-23 Jan 2025	BARC	BARC
		Training on Crop Zoning System Development	31 May to 4 Jun 25 & 15-19 Jun 2025	BARC & IWM, Uttara, Dhaka	BARC
26	Dr. Susmita Das, Principal Documentation Officer (AIC)	Training on Public Private Partnership (PPP) in Agriculture	22-24 June 2025	PPPA office, Agargaon	BARC
27	MD. Saimum Hasan, Information Officer (AIC)	N-29th and N-30th Foundation Training (2 batches simultaneously)	120 days 5/2/2025 to 4/6/2025	NATA, Gazipur	BARC
		Training on Public Private Partnership (PPP) in Agriculture	22-24 June 2025	PPPA office, Agargaon	BARC
28	Md. Mustafizur Rahman, Director (Manpower & Training)	Training on Global Trade Strategies for Agriculture Commodities	4-8 May 2025	BARC	BARC
		Workshop on Course Content Upgradation and Validation of the Foundation Training Course for the NARS Scientists & Officers	21 Jan 2025	NATA	NATA
29	Dr. Mohammed Khorshed Alam, STO (M&T)	Global Trade Strategies for Agriculture Commodities	4-8 May 2025	BARC	BARC
		The Art of Presentation: Tools & Techniques (1st Batch)	27-29 April 2025	BARC	BARC
		Annual Research Review Workshop -2024	1-2 Dec 2024	BLRI	BLRI
30	Dr. Suraya Parvin, Director (TTMU)	Awareness training on ISO 9001:2015 & ISO 45001:2018)	4-8 May 2025	BARC	BARC

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
31	Dr. Md. Saifullah, Member Director (Admin & Finance)	Foundation Training Course on Greenhouse Gas Accounting and Energy management (Based on ISO 14064, Part 1&2 and ISO 50001)	15-19 June 2025	BARC	BARC
32	Dr. AFM Tariqul Islam, PSO (Agril. Engg)	Foundation Training Course on Greenhouse Gas Accounting and Energy management (Based on ISO 14064, Part 1&2 and ISO 50001)	15-19 June 2025	BARC	BARC
		Training on Leadership in Agricultural Research and Development	22-26 June 2025	BARC	BARC
		Training on Crop Zoning System Development	31 May to 4 June 2025 & 15-19 June 2025	BARC & IWM, Uttara, Dhaka	BARC
33	Dr. Md. Taibur Rahman, Principal Librarian (AIC)	Training on The Art of Presentation: Tools & Techniques	27-29 April 2025	BARC	BARC
34	Dr. Mst. Sufara Akhter Banu, Senior Scientific Editor (AIC)	Training on The Art of Presentation: Tools & Techniques	27-29 April 2025	BARC	BARC
35	Md. Anowarul Haque, SSO (TTMU)	N-28th Foundation Training	15/9/24 to 12/1/25	NATA	BARC
		Training on The Art of Presentation: Tools & Techniques	27-29 April 2025	BARC	BARC
		Training on Project Monitoring and Evaluation	22-16 June 2025	SRDI	BARC
36	Al-Helal, Programmer (Computer &	N-28th Foundation Training	15/9/24 to 12/1/25	NATA	BARC

Sl	Name and Designation	Name of Program	Duration	Venue	Implementing Agencies
	GIS)	Training on Crop Zoning System Development	31 May to 4 June 2025 & 15-19 June 2025	BARC & IWM, Uttara, Dhaka	BARC
		Workshop on Service Process Simplification	20-22 April 2025	a2i	a2i
		Workshop on Progress in Earth Surface Monitoring Utilizing Remote Sensing Techniques: Bangladesh Perspective	12 May 2025	SPARSO Agargaon Dhaka	SPARSO
37	Dr. Md. Shahzad Kuli Khan, PSO (Fisheries)	N-28th Foundation Training	15/9/24 to 12/1/25	NATA	BARC
38	Mohammad Tawfiqur Rahaman, AD (Common Services)	N-29th and N-30th Foundation Training	120 days 5/2/2025 to 4/6/2025	NATA, Gazipur	BARC
Total Programs (106)					

7.3. In-country Training/ Workshop/ Seminar

During the reporting period, 121 training programs and 43 workshops/seminars were arranged by the divisions/units and different projects of BARC. Under revenue funding 58 training programs and 39 workshops were organized. The participants for the training and workshop/seminar were 3,833 and 3,387 respectively.

Programs Implemented During 2024-2025

7.3.1: Training (Revenue)

A. In-house-Training

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
Computer & GIS Unit	Training on D-Nothi Application (Officer level)	BARC	22 Oct 2024	19	1	20
	Training on Integrated Digital Service (IDSDP) Platform	BARC	23 Oct 2024	17	3	20
			27 Oct 2024	18	2	20
	Training on D-Nothi Application (Staff level)	BARC	26-28 Nov 2024	19	5	24
			1-3 Dec 2024	18	5	23
	Training on Crop Zoning System Development (Officer level)	BARC & IWM, Uttara, Dhaka	31 May to 4 June 2025 & 15-19 June 2025	10	0	10
Support Service Unit	Training on Income Tax Return	BARC	21 Nov.2024	58	7	65
	Training on Fire safety and disaster management (Officer)	BARC	09 Dec. 2024	53	7	60
	Training on Fire safety and disaster management (Staff)	BARC	12 Dec.2024	56	14	70
	Training on Annual/Partial Confidential Report (ACR) (9^{th} and above Grade)	BARC	23 Jan.2025	55	6	61
	Training on Annual/Partial Confidential Report (ACR) (9^{th} and above Grade) ($12\text{-}16^{th}$ Grade)	BARC	25 Jan.2025	33	9	42
	Training on Annual/Partial Confidential Report (ACR) (9^{th} and above Grade) (17-20 Grade)	BARC	26 Jan.2025	30	6	36
	Training on improving skills in office management (1^{st} batch) Staff	BARC	17-21 May 2025	44	11	55

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
	Training on improving skills in office management (2nd batch) Staff	BARC	22-26 May 2025	44	11	55
	Secretarial Instructions 2024 (Officers)	BARC	13 May 2025	52	6	58
	Secretarial Instructions 2024 (Staff)	BARC	26 May 2025	41	9	50
GRS Focal Point	GRS system and use of GRS software (Officers)	BARC	26 Nov.2024	43	7	50
	GRS system and use of GRS software (Staff)	BARC	24 May 2025	41	9	50
NIS Focal Point	Training on National Integrity Strategies for officers and staff	BARC	31 Dec 2024	65	15	80
	Training on National Integrity Strategies for staff	BARC	20 Mar 2025	70	10	80
RTI Focal Point	Right to Information act 2009 (Officer)	BARC	11 Sept.2024	60	6	66
	Right to Information act 2009 (Staff)	BARC	17 Feb.2025	52	15	67
Finance Unit	Training on Financial Management (Officers)	BARC	12, 14 & 15 May 2025	27	3	30
Total (Event 21)				**925**	**167**	**1092**

B. Training organized for NARS scientists, Extension officials, Academician etc. (Revenue)

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
Crops Division	Phytosanitary Measures in Bangladesh	BARC	22-24 Dec. 2024	21	9	30
	Hands-on Training of CRISPR Cas9 for Crop Improvement	BARC	3-5 Feb. 2025	22	8	30
	Hands-on Training on ITPGRFA Data Management	BARC	10-12 Feb. 2025	17	6	23
	Awareness Building on Act and Policies of Bangladesh Agriculture	BARC	25-27 Feb. 2025	34	6	40
P&E Division	Project Development & Management	BARC	04-08 Dec. 2025	23	7	30

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
M & T unit	Foundation Training for NARS scientists and officers (N-28th)	NATA, Gazipur	120 days 15/9/2024 to 12/1/2025	25	15	40
	Foundation Training for NARS scientists and officers (N-29th and N-30th) simultaneously	NATA, Gazipur	120 days 5/2/2025 to 4/6/2025	56	24	80
	Administrative and Financial Management Training for NARS scientists (PSO/CSO level)	BIM, Dhaka	14 days 5-18 Jan.2025	23	7	30
Nutrition Unit	Food Utilization, Quality, Processing and preservation techniques of Agro-products at households level	BARC	17-19 Nov. 2024	4	26	30
Livestock Division	Advanced training on Bioinformatics for Sustainable Development in Agriculture	BARC	17-21 Nov.2024	13	9	22
	Application of Genome Editing tools for sustainable development in agriculture	BARC	20-24 April 2025	15	5	20
	Good Livestock Husbandry Practices in Bangladesh (1st batch)	BARC	2-6 Feb 2025	21	9	30
Fisheries Division	Good Livestock Husbandry Practices in Bangladesh (2nd batch)	BARC	12-16 Feb.2025	20	10	30
	Use of Genomics for Sustainable Development in Fisheries of Bangladesh	BFRI, Mymensingh	28-30 April 2025	20	10	30
	Research Methodology and Data Analysis: Fisheries perspective	BFRI, Mymensingh	5-7 May 2025	23	7	30
	Training on Fish Processing & Preservation	BARC	20-22 May 2025	10	20	30
NRM (Soil)	Use of Fertilizer Recommendation Guide-2024	BARC	20-22 Oct. 2024	32	8	40
	Use of Fertilizer Inspection Manual	BARC	10-12 Nov. 2024	22	8	30

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
	Use of Fertilizer Recommendation Guide-2024	BARC	17-19 Dec. 2025	22	8	30
	Climate Change, Carbon Sequestration and Adaptation Strategies	BARC	22-24 April 2025	24	6	30
NRM (Agril. Engg)	Water Efficient and Climate Smart Irrigation Management	BARC (2 days visit to BARI & BRRI)	5-9 Jan 2025	23	2	25
	IoT based Precision Agriculture for Sustainable Crop Production	BARC (2 days visit to BARI & NDL)	23-27 Feb 2025	19	6	25
	Advanced Farm Mechanization for Agricultural Transformation	BARC (1 days visit to BARI & BRRI)	20-24 April 2025	22	3	25
NRM (Forest)	Forestry and Agroforestry Technologies for Professionals	BARC	20-21 Nov 2024	24	6	30
	Climate Smart Agriculture for Adaptation and Mitigation	BARC	18-20 Feb 2025	20	10	30
AERS Division	Econometrics for Socio-Economic Research: Tools and Application	BARC	10-14 Nov 2024	12	8	20
	Production and Market Trends Forecasting Using Statistical Modelling	BARC	5-9 Jan 2025	10	10	20
	Training on Public Private Partnership (PPP) in Agribusiness	PPPA, Agargaon, Dhaka	22-24 June 2025	21	9	30
Computer & GIS unit	Remote Sensing & Geographic Information System (GIS)	BARC	4-8 May 2025	15	5	20
	Use of Khamari Mobile App and Crop Zoning System (DAE officials)	Sylhet region	17 May 2025	61	6	67

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
	Use of Khamari Mobile App and Crop Zoning System (DAE officials)	Faridpur region	28 May 2025	50	10	60
	Use of Khamari Mobile App and Crop Zoning System (DAE officials)	Barisal region	29 May 2025	63	13	76
	Use of Khamari Mobile App and Crop Zoning System (DAE officials)	Jessore region	1 June 2025	62	8	70
	Use of Khamari Mobile App and Crop Zoning System (DAE officials)	Khulna region	2 June 2025	56	6	62
TTMU Unit	ToT on vegetable crop technology developed by BARI	BARC	17-18 Dec.2024	18	12	30
	ToT on vegetable crop technology developed by BARI	BARC	20-21 April 2025	25	5	30
AIC	Technical Report Writing and Editing (27th batch)	BARC	19-23 Jan.2025	23	7	30
Total (Program 37)				**971**	**334**	**1305**

C. Training organized for NARS Scientists, Extension Officials and Academician (PARTNER and other funding sources)

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
P&E Division	Farming System	BARC	16-20 Feb 2025	21	4	25
M & T unit	Human Resource Management (funded by PARTNER Project)	BARC	8-10 April 2025	20	5	25
	Postharvest food safety training on Module 1- (General Food Safety & Hygiene) and Module 2 (Safe food handling) under OFANS project Theme 1.4 & 4.4	Zoom platform	28-30 Oct 2024 & 12-14 Nov 2024	25	0	25
Crops Division	Climate Adaptation for Sustainable Crop Production	BARC	8-12 Dec 2024	19	6	25

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
	Use of Biotechnological Tools for Varietal Development	BARC	12-16 Jan 2025	16	9	25
	Production and Quality Control of Biopesticides	BARC	18-20 Feb 2025	18	7	25
	Seed Quality Management	BARC	22-24 Feb 2025	18	7	25
	Training of Trainers (ToT) on Advance Breeding Techniques for Major Crops in Bangladesh	BARC	28-30 Apr 2025	18	7	25
GAP Unit, BARC	Training on 'Good Agricultural Practices (GAP) for Safe Fruits and Vegetables' Production (1 batches) (Only BADC officers)	BADC, Gabtoli, Dhaka	12-16 Jan 2025	16	9	25
	Training on 'Good Agricultural Practices (GAP) for Safe Fruits and Vegetables' Production (Officers level) (2 batches)	BARC	16-20 Feb 2025	40	10	50
	Internal Auditor Training Course on ISO 9001:2015 & ISO 45001:2018 (Officers level)	BARC	4-8 May 2025	21	4	25
	Internal Auditor Training Course on ISO 17065:2012, 17067:2013 & ISO 22002:2018 (Officers level) (2 batches)	BARC	22-26 Jun 2025	34	16	50
	Training on 'Good Agricultural Practices (GAP) for Safe Fruits and Vegetables' Production(2 batches) (SAAO and Scientific Assistant)	Savar, Dhaka	4-6 Feb 25	43	7	50
NRM (Soil)	Training Program on Use of Fertilizer Recommendation Guide-2024	BARC	5-9 Jan 2025	17	8	25
	Training Program on Use of Fertilizer Recommendation G uide-2024	BARC	9-13 Feb 2025	17	8	25
NRM (Agril. Engg.)	Postharvest Technology for Food and Nutritional Security	BARC (2 days visit to BARI/BR	26-30 Jan 2025	19	6	25

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
	Training of Trainers on Climate Smart Irrigation and Water Management	BARC	6-8 May 2025	22	3	25
	Engineering Design and Manufacturing of Agricultural Equipment with SolidWorks	BARC (2 days visit to BRRI)	25-29 May 2025	22	3	25
NRM (Forest)	Advanced Statistical Methods and Data Analysis in Agricultural Research through PARTNER project	BARC	29-31 Dec. 2024	22	3	25
	Climate Reality Leadership in Agriculture Sector (2 batches) through PARTNER project	BARC	20-22 Jan.2025	44	6	50
	Farmers Training on Popularization of Agro-forestry Technologies for Barind area at Pabna through PARTNER project	Pabna	13 Jan.2025	20	5	25
	Farmers Training on Popularization of Agro-forestry Technologies for Char area at Rangpur through PARTNER project	Rangpur	16 Feb.2025	25	0	25
Livestock Division	Antimicrobial Resistance in Bangladesh (funding source PARTNER project)	CDIL, DLS	26-30 Jan. 2025	17	8	25
	Application of Genome editing tools for sustainable development in agriculture (funding source PARTNER project)	BARC	23-27 Feb.2025	16	9	25
AERS Division	Advanced Forecasting Methods for Agricultural Data Analysis	BARC	23-27 Feb 2025	11	10	25
	Global Trade Strategies for agriculture commodities	BARC	4-8 May 2025	19	6	25
Computer & GIS Unit	Upazila Land Suitability Assessment and Crop Zoning System of Bangladesh (KGF Funded)	IWM, Uttara, Dhaka	3-7 Nov 2024	10	1	11
	Machine Learning Technique in Agriculture (PARTNER funded)	BARC	25-29 May 2025	20	5	25

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
APCU-BARC, PARTNER Program	Training on Project Financial Management	BARC	5-9 Jan 2025	21	4	25
	Training on Data analysis in agricultural and approaches including R-software	BARC	10-14 Jan 2025	24	1	25
	Project Monitoring & Evaluation (1st batch)	BARC	16-20 March 2025	20	5	25
	Project Monitoring & Evaluation (2nd batch)	SRDI	22-26 Jun 2025	19	6	25
AIC	The Art of Presentation: Tools & Techniques (1st batch)	BARC	27-29 April 2025	20	5	25
Total (Program 32)				**718**	**193**	**911**

D. Training organized for Farmers etc. (PARTNER funded)

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
P&E Division	বিদ্যমান শস্য বিস্যাসে ফলনশীল জাত ব্যবহারের মাধ্যমে ফসলের উৎপাদনশী-লতা বৃদ্ধি	Khulna	6 Feb 2025	23	2	25
	বসতবাড়িতে সবজি ও বিভিন্ন ফসল উৎপাদনের কলাকৌশল	Sherpur	22 Feb 2025	21	4	25
Crops Division	Farmers Training on Technology Package	Godagari, Rajshahi	16 May 2025	21	4	25
		Benarpota, Sathkhira	20 June 2025	18	7	25

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
GAP Unit, BARC	Farmers Training on Bangladesh GAP for Cabbage production	UAO office, shibgoang, Bogura	11 Nov. 2024	19	6	25
	Farmers Training on Bangladesh GAP for Bottle Gourd production	UAO office, Sadar, Manikganj	14 Nov. 2024	14	11	25
	Farmers Training on Bangladesh GAP for Brinjal production	UAO office, shibpur, Narsingdi	27 Nov. 2024	25	0	25
	Farmers Training on Bangladesh GAP for Zara Lemon production	UAO office, Jaintapur, Sylhet	12 Dec. 2024	23	2	25
	Farmers Training on Bangladesh GAP for Potato production	UAO office, Mithapukur, Rangpur	19 Dec. 2024	25	0	25
	Farmers Training on Bangladesh GAP for Pineapple production	UAO office, Madhupur, Tangail	23 Dec. 2024	25	0	25
	Farmers Training on Bangladesh GAP for Kochur loti production	UAO office, pachbibi, Joypurhat	24 Dec. 2024	16	9	25
	Farmers Training on Bangladesh GAP for Guava production	UAO office, Ghodagori, Rajshahi	29 Jan. 2025	25	0	25
	Farmers Training on Bangladesh GAP for Mango production	UAO office, Nachole, Chapainawab ganj	30 Jan. 2025	25	0	25
	Farmers Training on Bangladesh GAP for Bitter gourd production	UAO office, Srimongol, Moulvibazar	12 Feb. 2025	24	1	25
	Farmers Training on Bangladesh GAP for Jackfruit production	UAO office, Valuka, Mymensingh	28 April 2025	25	0	25
	Farmers Training on Bangladesh GAP for Yard long bean production	UAO office, Chandina, Cumilla	28 April 2025	19	6	25
	Farmers Training on Bangladesh GAP for Papaya (Raw) production	UAO office, Atghoriah, Pabna	25 May 2025	25	0	25

Division/ Unit	Training Title	Training Venue	Duration	No. of Participants		
				M	F	Total
	Farmers Training on Bangladesh GAP for Pointed gourd production	UAO office, sadar, Jashore	21 June 2025	18	7	25
	Farmers Training on Bangladesh GAP for Snake gourd production	UAO office, Sitakunda, Chattogram	21 June 2025	25	0	25
NRM (Forest)	Farmers Training on Popularization of Agro-forestry Technologies for Barind area at Pabna	Pabna	13 Jan.2025	20	5	25
	Farmers Training on Popularization of Agro-forestry Technologies for Char area at Rangpur	Rangpur	16 Feb.2025	25	0	25
Total (Program 20)				**461**	**64**	**525**

Total Training (Program Number 110): (A+B+C+D): Participant Number: 3,833

7.3.2: Workshop/Seminar organized for NARS scientists and others

A. Workshop (Revenue)

Division/ Unit	Workshop Title	Venue	Duration	No. of Participants		
				M	F	Total
Crops Division	Workshop on the draft Plant Variety Protection Rules, 2024	BARC	10 Sept 2024	32	2	34
	Annual Review Workshop on Crop Improvement Program of NARS Institutes	BARC	22-23 Sept 2024	60	12	72
	Annual Review Workshop on Crop Production Program of NARS Institutes	BARC	2-3 Oct 2024	92	28	120
	Annual Review Workshop on Insect Management Program of NARS Institutes	BARC	6 Oct 2024	77	10	87
	Annual Review Workshop on Biotechnological Program of NARS Institutes	BARC	14 Oct 2024	57	21	78
	Annual Review Workshop on Disease Management Program of NARS Institutes	BARC	17 Oct 2024	76	15	91

Division/ Unit	Workshop Title	Venue	Duration	No. of Participants		
				M	F	Total
	Workshop on Challenges and Opportunities of Seed Sector in Bangladesh: Public and Private Partnership	BARC	19 Dec 2024	24	1	25
	Workshop on Challenges and Opportunities of Seed Sector in Bangladesh: Public and Private Partnership	BARC	22 Dec 2024	123	18	141
	Progress Review Workshop on Biotechnological Research Based on Biotechnology Policy-2012 (1st Workshop)	BARC	19 Jan 2025	45	5	50
	Workshop on Accelerated Breeding Program in Rice	BARC	05 May 2025	38	7	45
	Progress Review Workshop on Biotechnological Research Based on Biotechnology Policy-2012 (Second Workshop)	BARC	18 June 2025	43	7	50
	Workshop on Plant Introduction System in Bangladesh: Challenges, Opportunities and Way Forward	BARC	24 June 2025	61	8	69
AERS Division	Impact of LDC graduation in Agriculture Sector: Challenges and way forward	BARC	08 Jan 2025	58	9	67
	Socio-economic Research Progress (2024-25) and Future Research Program (2025-26) of NARS Institutes	BARC	25 Jun 2025	78	15	93
	National Budget 2025-26: Perspective Agriculture	BARC	26 Jun 2025	57	8	65
Computer & GIS unit	Workshop on Innovation	BARC	10 Mar 2025	53	7	60
	Khamari Mobile App & Crop Zoning System	Dinajpur region	20 April 2025	33	12	45
	Khamari Mobile App & Crop Zoning System	Rangpur region	21 April 2025	45	20	65

Division/ Unit	Workshop Title	Venue	Duration	No. of Participants		
				M	F	Total
	Khamari Mobile App & Crop Zoning System	Rajshahi region	27 April 2025	51	15	66
	Khamari Mobile App & Crop Zoning System	BARC	5 May 2025	85	30	115
	Khamari Mobile App & Crop Zoning System	Chattogram region	8 May 2025	57	11	68
	Khamari Mobile App & Crop Zoning System	Bogura region	14 May 2025	41	23	64
Soils unit	Research Review and Planning Workshop on Soil Management Program of NARS Institute 2024	BARC	7-9 October 2024	83	17	100
Agril. Engg. Unit	Research Progress 2023-24 and Research Program 2024-2025 on Agricultural Engineering of NARS Institutes	BARC	6-7 October 2024	69	11	80
Forestry unit	Annual Workshop on Forestry and Agroforestry in Bangladesh: Research Review 2023-24 and Program Planning	BARC	02 days 4-5 Nov. 2024	89	11	100
P&E Division	Workshop on Annual Progress 2023-24 & Work Plan 2024-25	BARC	5-8 Sept. 2025	61	7	68
M&T Unit	Review Workshop on BARC's Citizen charter	BARC	20 Nov. 2024	52	9	61
	Stakeholder workshop on Good Governance & Reform Activities (NIS, Citizen Charter, GRS & RTI)	CDB Bhaban, Dhaka	18 December 2024	84	16	100
Livestock Division	Annual Review Workshop on Research Progress 2023-24 and Research Program 2024-25 of BLRI	BARC	27-28 Nov.2024	137	63	200
Fisheries Division	Research Review 2023-24 and Research Program 2024-25 on Fisheries of NARS Institute	BARC	20 Oct 2024	90	8	98
TTMU Unit	Review Workshop on Transferable Technologies Developed by NARS Institutes	BARC	28 May 2025	52	8	60

Division/ Unit	Workshop Title	Venue	Duration	No. of Participants		
				M	F	Total
Nutrition Unit	Workshop on Lifestyle and Dietary Modification for Sedentary Officials	BARC	29 Sept. 2024	84	16	100
	Awareness Campaign on Nutrition for the Adolescents and Establishment of Nutrition Corner at School (1st campaign)	Rajshahi (RU)	26 Jan.2025	88	82	170
	Awareness Campaign on Nutrition for the Adolescents and Establishment of Nutrition Corner at School (2nd campaign)	Chattogram (CVASU)	20 Feb.2025	96	72	168
NIS Focal Point	Workshop on National Integrity Strategies (NIS)	BARC	25 June 2025	97	13	110
Total (Program 35)				**2,368**	**617**	**2,985**

B. Workshop (Other sources of fund)

Division/ Unit	Workshop Title	Venue	Duration	No. of Participants		
				M	F	Total
Computer & GIS Unit	National Workshop on Building a Gender framework for ACASA technology	BARC	4-5 March 2025	64	11	75
	Leveraging the ACASA Portal for BRAC's Climate Adaption and Long-term Agro-Advisory Services	BRAC CDM, Gazipur	18-19 June 2025	23	7	30
M&T unit	Second Workshop on Promotion of Agricultural Trade and Investment among the BIMSTEC Member States (Hybrid mode)	BARC	24 Dec 2024	28	6	34
	National Technical Workshop for the AFACI-AFCD (2nd phase)	BARC	6 Feb 2025	35	5	40
Total (Program 4)				**150**	**29**	**179**

C. Seminar (Revenue)

Division/ Unit	Activity	Venue	Duration	No. of Participants		
				M	F	Total
M&T Unit	Reducing GHG Emissions and Improving Environmental Outcomes in Agriculture	BARC	12 March 2025	65	5	70
RTI Focal Point	Seminar on Right to Information Act 2009 (Officers)	BARC	15 Apr. 2025	50	6	56
	Seminar on Right to Information Act 2009 (Staff, Grade 11-16)	BARC	14 May 2025	43	6	49
	Seminar on Right to Information Act 2009 (Staff, Grade 17-20)	BARC	15 May 2025	33	15	48
Total (Program 4)				**191**	**32**	**223**

Total Workshop/Seminar (Program Number 43): (A+B+C): Participant Number: 3,387

8. Higher Education: (Summary of Higher Study 2024-2025)

Sl No.		Post Doc.		PhD		Total	Remark
		Foreign	Local	Foreign	Local		
1.	APCU-BARC, PARTNER program	-	-	127	113	240	Received award letter 240 for PhD
Total				**127**	**113**	**240**	

9. Human Resources Development (HRD) Status of BARC (2024-2025)

Events	Programs	Participants			Remarks
		M	F	Total	
Training	121	3075	758	3833	Rev: 58; PARTNER and others:52
Workshop/ Seminar	43	2709	678	3387	Rev:39; Others: 4
Foreign Training/Seminar/Workshop Visit	36	18	3	21	
Higher Study (PhD & Post-doc) PARTNER Program	-	171	69	240	Awarded 240 scientists/ researchers as PhD fellow PhD ongoing-137
In-country training/workshop/seminar/ visit	106	34	4	38	BARC's participation
Total	**306**	**6007**	**1512**	**7519**	-

FISHERIES DIVISION

FISHERIES DIVISION

The Fisheries Division of the Bangladesh Agricultural Research Council (BARC) is committed to promoting the sustainable development of fisheries resources in Bangladesh. Its key functions include project development, supervision, execution, and monitoring and evaluation of fisheries-related research projects. The division also plays a vital coordinating role, working closely with institutions under the National Agricultural Research System (NARS), universities, the Bangladesh Fisheries Research Institute (BFRI), the Department of Fisheries (DoF), and international organizations such as the Food and Agriculture Organization (FAO) and WorldFish to advance research for improved nutrition and development.

In addition to research coordination, the division regularly organizes and participates in national and international seminars, workshops, symposiums, conferences, meetings, and training sessions on fisheries, aquaculture technologies, and value addition. It contributes to policy development by reporting on national issues, reviewing scientific papers, providing expert inputs on policy documents, and offering advisory services to relevant stakeholders.

The Fisheries Division also maintains strong communication and collaboration with both national and international agencies to strengthen research and development in fisheries, aquaculture, agriculture, and livestock sectors. It further provides technical advisory services to the Ministry of Agriculture (MoA), with particular emphasis on enhancing fisheries and aquaculture development in Bangladesh.

Name of the Professionals

Name	Designation
Mr. Ajit Kumar Chakraborty	Member Director
Dr. Md. Shahzad Kuli Khan	Principal Scientific Officer
Dr. Shirin Sultana	Principal Scientific Officer

1. Project Development and Implementation

No new project development or implementation activities were undertaken by the Fisheries Division during FY 2024-25.

2. Policy-Level Contribution

The Fisheries Division contributed policy inputs by providing expert opinions on:

i) the revised MoU titled "Maritime and Blue Economy Cooperation" between the Governments of Bangladesh and Nigeria; and

ii) the "Guidelines for the Establishment and Management of Fish Sanctuaries in Inland Water Bodies, 2025."

3. Events Organized

a. Training program on Use of genomics for sustainable aquaculture of fish in Bangladesh

The Fisheries Division of BARC organized a three-day training program on "Use of Genomics for Sustainable Aquaculture of Fish in Bangladesh" during 28–30 April 2025 at Bangladesh Fisheries Research Institute (BFRI), Mymensingh.

The inaugural ceremony was graced by Dr. Anuradha Bhadra, Director General (T.C.), BFRI, while Mr. Ajit Kumar Chakraborty, Member Director, Fisheries Division, BARC, chaired the session.

A total of 30 participants from BFRI, the Department of Fisheries (DoF), and different universities attended the training. The program focused on building the capacity of researchers and aquaculture professionals through both foundational and applied knowledge on the use of genomics in fish breeding, disease management, and sustainability practices to enhance aquaculture productivity. The program concluded with the distribution of certificates among the participants.

b. Training program on Research Methodology and Data Analysis: Fisheries Perspectives

The Fisheries Division of BARC organized a three-day training program on "Research Methodology and Data Analysis: Fisheries Perspectives" from 5–7 May 2025 at BFRI, Mymensingh.

The inaugural session was graced by Dr. Anuradha Bhadra, Director General (T.C.), BFRI, and presided over by Mr. Ajit Kumar Chakraborty, Member Director, Fisheries Division, BARC. A total of 30 scientists from BFRI participated in the training, which focused on enhancing their knowledge and skills in research methodologies, data collection, statistical analysis, and data interpretation. The program aimed to strengthen the capacity of participants to conduct high-quality, evidence-based research to support sustainable fisheries development and management in Bangladesh. The training concluded with the distribution of certificates to all participants.

c. Training program on Processing and Preservation of Fishery Products at the Entrepreneurial Level

The Fisheries Division of BARC organized a three-day training program on "Processing and Preservation of Fishery Products at the Entrepreneurial Level" from 20–22 May 2025 at BARC.

The inaugural session was graced by Dr. Nazmun Nahar Karim, Executive Chairman (Routine Charge), BARC, and chaired by Mr. Ajit Kumar Chakraborty, Member Director, Fisheries Division, BARC.

A total of 30 entrepreneurs engaged in agricultural food production and product development participated in the training. The program focused on enhancing practical skills and technical knowledge in fish processing, value addition, and preservation techniques. Emphasis was given to quality improvement, shelf-life extension, and reduction of post-harvest losses to boost market competitiveness and create sustainable income opportunities for participants. Certificates were awarded to all participants upon successful completion of the program.

Group Photo of Dignitaries and Participants of the Training

d. Workshop on Annual Review Workshop Research Review 2023-24 & Research Program 2024-25 on Fisheries of NARS Institute

The Fisheries Division of Bangladesh Agricultural Research Council (BARC) organized a full-day workshop on "Annual Review of Research 2023-24 and Research Program 2024-25 on Fisheries of NARS Institutes" on 20 October 2024 at the BARC Auditorium, Dhaka.

Dignitaries on the Dais during the Inaugural Session of the Workshop

The inaugural ceremony was graced by Dr. Nazmun Nahar Karim, Executive Chairman (Routine Charge), BARC, as the Chief Guest, and Dr. Anuradha Bhadra, Director General, BFRI, as the Special Guest. Ms. Masuda Khanam, Principal Scientific Officer (Director), Department of Fisheries (DoF), also attended as a Special Guest. The workshop was chaired by Mr. Ajit Kumar Chakraborty, Member Director, Fisheries Division, BARC.

Participants included scientists from the Bangladesh Fisheries Research Institute (BFRI), extension officers from DoF, representatives from NGOs, academics from various universities, and research students.

The workshop comprised two technical sessions. Technical Session I focused on institutional research activities and was chaired by Dr. Anuradha Bhadra, Director General, BFRI. Expert

members included Dr. Khalilur Rahman, Senior Specialist, KGF; Dr. Md. Monirul Islam, Former MD (Fisheries), BARC; Dr. Md. Shamsul Alam, Professor, BAU; Dr. Niamul Naser, Professor, DU; Dr. Yeamin Hossain, Professor, RU; and Dr. Kazi Ahsan Habib, Professor, SAU. Representatives from various stations and sub-stations presented summaries of their research activities. Technical Session II focused on research activities of coastal and marine stations. The session was chaired by Dr. Md. Kabir Ikramul Haque, Former Executive Chairman, BARC. Expert members included Dr. Md. Enamul Hoq, Dr. Masud H. Khan, Dr. Khan Kamal Uddin Ahmed (all Former Directors, BFRI), and Dr. Md. Asaduzzaman, Associate Professor, CVASU. Representatives from BFRI presented the research activities of their respective stations and sub-stations.

After each session, presentations of research proposals were followed by open discussions moderated by the session chairs. At the conclusion of the workshop, the expert panel and participants outlined recommendations to be incorporated into the research plans of different stations and sub-stations of BFRI.

The workshop concluded with remarks by Mr. Ajit Kumar Chakraborty, Chairperson, expressing gratitude to all participants and attendees for their active contributions.

4. Events Attended

Dr. Md. Shahzad Kuli Khan, Principal Scientific Officer, Fisheries Division, BARC, successfully completed the four-month Foundation Training Course at the National Agricultural Training Academy (NATA), Gazipur, under the Ministry of Agriculture, held from 15 September 2024 to 12 January 2025. He rejoined BARC on 13 January 2025.

5. Publication (s)

a. Training manuals

i) Training Manual-2025 on **Use of genomics for sustainable aquaculture of fish in Bangladesh**

ii) Training Manual-2025 on **Processing and Preservation of Fishery Products at the Entrepreneurial Level**

Training Manuals

b. Annual Report:

i. Contributed to publish BARC Annual Report 2023-24

c. BARC Newsletters:

i. Contributed to publish BARC Newsletters

d. Workshop Proceedings

i) Workshop Proceedings on Annual Review Workshop Research Review 2023-24 & Research Program 2024-25 on Fisheries of NARS Institute

Nutrition Unit

Nutrition is a vital component of a country's overall economy. Strategic investments in nutrition can help break the cycle of poverty and contribute to increased GDP. Bangladesh has achieved notable transformations in demographic, health, and nutritional indicators since independence. Continuous government efforts have led to significant progress in food security and nutritional status. Nutrition has been prioritized at the national level, and a robust policy framework has been adopted to meet global targets and ensure improved nutrition for the population.

The Nutrition Unit of Bangladesh Agricultural Research Council (BARC) works to enhance human nutrition in line with national policy objectives. During the reporting period, the unit undertook significant activities, including: providing policy inputs and technical opinions; assisting in policy document preparation; developing, supervising, and monitoring research projects; coordinating programs with NARS institutes, universities, BCSIR, BFSA, BIRTAN, and other national and international agencies engaged in nutritional research and development such as FAO, WHO, World Vision, WorldFish, IFRRI, Helen Keller International, and Nutrition International.

As part of its regular functions, the unit organized and participated in national and international seminars, workshops, symposiums, conferences, and training programs related to nutrition in agricultural research, food safety, food adulteration, contamination, and mitigation measures. It also provided expert reviews on scientific papers, policy documents, and advisory services.

Furthermore, the unit maintains collaborations with national and international agencies to strengthen nutrition research and development programs. It also provides technical advisory services to the Ministry of Agriculture on various issues related to agricultural research and nutrition.

Name of the Professionals

Name	Designation
Dr. Mohammad Rafiqul Islam	Director (A.C.) 1 July 2024-6 November 2024
Dr. Md. Harunur Rashid	Director (A.C.) 7 Nov. 2024-30 June 2025
Dr. Zakiah Rahman Moni	Principal Scientific Officer

1. Project Development and Implementation

No project-related activities were undertaken by the Nutrition Unit during the fiscal year 2024-2025.

2. Policy-Level Contribution

The Nutrition Unit of BARC provided technical inputs for the standardization of food items and actively contributed to the formulation of acts, regulations, plans, and the national pathway document for the UN Food Systems Summit. A summary of the key contributions during the reporting period is presented in Table 1.

Table 1: Policy-Level Contributions by Nutrition Unit, BARC (FY 2024-25)

Sl. No.	Topic	Date
1.	Plan of Action of the National Pathway Document of the UNFSS	17 June/25
2.	Provided opinion on Revised Draft Standard Approved by BSTI Technical Committee	20 April/25
3.	Provided opinion on Bangladesh Institute of Applied Nutrition Research and Training (BARTAN) Act-2012 (Amended-2024 Draft Act).	25 March/25
4.	Opinion on Proposal for Partnership on International Nutrition Olympiad (INO) 2025	18 March/25
5.	The provision of opinions on the adoption of international standards initially approved by the BSTI Technical Committee.	7 January/25
6.	provided comments on the Draft Nutrition Sensitive Agriculture Implementation Strategy.	18 February/25
7.	Provide opinion on draft standard of BSTI on Khejur Gur	21 April/24
8.	Provide opinion on draft standard of BSTI on Akher Gur	21 April/24
9.	Provided opinion on Harmonized Draft Safe Food (Animal or Fish Disease Residues) Regulations 2024.	31 December/24
10.	Provide opinion on draft standard of BSTI on BDS 1718 Soy Sauce.	27 November/24

3. Monitoring, Evaluation and Review

- Dr. Md. Harunur Rashid, Director (Nutrition) reviewed document nutrition related policy
- Dr. Zakiah Rahman Moni, PSO (Nutrition) acts as member secretary (GAP unit). She took part in monitoring validation and evaluation trial of GAP protocol development.

4. Event Organized

Four programs were coordinated by Nutrition Unit during last financial year (2024-25). Details of the events were given below:

Training on Food utilization, quality processing and preservation techniques of agro-products at household level

The Nutrition Unit of Bangladesh Agricultural Research Council (BARC) organized a three-day training program on "Food Utilization, Quality Processing, and Preservation Techniques of Agro-Products at Household Level" from 17–19 November 2024 at BARC's Conference Room-2. The program was inaugurated by Dr. Md. Abdus Salam, Member Director (Crops), BARC, with Dr. Mohammad Rafiqul Islam, Former Director (Nutrition Unit) and Member Director (Planning & Evaluation), BARC, as special guest, and presided over by Mr. Ajit Kumar Chakraborty, Member Director (Fisheries), BARC. Thirty entrepreneurs from the Department of Agricultural Marketing, Joyeeyta Foundation, Hortex Foundation, and BD Mushroom participated in the training, which

Dignitaries Presenting Certificates among the Participants

featured sessions on reducing post-harvest losses, quality processing, household-level food preservation, and compliance with packaging laws. Experts from BARC, BARI, BSTI, FAO, and Square Hospital facilitated the sessions. Certificates were distributed by Dr. Nazmun Nahar Karim, Executive Chairman, BARC, while Dr. Harunur Rashid, Director of the Nutrition Unit, delivered the closing remarks.

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

The Nutrition Unit of Bangladesh Agricultural Research Council (BARC) organized awareness campaigns on food, nutrition, and healthy lifestyle choices for adolescents at Rajshahi University on 26 January 2025 and Chittagong Veterinary and Animal Sciences University (CVASU), Chattogram on 20 February 2025. Targeting 200 adolescents and 100 teachers from 20 schools, the programs aimed to educate youth on malnutrition, locally available nutritious foods, and healthy dietary habits. At Rajshahi, the programs were inaugurated by Prof. Dr. Saleh Hasan Naqib, Vice-Chancellor, with Prof. Dr. Mohammad Main Uddin and Prof. Dr. Farid Uddin Khan as special guests; Dr. Harunur Rashid, Director of Nutrition Unit, BARC, chaired the sessions. At CVASU, Prof. Dr. A.K.M. Saifuddin served as chief guest, joined by Dr. Mohammad Mahbubur Rahman and Dr. Mohammad Rashedul Alam as special guests, with Dr. Rashid again chairing the sessions. Four papers on nutrition, safety, hygiene, and adolescent behavior were presented, followed by interactive discussions. Participants were encouraged to establish school Nutrition Corners to disseminate knowledge and requested additional materials, fact sheets, and leaflets to continue promoting healthy practices among students.

Workshop on Lifestyle and Dietary Modification for Sedentary Officials

The Nutrition Unit of BARC organized a day-long workshop on Lifestyle and Dietary Modification for Sedentary Officials on 29 September 2024 at BARC, Dhaka, attended by 100 scientists and officers from various institutes. The inaugural session was chaired by Dr. Mohammad Rafiqul Islam, Director of Nutrition Unit, BARC, with Mr. Ajit Kumar Chakraborty, Member Director (Fisheries) as special guest. Dr. Zakiah Rahman Moni, PSO, Nutrition Unit, BARC, welcomed participants. The keynote presentation was delivered by Dr. Qamrunnahar, Principal Research Officer, BIRDEM Hospital, who recommended ten guidelines for healthy dietary and lifestyle practices, including balanced diet, moderate fat intake, limited sugar and salt, adequate hydration, maintaining healthy weight, and proper nutrition during pregnancy and lactation. The technical session, chaired by Mr. Anil Kumar Das, FAO, featured presentations by Ms. Tapati Shaha, Square Hospital, and Dr. Rafiqul Islam, highlighting "Nutrition on the Go" and strategies to strengthen the immune system through healthy habits. Participants actively engaged in discussions, emphasizing the program's relevance to everyday health challenges. The event concluded with remarks from Dr. Rafiqul Islam, who thanked the participants and speakers, reaffirming BARC's commitment to promoting nutrition and well-being.

Distinguished Guests on the Dais at the Technical Session of the Workshop

5. Events Attended

Distinguished scientists of the Nutrition Unit actively contributed their expertise across workshops, training programs, and high-level committees. Dr. Md. Harunur Rashid, Director (Nutrition), led multiple trainings and workshops for institutions including NATA, DAE, BIRTAN, BFSA, and BNCC. He also participated as a special guest in events such as the "Budget Analysis of Nutrition-Sensitive Interventions in the Food and Agriculture Sector in Bangladesh – Preliminary Results" and the international seminar of the Society for Safe Food. In his capacity, Dr. Rashid guided the Nutrition Unit's research and policy initiatives related to agriculture, nutrition-sensitive agriculture, and public health, overseeing interdisciplinary efforts in nutrition-rich crop development, capacity building, and nutrition impact assessment.

Dr. Zakiah Rahman Moni, Principal Scientific Officer (Nutrition), played a pivotal role in advancing nutrition-sensitive agricultural policies and scientific research. As convener, she led the drafting and finalization of the Strategy for Nutrition-Sensitive Agriculture under the Ministry of Agriculture. She also contributed to several high-level technical bodies, including the Research and Innovation Committee and Sectional Committee at BSTI, and the Sectoral Technical Committee at SARSO, and acted as an evaluator for BFSA-supported projects. Dr. Moni's leadership reflects a strong multi-sectoral approach, integrating agricultural research, food standards, regional cooperation, and food safety regulation to maintain nutrition as a central component of Bangladesh's agricultural development agenda.

In addition, Dr. Moni served as Member Secretary, bringing professionalism and depth to training curricula, workshops, and technical sessions. She has been a resource person and trainer in multiple programs, regularly presenting scheme-owner updates at steering committees, workshops, and meetings. Her notable contributions include:

- Co-authoring the Bangladesh GAP standards
- Serving as technical member on committees for GAP protocol development, Disbursement Link Indicator (DLI 1), GAP certification mark formulation, Auditor Checklists, and preparation of Certification Agreements between Scheme Owners and the Bangladesh Agricultural Certification Body (BACB)

Through these efforts, the Nutrition Unit has strengthened multi-sectoral collaboration and reinforced nutrition-sensitive approaches across agricultural research and development programs.

6. Collaborative Work (National and International)

The Director (Nutrition) and Principal Scientific Officer (Nutrition) actively participated in various national and international collaborative platforms, contributing their expertise to strengthen nutrition and food safety initiatives. Their engagements included:

i. Member of the Chemical Division Sectional Committee, Research and Innovation, BSTI, Dhaka
ii. Member of the Agriculture and Food Division Committee (AFDC), BSTI, Dhaka
iii. Expert member of the Food Safety Authority (FSA), focusing on fruits, vegetables, and cropsectors
iv. Member of the National Plan of Action on Nutrition (NPAN)
v. Member of the Nutrition Working Group (NWG)
vi. Discussant at the seminar on Food and Nutrition Security: Role of BIRTAN
vii. Member of Recruitment Committee-1, BIRTAN
viii. Member of the Sectoral Technical Committee at SARSO

7. Publications

a. Scientific Article

i) M. M. Rahman., **Z. R. Moni** and N.c. Mahat., 2024. Medicinal Effect on selected pathogenic bacteria and cytotoxicity of Persicaria glabra's trunk extract. Bangladesh J. Agric and Environ. 19(2): 01-06, December 2024

ii) M. M. Rahman., **Moni, Z. R.** and M. M. Rahman 2025. Invitro alpha amylase inhibitory and anti-inflammatory activity of the leaves extract of Persicaria glabra. BJA. 50(1)

b. Reporting

i) Rashid. M.H., **Moni, Z. R.**, Budget Report according to Work-plan: (2023-2024): "Budget for future work-plan (2024-25). Nutrition Unit, BARC, Farmgate, Dhaka

ii) Report for Newsletter of BARC

iii) Report for APA

c. Popular Article

i) Importance of Nutrition and Guidelines During Pregnancy; Krishi Kotha, Ashar 1432. **(গর্ভাবস্থায় পুষ্টির গুরুত্ব ও করণীয়; কৃষি কথা, আষাঢ় ১৪৩২)**

ii) Microplastic Impact: Challenges and Awareness Building; Krishi Kotha, Jyaishtha 1432. **(মাইক্রোপাস্টিক প্রভাবঃ চ্যালেঞ্জ এবং সচেতনতা বৃদ্ধি; কৃষি কথা, জ্যৈষ্ঠ ১৪৩২)**

iii) Adolescent Health and Nutrition; Krishi Kotha, Magh 1431. **(কিশোর-কিশোরীদের বয়ঃসন্ধিকালে স্বাস্থ্য ও পুষ্টি; কৃষি কথা, মাঘ ১৪৩১)**

iv) Women's Empowerment: Roles and Institutional Approaches; Souvenir, Ministry of Agriculture, June 2025. **(নারীর ক্ষমতায়নঃ ভূমিকা ও প্রাতিষ্ঠানিক দৃষ্টিভঙ্গি; স্মরণিকা, কৃষি মন্ত্রণালয়, জুন ২০২৫)**

d. Training Manual

Food utilization, quality processing and preservation techniques of agro-products at household level

8. Other Activities

i. Attended in the Training, Workshop, Seminar, Meeting organized by BARC & other organizations.

ii. Rapporteurs' report/Speech writing for different events

iii. Meeting Minutes

NATURAL RESOURCES MANAGEMENT DIVISION

AGRICULTURAL ENGINEERING UNIT

The Agricultural Engineering Unit (AEU) of the Natural Resources Management Division, BARC, is committed to planning, coordinating, and managing R&D initiatives to advance agricultural engineering in support of sustainable food and nutrition security. Its key activities include identifying and prioritizing research areas in farm mechanization, postharvest technology, irrigation, and water management, as well as formulating recommendations to strengthen related research programs in affiliated institutions in alignment with national policies and action plans. The Unit also provides technical inputs for the formulation and review of agricultural engineering-related laws, regulations, policies, and strategies, while leading capacity development initiatives for NARS institutes, universities, and relevant public and private entities through specialized training programs. In addition, it organized and reported on national and international meetings, seminars, and workshops, and contributed actively to several important committees at both national and international levels. The Unit further designs, coordinates, and implements research projects financed or supervised by BARC. Through these integrated and priority-driven activities, the AEU continues to play a pivotal role in advancing agricultural engineering for sustainable development.

Name of the Professionals

Name	Designation
Dr. AFM Tariqul Islam	Principal Scientific Officer
Dr. Md. Ashraful Alam	Principal Scientific Officer, Deputation as DPD (PARTNER)

1. Project Development and Implementation

During the reporting year 2024–2025, the Agricultural Engineering Unit (AEU) coordinated and implemented two key projects.

Feasibility Study of IoT-Based Precision Agriculture for Sustainable Crop Production in Bangladesh (Funded by KGF)

This BARC-coordinated project, implemented by BARI in collaboration with Nodes Digital Ltd., assessed the potential of IoT- and machine learning–based precision agriculture (PA) systems to optimize fertilizer, water, and pesticide use for sustainable crop production, with eggplant as the focus crop. Field experiments at BARI, Gazipur, compared four approaches: IoT sensor–based automated PA, BARI-recommended practices, drip fertigation, and traditional farmers' methods. Results demonstrated that modern precision practices achieved equal or higher yields than traditional methods while reducing water use by 63%, saving more than 50% urea and potassium, and substantially improving nutrient-use efficiency. Although high initial investments limited short-term profitability, returns improved across multiple crop cycles due to savings in labor, fertilizers, pesticides, and irrigation. The IoT system also enabled remote, real-time monitoring of soil and weather parameters, supporting informed decision-making. Overall, the study confirmed the potential of IoT-based PA to enhance resource efficiency, reduce production costs, and promote sustainable agriculture in Bangladesh, while underscoring the need for further field-scale validation, fine-tuning, and cost optimization. The project was successfully completed during this reporting year.

Cropping System Intensification in the Salt-Affected Coastal Region of the Ganges Delta (Funded by CSIRO and KGF)

This collaborative project seeks to identify sustainable management options to intensify cropping systems and enhance productivity, food security, and livelihoods in the salt-affected coastal regions of the Ganges Delta through integrated soil, water, and crop management. The initiative is being implemented jointly by CSIRO, Murdoch University of Australia, BARC, BARI, BRRI, IWM, Khulna University, and Shushilon (Bangladesh), alongside ICAR CSSRI, BCKV, RMVERI, and TSRD (India).

Findings from the reporting period highlight viable strategies to address the challenges of climate variability and environmental stress. Increased heavy rainfall events during the dry season pose risks to cropping intensification, while effective salt management can reduce salinity in groundwater, soils, and storage ponds, thereby supporting greater irrigation opportunities. Proper infrastructure maintenance and improved soil drainage accelerate recovery of polders and islands following cyclonic inundation. The use of high-yielding, short-duration wet-season rice varieties was shown to increase yields by 20% and net benefits by 50%, while enabling earlier dry-season sowing. Profitable intensification options include rice–vegetable cultivation in waterlogged fields, adoption of salt-tolerant rice, and diversification into dry-season crops such as sunflower, maize, zero-tillage potato, garlic, onion, pumpkin, watermelon, and spinach—particularly when combined with straw mulching and optimal sowing dates (late November to early December).

During this year, significant progress was also made in developing and applying the Bangladesh Data Cube, a geospatial platform that integrates satellite Earth Observation data into analysis-ready formats. Apparent electrical conductivity (ECa) mapping (2019–2023) was carried out across the coastal zone to guide salt management. Additionally, a risk-based zoning system and a two-dimensional decision framework were developed to support targeted interventions at the administrative unit level based on vulnerability and risk severity. This CSIRO- and KGF-funded project is scheduled for completion in June 2026.

2. Policy-Level Contributions

The Agricultural Engineering Unit provided comments and inputs on the following policies, rules, acts, and issues:

a. Electric Three-Wheeler Management Policy 2025
b. Proposal from the Agricultural Machinery Manufacturers Association, Bangladesh
c. On-site Emergency Plan for Protecting Personnel of Rooppur Nuclear Power Plant
d. Updated statistics on the use of agricultural machinery and distribution of subsidized agricultural equipment in the country
e. Development of a framework of the AWD method for water conservation, reducing carbon emissions, and generating carbon credits
f. Revised Rules for the Amendment of the Noise Pollution (Control) Rules, 2006
g. Explosives Act 2024 (Draft)
h. Land Zoning and Protection Ordinance 2025 (Draft)

i. Memorandum of Understanding on technology transfer of Simplified Elevated Dam between Beijing IWHR Corporation (BIC) and BADC
j. Agricultural Marketing (Cold Storage Operation and Inspection) Regulations 2025

3. Monitoring, Evaluation and Review

Review and Evaluation of Research Programs of NARS Institutes
The AEU conducted a comprehensive review and evaluation of agricultural engineering research programs through its annual research review workshop, engaging stakeholders from NARS institutes, universities, and relevant organizations. The workshop assessed progress and planned future initiatives for 2023-24, while setting proposed activities for 2024-25 across five NARS institutes: BAR, BRRI, BINA, BSRI, and BWMRI. Key research areas under review included farm mechanization, postharvest technology, and irrigation and water management.

In farm mechanization, emphasis was placed on developing solar-powered machinery and crop-specific harvesters. Postharvest technology focused on improving cold storage systems, packaging solutions for small and medium farmers, and enhancing product quality. Irrigation and water management discussions centered on solar irrigation pumps, geospatial tools, and drainage management in waterlogged areas.

The review captured valuable insights and recommendations from scientists, engineers, and experts, ensuring evidence-based guidance for program improvements and sustainable agriculture. Major recommendations included developing and disseminating innovative machinery such as mungbean combine harvesters, multipurpose solar-powered machines, and biochar equipment. Participants also recommended promoting the commercial production and farmer-level demonstrations of refined machinery like BRRI harvesters and mini tillers.

Capacity development in advanced agricultural engineering was strongly emphasized, including establishing automated engine testing laboratories and expanding AI- and sensor-based precision farming initiatives. Improving postharvest systems through better packaging, transportation, storage solutions, and the introduction of affordable mini cold storage facilities was also prioritized. The development of low-cost solar irrigation pumps tailored for rice and diversified crops in coastal and hilly regions was identified as essential. Additionally, leveraging geospatial technologies-such as remote sensing, GIS, AI, and machine learning-was recognized as critical for advancing irrigation and water management practices.

These targeted actions are designed to strengthen agricultural engineering innovations, foster sustainable development, and contribute significantly to food security.

4. Events Organized

Annual Workshop on Research Review 2023-24 and Research Program 2024-25 on Agricultural Engineering of NARS Institutes

The Agricultural Engineering Unit organized the annual workshop titled "Research Review 2023-24 and Research Program 2024-25 on Agricultural Engineering of NARS Institutes" on October 6–7, 2024, at BARC. The workshop brought together representatives from NARS institutes, BADC, DAE, agricultural universities, and relevant public and private organizations. It comprised inaugural, technical, and concluding sessions.

During the inaugural session, Dr. Nazmun Nahar Karim, Executive Chairman (R.C.), BARC, emphasized the importance of advancing research in agricultural mechanization, irrigation and water management, and postharvest technology in alignment with national priorities and policies. The session chair, Dr. Md. Baktear Hossain, Member Director (NRM), BARC, highlighted key research areas requiring immediate attention to ensure national food security and formally concluded the inaugural session.

The workshop featured three technical sessions to evaluate the progress of agricultural engineering research conducted by NARS institutes in 2023–24 and to outline proposed programs for 2024–25. Expert members, scientists, engineers, and academicians provided valuable insights and recommendations based on the presentations. Technical Session I focused on farm machinery, with recommendations for solar-powered equipment and crop-specific harvesters. Technical Session II addressed postharvest technology, emphasizing cold storage, improved packaging, and product quality enhancement. Technical Session III emphasized irrigation and water management, advocating solar-powered pumps, geospatial tools, and drainage solutions for waterlogged areas.

The overall implementation status of 2023 recommendations by NARS institutes were 85.80%. The workshop concluded with actionable recommendations aimed at enhancing sustainable agricultural practices and strengthening national food security.

Research Review 2023-24 and Research Program 2024-25 on Agricultural Engineering of NARS Institutes

Training on Water Efficient and Climate Smart Irrigation Management

A five-day training program (2nd Batch) on Water-Efficient and Climate-Smart Irrigation Management, organized by the Agricultural Engineering Unit (AEU), was held from 5-9 January 2025 at BARC. The program aimed to equip participants with essential skills and knowledge to implement climate-smart irrigation, promote sustainable water use, and address climate change impacts, fostering collaboration and resilience through demonstrations, policy insights, and knowledge exchange.

The training combined expert presentations, a two-day laboratory and field visit, and interactive brainstorming sessions to achieve its objectives. A total of 25 participants from 12 institutions-including BARC, BARI, BRRI, BINA, BWMRI, WARPO, DAE, BADC, BMDA, BAU, SAU, and GAU—attended. Renowned scientists, professors, and experts from government, private organizations, and universities delivered lectures on climate-smart agriculture, surface and groundwater irrigation management, water-saving and automated irrigation technologies, irrigation scheduling, and adaptive strategies suited to Bangladesh's diverse agro-climatic conditions.

On the third and fourth days, participants visited the Irrigation and Water Management research fields at BARI and BRRI, as well as the solar irrigation pump-based irrigation scheme of BADC in Gazipur.

The program was inaugurated by Dr. Nazmun Nahar Karim, Executive Chairman of BARC, as Chief Guest, with Dr. Md. Baktear Hossain, Member Director (NRM), BARC, presiding. During the closing session, Dr. Karim awarded certificates and delivered concluding remarks, while Dr. Hossain officially closed the program.

Dignitaries Presenting Certificates among the Participants

Training on Postharvest Processing Technology for Food and Nutritional Security

A five-day training program (2nd Batch) on Postharvest Processing Technology for Food and Nutritional Security, organized by the Agricultural Engineering Unit (AEU), was held from 26–30 January 2025 at BARC. The program aimed to equip participants with advanced postharvest processing techniques through lectures and laboratory visits to enhance food quality, safety, and nutritional value, while minimizing postharvest losses to strengthen food security.

The training featured interactive presentations, brainstorming sessions, and a two-day laboratory visit. A total of 25 participants from 15 institutions-including BARC, BARI, BRRI, BINA, BWMRI, BADC, DAE, BCSIR, BSFA, RDA, BSFIC, SAU, GAU, DU, and Pran Foods Ltd. attended. Eminent scientists and professors with expertise in postharvest processing delivered lectures on food science and nutrition, circular economy approaches in postharvest systems, and advanced techniques and technologies for loss reduction.

On the third and fourth days, participants visited the Postharvest Technology and Farm Machinery & Postharvest Processing Engineering Labs at BARI, the Grain Quality & Nutrition and Farm Machinery & Postharvest Technology Labs at BRRI, and the Pran Industrial Park in Narsingdi.

The program was inaugurated by Dr. Md. Baktear Hossain, Member Director (NRM), BARC. During the closing session, Dr. Nazmun Nahar Karim, Executive Chairman of BARC, attended as Chief Guest, awarded certificates to participants, and delivered insightful remarks, while Dr. Hossain presided over and officially closed the training.

Certificate Distribution during the Closing Session

Training on IoT Based Precision Agriculture for Sustainable Production

A five-day training program (4th Batch) on IoT-Based Precision Agriculture for Sustainable Production, organized by the Agricultural Engineering Unit (AEU), was held from 23-27 February 2025 at BARC. The training aimed to equip participants with IoT-based precision agriculture techniques to optimize resources, enhance productivity, and promote sustainability, fostering data-driven innovation that minimizes environmental impact and enables resilient and efficient agricultural practices.

The program featured a combination of expert presentations, a two-day laboratory visit, and interactive brainstorming sessions. Twenty-five participants from 20 institutes-including BARC, BARI, BRRI, BINA, BJRI, BWMRI, BLRI, BFRI, BADC, BMDA, DAE, BCSIR, RDA, SRDI, BTRI, CDB, BAU, SAU, GAU, and BUET attended. Renowned scientists and professors with expertise in IoT-based precision agriculture delivered lectures covering infrastructure design, adoption, profitability, opportunities, challenges, and relevant policies and plans.

On the third and fourth days, participants visited the IoT-based labs of Nodes Digital Ltd., Dhaka, and research fields of the ASICT Division at BARI, Gazipur. The training was inaugurated by Dr. Md. Baktear Hossain, Member Director (NRM), BARC, on 26 January 2025. During the closing session, Dr. Hossain awarded certificates to participants and delivered insightful remarks as Chief Guest.

Training on IoT Based Precision Agriculture for Sustainable Production

Training on Advanced Farm Mechanization for Agricultural Transformation

The Agricultural Engineering Unit (AEU) organized a five-day training course on Advanced Farm Mechanization for Agricultural Transformation from 20 to 24 April 2025 at BARC. The program aimed to strengthen participants' knowledge and skills in operating modern farm machinery to enhance agricultural productivity and promote food security through efficient and sustainable mechanized farming practices.

The training combined presentations, hands-on demonstrations, and interactive discussions. Practical sessions were conducted at the FMPE Division workshop, BARI, and the FMPHT Division workshop, BRRI, providing step-by-step technical guidance on advanced machinery operations. Twenty-five participants from NARS institutes (BARC, BARI, BRRI, BINA, BSRI, BWMRI), DAE, BADC, BMDA, RDA, BAU, and SAU attended. Renowned scientists, academics, and experts from government agencies, private organizations, and universities delivered lectures on diverse topics, including the current status of mechanization, rice transplanters, harvesters, public–private sector initiatives, farm machinery business models, renewable energy applications, and smart farming technologies.

The inaugural session on 20 April 2025 was presided over by Dr. Md. Baktear Hossain, Member Director (NRM), BARC. The closing session on 24 April 2025 featured Dr. Hossain as Chief Guest, who awarded certificates to participants in recognition of their successful completion of the training.

Training on Advanced Farm Mechanization for Agricultural Transformation

Training of Trainers on Climate Smart Irrigation and Water Management

The Agricultural Engineering Unit, NRM Division, BARC, organized a three-day Training of Trainers on Water-Efficient and Climate-Smart Irrigation Management from 6 to 8 May 2025 at BARC. The program aimed to enhance participants' knowledge and capacity in climate-smart irrigation practices, including water-saving technologies, climate-resilient crops, irrigation scheduling, frontier technologies, and adaptive strategies tailored to Bangladesh's diverse agro-climatic zones. Designed for practical application, the training incorporated step-by-step guidance, visual aids, and field-ready tools, blending presentations, interactive discussions, and brainstorming sessions.

A total of 30 participants from 13 institutions-including BARC, BARI, BRRI, BINA, BJRI, BWMRI, WARPO, DAE, BADC, BMDA, RDA, GAU, and SAU attended. Renowned experts from public and private sectors, as well as academia, delivered sessions on key topics such as the hydrologic cycle, water balance, water footprint, water productivity, valuing water, climate change adaptation, and advanced irrigation modeling.

The inaugural session on 6 May 2025 featured Professor Dr. A.K.M. Saiful Islam, IWFM, BUET, as Guest of Honour, with Dr. Md. Baktear Hossain, Member Director (NRM), BARC, presiding. The closing session on 8 May 2025 was also chaired by Dr. Hossain, who awarded certificates to participants and formally concluded the training program.

Dignitaries Presenting Certificates among the Participants

Engineering Design and Manufacturing of Agricultural Equipment with SolidWorks

The Agricultural Engineering Unit, NRM Division, BARC, organized a five-day training course titled Engineering Design and Manufacturing of Agricultural Equipment with SolidWorks from 25 to 29 May 2025 at BARC. The program aimed to enhance participants' skills in engineering design and manufacturing of agricultural equipment using SolidWorks, focusing on innovation, precision, and efficiency in machinery development tailored to modern farming systems.

A total of 25 participants from NARS institutes (BARC, BARI, BRRI, BINA, BSRI, BWMRI), DAE, BSFIC, and local agricultural machinery manufacturers-including ACI Motors, Alim Industries Ltd., The Metal (Pvt.) Ltd., Uttaron Engineering, Bangla Mark Ltd., Janata Engineering, and GSM Engineering-attended the course. Renowned experts from the public and private sectors, as well as academia, delivered lectures and conducted hands-on sessions on CAD and CAM applications through SolidWorks and CNC lab work, emphasizing 3D modeling, simulation, and technical drawing.

The trainees participated in two full days of hands-on sessions at the FMPHT Divisional workshop of BRRI for CAM and CNC lab-based practical training. The closing session, held on 29 May 2025, was graced by Dr. Nazmun Nahar Karim, Executive Chairman, BARC, as Chief Guest, who delivered insightful remarks and awarded certificates to participants. Dr. Md. Baktear Hossain, Member Director (NRM), BARC, presided over the session and formally concluded the training program.

Group Photo of Dignitaries and Participants of the Training

Strategy Meetings on Agricultural Mechanization

Two high-level meetings on formulating the future strategy for agricultural mechanization were successfully held on 13 and 19 March 2025 at the Bangladesh Agricultural Research Council (BARC). The sessions brought together key stakeholders, including policymakers, researchers, and industry representatives, to discuss a roadmap for advancing mechanization in agriculture. Emphasis was placed on identifying priority areas, integrating modern technologies, and promoting sustainable and efficient mechanized farming practices nationwide.

Technical Sub-Committee Meeting on Tax Exemption Proposal

A meeting of the Technical Sub-Committee (TSC) was convened on 16 April 2025 at BARC to review and provide technical comments on ACI Motors' application for tax exemption. The session offered a platform for in-depth discussions on the technical and policy implications of the proposal, ensuring alignment with national agricultural mechanization objectives and supporting industry-friendly practices.

Technical Sub-Committee Meeting at ACI Motors Ltd.

The Technical Sub-Committee held a meeting on 24 April 2025 at ACI Motors Ltd., Manikganj. Members inspected the company's workshop and operational facilities to evaluate its capacity as a local manufacturer of farm machinery. The subsequent deliberations focused on the prospects for local manufacturing, adoption of appropriate indigenous technologies, and the role of ACI Motors in contributing to national agricultural mechanization goals. The Committee emphasized strengthening local manufacturing capacity and fostering industry–research collaboration to ensure sustainable mechanization across the country.

5. Events Attended

Professionals of the Agricultural Engineering Unit (AEU) actively participated in various training programs, workshops, seminars, conferences, and meetings during the reporting year. Detailed information on each event, including the event name, type, location, duration, and participating individuals, is provided in Annex A.

a. **Training Programs:** A total of ten training programs were attended, including: Postharvest Processing Technology, Climate-Smart Irrigation, IoT-Based Precision Agriculture, Advanced Farm Mechanization, Training of Trainers (ToT) on Climate-Smart Irrigation, Agricultural Equipment Design with SolidWorks, Leadership in Agricultural Research, Financial Management, Crop Zoning System Development, and Climate Reality Leadership in Agriculture.

b. **Workshops:** Professionals participated in twenty-one workshops covering topics such as Agriculture Budget 2025–26, Good Governance, PARTNER-DLI8 R&D, Haor and Wetland Management, Secretariat Guidelines, ACR, BARC Innovation, Agriculture Outlook 2050, Drought Management, AFACI Soil Project Phase-2, LDC Graduation Impact, GHG Reduction in Agriculture, IoT Precision Agriculture, SoLAR Project Management, Rice Technology Scaling, Weather and Climate Services, Climate Change Adaptation, and Work Plan Implementation.

c. **Seminars and Conferences:** Four major seminars and conferences were attended, including the 1st International Conference on Agricultural Machinery and Bioresources Engineering 2025, the 10th International Conference on Water and Flood Management 2025, and sessions on the Right to Information Act.

d. **Meetings:** AEU professionals participated in over fifty meetings with key organizations and stakeholders, including MoA, MoWR, NARS, DAE, BADC, BMDA, IWM, CEGIS, IDCOL, BAU, SAU, BUET, IRRI, IWMI, ADB, and other relevant institutions.

6. Collaborative Work (National and International)

Scientists of AEU established national and international linkage and cooperation through the members of the different committees as well as attending numerous meetings, seminars, and workshops during the reporting period.

National linkage and cooperation

AEU maintained national linkage and cooperation through committee members of different ministries, NARS institutes and universities.

a. Member Secretary of National Standards Committee (NSC) and Chairman of Technical Sub-Committee (TSC) for determining the quality standards of domestically produced and imported agricultural machinery to ensure sustainable agricultural mechanization
b. Convener of the Committee for Formulating the Roadmap for Future Agricultural Mechanization
c. Member Secretary of Committee on Water Conservation through AWD Method, Carbon Emission Reduction, and Carbon Credit
d. Member, Technical Advisory Committee (TAC) on Agricultural Mechanization
e. Member, Policy Formulation Committee for the Production of Combine Harvesters and Rice Transplanters
f. Member, Committee for Preparing the ToR for Partner-DAM Consultant Services
g. Focal Point, Implementation Committee for the Fourth Industrial Revolution (4IR)
h. Focal Point, Committee for Action Plan Formulation to Implement National Youth Policy 2017
i. Focal Point, National Technical Committee for the Bangladesh Agricultural Management Information System (BAMIS)
j. Member, Committee for Developing the GCF Concept Note on Climate Resilient Agriculture for Transformative Ecosystems (CREATE)
k. Member, Advisory Committee of Appropriate-scale Mechanization Innovation Hub-Bangladesh
l. Focal Point, National Water Resources Database (NWRD) Committee
m. Member, Project Evaluation Committee of WARPO
n. Member, Research and Development Project Selection Committee of BCSIR
o. Member, DPC-2 of BSRI
p. Member, DPC-2 of BJRI
q. Research and Academic Committee of Institute of Appropriate Technology, BUET
r. External Examiner of Thesis Evaluation and Defense at WRE/IWFM, BUET
s. External Examiner of undergraduate course of agricultural engineering at SAU.

t. Member, Organizing Committee of 1st International Conference on Agricultural Machinery and Bioresources Engineering 2025
u. Member, Scientific Committee of 10th International Conference on Water and Flood Management 2025
v. Member, BARC Documentary Preparation Committee
w. Member Secretary, Official Cost Estimation Committee (OCER), Proposal Opening Committee (POC); Proposal Evaluation Committee (PEC); Tender Opening Committee (TOC), Tender Evaluation Committee (TEC); Receiving Committee; and Purchase Committee of PARTNER, APCU-BARC.
x. Member and Rapporteur, Speech Preparation Committee, World Food Day 2024 and National Fruit Fair 2025.
y. Additionally, scientists of AEU continued national linkages and cooperation by attending numerous meetings, seminars, and workshops organized by KGF, IWM, WARPO, CEGIS, CIMMYT, NGO Forum, BUET, DoE, NARS, BADC, and DAE, among others.

International Linkage and Cooperation

Established international linkage through the members of the different committee as well as attending meetings, seminars, and workshops during the reporting period.

a. Member, Governing Council of Centre for Sustainable Agricultural Mechanization
b. Country Project Management Committee Member of Solar Irrigation for Agricultural Resilience (SoLAR) project implemented jointly by IWMI and IDCOL.
c. Continued international linkages and cooperation by attending numerous meetings, seminars, and workshops organized by FAO, IWMI, CSAM, IFPRI, CGIAR, CSIRO.

7. Publications

Scientists of AEU either published or contributed to the following publications including scientific papers, training manuals, report and proceedings.

Scientific Papers

a. J. C. Roy, S. Aktar, C. K. Saha, **M. A. Alam**, M. M. Alam (2025). E*ffect of Four Different Operational Methods for Drying Parboiled Paddy in BAU-STR Dryer.* International Journal for Multidisciplinary Research, Volume 7, Issue 2, 1-13.

b. **AFM Tariqul Islam**, AKM Saiful Islam, GM Tarekul Islam, Sujit Kumar Bala, Mashfiqus Salehin, Apurba Kanti Choudhury, M Golam Mahboob, Nepal C. Dey, Akbar Hossain (2024). *Monitoring wheat area using sentinel-2 imagery and In-situ spectroradiometer data in heterogeneous field conditions.* Discover Agriculture: (2024) 2:52. https://doi.org/10.1007/s44279-024-00069-4

Training Manual

Scientists of Agricultural Engineering Unit published four Training Manuals during the reporting year 2024-2025:

a. Postharvest Processing Technology for Food and Nutritional Security (January 2025)
b. Water Efficient and Climate Smart Irrigation Management (February 2025)
c. IoT based Precision Agriculture for Sustainable Crop Production (February 2025)

d. Advanced Farm Mechanization for Agricultural Transformation (April 2025)
e. ToT on Climate Smart Irrigation and Water Management (May 2025)
f. Engineering Design and Manufacturing of Agricultural Equipment with SolidWorks (May 2025)

Report and Proceedings

Scientists of Agricultural Engineering Unit either contributed or published the following reports and proceedings:

a. Contributed publishing BARC Annual Report 2023-24 through providing AEU Annual Report 2023-2024.
b. Contributed publishing BARC Newsletters 2024-25 (Quarterly) through providing AEU information during 2024-2025.
c. Prepared and distributed the proceedings of the workshop Research Review 2023-24 and Research Program 2024-25 on Agricultural Engineering of NARS Institutes.
d. Prepared chief guest speech and proceedings of the seminar of the National Fruit Fair 2025.
e. Prepared rapporteurs reports and proceedings of different workshops, seminars and meetings of BARC and other organizations. Prepared reports for eight five-year plan, SDG, delta plan, etc.

8. Other Activities

Special Assignments undertaken at the request of the Government or BARC

a. *Preparation of a Framework for the Alternate Wetting and Drying (AWD) Method for Water Conservation, Carbon Emission Reduction, and Carbon Credit Generation*
   Develop a comprehensive national framework outlining technical guidelines, field implementation strategies, and monitoring protocols for adopting the AWD method in irrigated agriculture. The framework will focus on optimizing irrigation scheduling to conserve water, lowering methane emissions from paddy fields, and establishing mechanisms for quantifying and certifying carbon credits under recognized carbon markets.
b. *Upgradation of the National Steering Committee (NSC) and Technical Steering Committee (TSC) for Sustainable Farm Mechanization*
   Strengthen and modernize the NSC and TSC by refining their mandates, enhancing stakeholder representation, and integrating cross-sectoral expertise. This will improve policy coordination, accelerate decision-making, and promote the adoption of climate-resilient, resource-efficient mechanization technologies nationwide.
c. *Documentation of Challenges, Opportunities, and a Future Work Plan for Farm Mechanization in Bangladesh*
   Prepare a detailed analytical report identifying current bottlenecks in farm mechanization (e.g., financing, infrastructure, skilled manpower), mapping potential opportunities, and proposing a strategic work plan. The document will serve as a policy and investment roadmap for scaling sustainable mechanization in line with national agricultural transformation goals.
d. *Comments on Tax Exemption for Imported Spare Parts of ACI Motors Ltd.*
   Provide technical and policy-based feedback on ACI Motors Ltd.'s proposed tax exemption for imported spare parts, with particular attention to the company's workshop capacity and operational facilities in order to evaluate its potential as a local manufacturer of farm machinery.

Professional Activities

a. Reviewed nine manuscripts for the Asian Journal of Agricultural Extension, Economics & Sociology, Bangladesh Journal of Agricultural Research (BARI), Bangladesh Journal of Agriculture (BJA), and the 10th International Conference on Water and Flood Management (ICWFM) 2025.
b. Evaluated one M.Sc. thesis from the Institute of Water and Flood Management (IWFM), BUET, Dhaka.

Regular activities

a. Attended more than fifty training programs, workshops, seminars, and meetings organized by BARC during 2024-2025, and contributed significantly.
b. Prepared speeches for high officials of BARC and MoA for different national and international events.
c. Completed various tasks assigned by the different Units/Divisions of BARC and NARS institutes.

Annex A

SN	Name of the Event	Type	Location	Duration	Individual attended
1.	Postharvest Processing Technology for Food and Nutritional Security	Training	BARC	5 Days (5-9 Jan '25)	Dr. Md. Ashraful Alam
2.	Water Efficient and Climate Smart Irrigation Management	Training	BARC	5 Days (25-29 Jan '25)	Dr. Md. Ashraful Alam
3.	IoT based Precision Agriculture for Sustainable Crop Production	Training	BARC	(20-24 Feb '25)	Dr. Md. Ashraful Alam
4.	Advanced Farm Mechanization for Agricultural Transformation	Training	BARC	5 Days (20-24 Apr '25)	Dr. AFM Tariqul Islam
5.	ToT on Climate Smart Irrigation and Water Management	Training	BARC	3 Days (6-8 May '25)	Dr. Md. Ashraful Alam
6.	Engineering Design and Manufacturing of Agricultural Equipment with Solid Works	Training	BARC	5 Days (25-29 May '25)	Dr. AFM Tariqul Islam
7.	Leadership in Agricultural Research and Development	Training	BARC	(22-26 Jun '25)	Dr. AFM Tariqul Islam
8.	Financial Management	Training	BARC	03 Days 12,14&15 May	Dr. AFM Tariqul Islam
9.	Crop Zoning System Development	Training	BARC	10 Days (31 May-4 Jun & 15-19 Jun '25)	Dr. AFM Tariqul Islam
10.	Climate Reality Leadership in Agriculture Sector	Training	BARC	3 Days (20-22 Jun '25)	Dr. AFM Tariqul Islam
11.	National Budget 2025-26: Agriculture Perspective	Workshop	BARC	26 Jun '25	Dr. AFM Tariqul Islam
12.	Stakeholder participation for establishing good governance	Workshop	BARC	29 Jun '25	Dr. AFM Tariqul Islam

SN	Name of the Event	Type	Location	Duration	Individual attended
13.	Catalyzing Agricultural R&D for Innovation and Scaling under PARTNER-DLI8	Workshop	SRDI	23 Jun '25	Dr. AFM Tariqul Islam
14.	Bangladesh Haor and Wetland Conservation, Development and Management Act	Workshop	WARPO	24 Jun 25	Dr. AFM Tariqul Islam
15.	Secretariat Guidelines	Workshop	BARC	13 May 2025	Dr. AFM Tariqul Islam
16.	Annual Confidential Report (ACR)	Workshop	BARC	9-10 Dec 2025	Dr. AFM Tariqul Islam
17.	BARC's Innovation	Workshop	BARC	10 Mar 2025	Dr. AFM Tariqul Islam
18.	Transforming Bangladesh Agriculture: Outlook 2050	Workshop	BARC	15 Jun 2025	Dr. AFM Tariqul Islam
19.	Integrated Drought Management in Bangladesh	Workshop	WARPO	22 Feb 2025	Dr. AFM Tariqul Islam
20.	National Soil Information to support transformation of agrifood systems in AFACI countries (AFACI Soil Project – Phase 2)	Workshop	BARC	19 Sept 2024	Dr. AFM Tariqul Islam
21.	Catalyzing agricultural R&D for innovation and scaling under PARTNER-DLI8	Workshop	BARC	23 June 2025	Dr. AFM Tariqul Islam
22.	Stakeholder participation for establishing good governance	Workshop	BARC	25 Jun 2025	Dr. AFM Tariqul Islam
23.	Impact of LDC graduation in agricultural exports: challenges and way forward	Workshop	BARC	8 Jan 2025	Dr. AFM Tariqul Islam
24.	Reducing GHG emission and improving environmental outcomes in Agriculture	Workshop	BARC	12 Mar 2025	Dr. AFM Tariqul Islam
25.	Feasibility Study of the IoT Based Precision Agriculture for Sustainable Crop Production in Bangladesh	Workshop	BARC	25 Jun 2025	Dr. AFM Tariqul Islam
26.	Seventh Country Project Management Committee (C-PMC) for the Solar Irrigation for Agricultural Resilience (SoLAR) Project in Bangladesh	Workshop	IWMI/IDC OL	10 Dec 2024	Dr. AFM Tariqul Islam
27	Validation and Up-scaling of Rice Transplanting and Harvesting Technology in the Selected Sites of Bangladesh	Workshop	KGF	25 Jun 2025	Dr. Md. Ashraful Alam
28.	Bangladesh Weather and Climate Services Regional Project	Workshop	DAE	30 Nov 2024	Dr. AFM Tariqul Islam
29.	Programmatic Approach for Climate Change Adaptation in Bangladesh	Workshop	CEGIS	22 Oct 2024	Dr. AFM Tariqul Islam

SN	Name of the Event	Type	Location	Duration	Individual attended
30.	Implementation Progress of Work Plan 2023–24 and Proposed Work Plan 2024–25	Workshop	CEGIS	5&8 Sept 2024	Dr. AFM Tariqul Islam
31.	Feasibility Study of the IoT Based Precision Agriculture for Sustainable Crop Production in Bangladesh	PCR Workshop	KGF	18 Jul 2024	Dr. AFM Tariqul Islam
32.	Right to Information Act, 2009	Seminar	BARC	15 Apr 2025	Dr. AFM Tariqul Islam
33.	Right to Information Act, 2009	Seminar	BARC	14 May 2025	Dr. AFM Tariqul Islam

Forestry Unit

The Forestry Unit of the Natural Resources Management Division, BARC is entrusted with overseeing and coordinating activities related to forestry and agroforestry research within the National Agricultural Research System (NARS). Since its establishment, the Unit has been responsible for planning, organizing, prioritizing, approving, monitoring, and coordinating the research activities of the On-Farm Research Division (OFRD) of BARI and the Bangladesh Forest Research Institute (BFRI). These activities focus on the development and dissemination of agroforestry and forestry technologies across the country.

In addition to research coordination, the Unit organizes training programs, seminars, and workshops aimed at enhancing the capacity of scientists and stakeholders engaged in forestry-related research and development. The Unit also maintains close collaboration with non-governmental organizations such as BRAC, ADPC, CNRS, Friendship, and CEGIS, as well as with a wide range of national organizations, including BARI, BRRI, BFRI, BTRI, BSRTI, BSRI, CDB, BWMRI, BIRTAN, DAE, BFIDC, SPARRSO, BMWA, RDA, and WARPO.

Name of the Professionals

Name	Designation
Dr. Md. Saifullah	Member Director (A&F) and Chief Scientific Officer (Forestry) (A.C.)
Dr. Md. Golam Mahboob	Principal Scientific Officer
Dr. Kazi Noor-E-Alam Jewel	Principal Scientific Officer

1. Project Development and Implementation

During 2024–2025, the Forestry Unit of the Natural Resources Management Division, BARC, actively engaged in the development and implementation of forestry and agroforestry-related projects. Notable initiatives include:

i) Improvement of Existing Pineapple-Based Agroforestry Practices and Estimation of GHGs Emission

- **Financing Agency:** Krishi Gobeshona Foundation (KGF)
- This project aims to improve the productivity and sustainability of pineapple-based agroforestry systems while assessing greenhouse gas (GHG) emissions to promote climate-smart agricultural practices.

ii) PARTNER Program Activity 8.1.3.7: Upscaling of Climate Resilient Agroforestry Practices as CSA Technology for Fragile Agro-Ecological Areas

- **Financing Agency**: PARTNER Program
- The activity focuses on scaling up climate-resilient agroforestry technologies in vulnerable agro-ecological zones, thereby strengthening adaptation and mitigation strategies within the framework of Climate-Smart Agriculture (CSA).

2. Policy-Level Contribution

During 2024-2025, the Forestry Unit of the Natural Resources Management Division, BARC, actively contributed to national policy formulation and review processes. A total of 14 policy comments on forestry, agroforestry, environment, and climate change-related issues were furnished and submitted to the MoA, Ministry of Environment, Forest and Climate Change (MoFE), and the Rural Development and Co-operatives Division (RDCD). The key issues addressed include:

i) National Air Quality Management Plan.
ii) Cold Storage Establishment and Operation Regulation, 2024 - Guidelines for effective cold storage practices of perishable items.
iii) TA 10191-REG: Strengthening Policies on Climate Change in Asia and the Pacific through Economic Research, 2023-2025 (Subproject 1).
iv) Development of the Alternate Wetting and Drying (AWD) method for water conservation, carbon emission reduction, and carbon credit generation.
v) Project information financed by the Bangladesh Climate Change Trust (BCCT) Fund during FY 2010-2011 to FY 2022–2023.
vi) Bangladesh: Enabling Activities for the Preparation of a Combined Initial Biennial Transparency Report (BTR1) and Fourth National Communication (NC4) to the UNFCCC.
vii) Regional Environmental and Social Assessment (RESA) for the National Special Economic Zones.
viii) Social Forestry Rules 2004 (Amended 2024).
ix) Agricultural Marketing (Cold Storage Operation and Inspection) Regulations, 2025.
x) Financial Management Guidelines (SOP 1) for Protected Areas under the Protected Area Management Rules 2017.
xi) Draft Technical Report on the *Bangladesh Disaster Risk Financing Strategy* prepared by the IMF TA Mission.
xii) July Mass Uprising Directorate Ordinance, 2025.
xiii) Ensuring Shelter and Food Security for Bird Species.

3. Monitoring, Evaluation, and Review

- In the annual research program of the Bangladesh Forest Research Institute (BFRI) for 2024–2025, a total of 71 research programs were examined, appraised, and endorsed for continuation or further study, all of which were found to be technically sound.
- A review workshop was jointly organized for NARS institutes - including BFRI, BARI, BRRI, BINA, and BSRI - focusing on forestry and agroforestry technologies. The workshop facilitated the evaluation of ongoing research activities, exchange of scientific knowledge, and the development of collaborative approaches for technology generation and dissemination.

4. Events Organized

Workshops

a) Annual Workshop on Forestry and Agroforestry in Bangladesh: Research Review 2023-24 and Research Planning 2024-25

The Annual Workshop on Forestry and Agroforestry in Bangladesh: Research Review 2023-24 and Research Planning 2024-25 was held on 4-5 November 2024 at the BARC Auditorium, under the chairmanship of Dr. Md. Bakhtiar Hossain, Member Director (NRM Division).

The program commenced with a welcome address by Dr. Md. Saifullah, Member Director (A&F) and Chief Scientific Officer (Forestry). Dr. Nazmun Nahar Karim, Executive Chairman (R.C.), BARC, graced the occasion as the Chief Guest, while Mr. A.K.M. Showkat Alam Mozumder, Director (A.C.), BFRI, Chattogram, and Dr. Md. Ismail Hossain, Director, BTRI, Moulvibazar, attended as Special Guests.

The workshop brought together around 100 participants representing various organizations. Presentations from BFRI and several NARS institutes (BARI, BRRI, BSRI, BTRI, BJRI) provided a platform for reviewing the 2023–24 research outcomes and discussing research priorities for 2024–25. The sessions were interactive, with participants engaging in critical discussions, raising pertinent questions, and offering valuable comments and suggestions to strengthen future research planning.

The event concluded with closing remarks by the Chairperson, Dr. Md. Bakhtiar Hossain, who emphasized the importance of collaborative efforts in advancing forestry and agroforestry research in Bangladesh.

Distinguished Guests on the Dais at the Inaugural Session of the Workshop

Trainings

a) Training on Forestry and Agroforestry Technologies for Professionals

A two-day training program on "Forestry and Agroforestry Technologies for Professionals" was held on 20–21 November 2024 at Conference Room–2 of the BARC Main Building. A total of 30 participants from nine different organizations, including NARS institutes (BARC, BARI, BRRI, BJRI, BTRI, BFD, BINA, BFIDC, BWMRI, SRDI, and CDB) as well as other relevant organizations (DAE, BFD, BFIDC), took part in the training. Among the participants, eight were female, reflecting an inclusive approach to professional capacity development.

QR Code to download the Training Manual 2024

The training sessions featured fourteen lectures, delivered by renowned scientists and subject-matter experts, covering a wide range of forestry and agroforestry technologies. To ensure structured learning, participants were provided with well-designed printed training materials.

The program was inaugurated by Dr. Nazmun Nahar Karim, Executive Chairman (R.C.), BARC. At the closing ceremony, Dr. Md. Saifullah, Member Director (A&F) and Course Coordinator, along with Dr. Md. Bakhtiar Hossain, Member Director (NRM Division) and Course Director, distributed course completion certificates to the participants and shared valuable remarks on the importance of applying the knowledge gained in their respective fields.

Group Photo of Dignitaries and Participants of the Training

b) Training on Advanced Statistical Methods and Data Analysis in Agricultural Research

A three-day training program on Advanced Statistical Methods and Data Analysis in Agricultural Research was organized at Conference Room-2, BARC Main Building, from 29-31 December 2024. A total of 25 participants representing 12 organizations, including NARS institutes (BARC, BARI, BFRI, BJRI, BSRI, BINA, CDB, SRDI, BWMRI, BRRI, BTRI, and BSRTI), attended the course. Among them, three were female participants.

QR Code to download the Training Manual 2024

The program featured fifteen lectures, delivered by renowned scientists and subject experts, focusing on advanced statistical techniques and their applications in agricultural research. To support structured learning, participants were provided with a competency-based learning material (CBLM).

The training was inaugurated by Dr. Nazmun Nahar Karim, Executive Chairman (R.C.), BARC, who also distributed course completion certificates to the participants at the closing ceremony.

Dignitaries Presenting Certificates among the Participants

c) Training on Climate Reality Leadership in Agricultural Sector

A three-day training program, conducted in two parallel batches, on Climate Reality Leadership in Agricultural Sector was organized at Conference Room-2, BARC Main Building, from 20-22 January 2025. A total of 50 participants (25+25 per batch) attended the training course. The participants included Climate Change Focal Point and Alternative Focal Point Officers of NARS institutes, with representation from Bangladesh Agricultural Research Institute (BARI)-10 participants, Bangladesh Forestry Research Institute (BFRI)-13 participants, and Bangladesh Agricultural Research Council (BARC)-the remaining participants. Among them, six were women participants.

QR Code to download the Training Manual CRL

The training comprised 15 specialized lectures in each batch, delivered by renowned scientists and subject experts, covering climate change adaptation and leadership in the agricultural sector. To support structured learning, participants were provided with a well-designed, carefully developed printed learning material.

The program was inaugurated by Dr. Nazmun Nahar Karim, Executive Chairman (R.C.), BARC. At the closing ceremony, Dr. Md. Saifullah, Member Director (A&F) and Course Coordinator, and Dr. Md. Bakhtiar Hossain, Member Director (NRM Division) and Course Director, distributed course completion certificates among the participants, accompanied by valuable remarks emphasizing the importance of climate leadership in agriculture.

Certificate Distribution during the Closing Session

d) Organized Training on Climate Smart Agriculture for Adaptation and Mitigation

A three-day training course on "Climate Smart Agriculture for Adaptation and Mitigation" was held at the Conference Room of the SAARC Agriculture Center (SAC), located in the AIC Building of BARC, from 18–20 February 2025. A total of 30 participants from 15 different organizations, including NARS institutes (BARI, BFRI, BJRI, BSRI, BINA, CDB, SRDI, BWMRI, BRRI, BTRI, BSRTI, etc.), DAE, and NGOs (CEGIS, IWM, BRAC, and CCDB), took part in the training. Of them, 12 were female participants. The course featured 16 specialized lectures delivered by renowned scientists and subject experts. To support learning, each participant was provided with a printed copy of competency-based learning material (CBLM). The training was inaugurated by Dr. Nazmun Nahar Karim, Executive Chairman (R.C.) of BARC, who also distributed course completion certificates among the participants during the closing ceremony.

QR Code to download the Training Manual

Dignitaries on the Dais during the Inaugural Session of the Training Program

Training manuals

Training Manual-2025 on Advanced Statistical Methods and Data Analysis in Agricultural Research
Training Manual - 2024 on Forestry and Agroforestry Technologies for Professionals
Training Manual on Advanced Statistical Methods and Data Analysis in Agricultural Research
Training Manual on Climate Reality Leadership in Agricultural Sector (1 & 2 Batch)

Picture of the Training Manuals

Farmers' Trainings

As part of the ongoing efforts to promote climate-resilient and sustainable agricultural practices through agroforestry, several field-level capacity-building initiatives were carried out during the reporting period. Structured training programs were organized for farmers in the char and Barind regions, focusing on practical knowledge and skills for climate-smart farming. In addition, field-level research monitoring and collaborative engagements were undertaken in the hilly areas of Bandarban and the coastal district of Patuakhali, ensuring that local farmers received hands-on guidance and technical support tailored to their unique agroecological contexts.

a. Training on Popularization of Agroforestry Technologies for Barind Area, Pabna

A day-long farmers' training was held on 13 January 2025 in the drought-prone Barind region of Pabna, attended by 25 farmers from water-stressed localities. The training emphasized climate-resilient agroforestry practices suitable for arid conditions, including the selection of drought-tolerant tree species and compatible crops, water harvesting, moisture conservation techniques, and strategies to enhance long-term productivity and biodiversity. Practical sessions on tree spacing, pit preparation, and mixed-cropping layouts provided hands-on experience. The initiative significantly increased awareness among the local farming community on sustainable land management and encouraged the adoption of climate-smart agroforestry systems.

Picture of the Training Program

b. Training on Popularization of Agroforestry Technologies for Char Area, Rangpur

On 16 February 2025, a day-long farmers' training was organized in the flood-prone char areas of Rangpur, attended by 25 local farmers. The program focused on agroforestry technologies adapted to char land conditions, including the introduction of multipurpose tree species, integration of tree-crop-livestock systems for enhanced livelihood security, and promotion of soil fertility and erosion control through vegetative cover. Practical demonstrations of successful agroforestry models in floodplain settings were also conducted. The interactive sessions generated keen interest among participants, many of whom expressed readiness to adopt and implement these sustainable practices on their own farms.

Picture of the Training Program

On-Site Research and Collaboration Visit: On-Farm Research Division (OFRD)

a. Rangpur

On 16 February 2025, Dr. Md. Mazharul Anwar, Chief Scientific Officer, OFRD, BARI, Gazipur, and Dr. Kazi Noor-E-Alam Jewel, PSO (Forestry), NRM Division, BARC, conducted a field supervision visit under the ongoing agroforestry project in Rangpur. During the visit, several beneficiary farmers' mango-based agroforestry plots, integrating potato, cauliflower, and cabbage, were assessed. Most plots exhibited healthy vegetable crops and mango trees with abundant blossoms, indicating promising yields. However, a few plots showed reduced flowering, likely due to nutrient deficiencies or environmental factors. The visit provided valuable insights into both the successes and challenges of implementing agroforestry systems, which will inform future research, extension, and capacity-building efforts.

Research Team at Rangpur Monitored the Activities of the Project

b. Bandarban

As part of the PARTNER Agroforestry Project (BARC Component), a field monitoring and expert consultation visit was conducted on 17 June 2025 at the On-Farm Research Division (OFRD) in Bandarban, located in the ecologically complex hill regions of the Chittagong Hill Tracts. The visit aimed to assess ongoing adaptive research addressing the challenges of hill agriculture, including steep slopes, soil erosion, and unpredictable rainfall.

Key focus areas included

Development and testing of agroforestry models suited for sloped terrain
Erosion control through vegetative barriers and contour planting
Integration of indigenous crops and tree species to enhance livelihood resilience
Promotion of biodiversity-friendly land-use practices

This hands-on engagement provided critical insights into science-driven solutions for sustainable hill farming and reinforced the importance of localized agroforestry innovations to support national objectives in climate adaptation, food security, and environmental stewardship.

Pictures of the monitoring at Banderban

c. Patuakhali

The research team, comprising Dr. Md. Robiul Alam, PSO, OFRD, BARI, Gazipur, Dr. Kazi Noor-E-Alam Jewel, PSO (Forestry), NRM Division, BARC, and Dr. Mamunur Rashid Sarker, SSO, OFRD, BARI, Gazipur, conducted a field visit to the beneficiary farmers' plots in Rajpara, Tiakhali Union, Kalapara Upazila.

During the visit, the team observed the 15-decimal research plot of Mr. Md. Shoriyot, who cultivated ginger in sacks under mango trees alongside various vegetables, including sweet pumpkin, chili, and red amaranth. The team also visited Mr. Md. Tara Mia at West Tiakhali, who cultivated red amaranth, cabbage, turmeric, and eggplant on five decimals, and during the Kharif season, produced red amaranth, cabbage, Indian spinach, and sweet gourd. Another beneficiary, Mr. Md. Khokon Peyada, was engaged in similar vegetable cultivation under mango-based agroforestry on a five-decimal plot for experimental purposes.

These visits provided valuable insights into the integration of high-value vegetables and spices in mango-based agroforestry systems, helping guide future adaptive research and extension strategies for smallholder farmers in coastal regions.


Research Team at Patuakhali Monitored the Activities of the Project

5. Events Attended

International Travels During 2024-25

Sl.	Country Visited	From	To	Purpose	Scientists
01	Germany	09.12.2024	13.12.2024	21st CGIAR System Council Meeting and Related Events	Dr. Md. Md Saifullah MD (A&F) & CSO (Forestry) (CC)
02	Nepal (ICIMOD)	01.10.2024	03.10.2024	International Seminar on Climate-resilient Agriculture for Sustainable Food Systems in the Hindu Kush Himalaya	Dr. Md. Md Saifullah MD (A&F) & CSO (Forestry) (CC)
03	Sri Lanka (Colombo)	01.10.2024	03.10.2024	ACASA Use Cases Workshop	Dr. Md. Golam Mahboob PSO (Forestry)
04	Nepal (Kathmandu)	13.09.2024	15.09.2024	International Seminar on Changing Environment in the Himalayan Region	Dr. Md. Golam Mahboob PSO (Forestry)
05	Thailand (AIT)	04.07.2024	14.07.2024	Training on "LiDAR Applications in Agriculture and Flood Risk Mapping"	Dr. Md. Golam Mahboob PSO (Forestry)

6. Publications

Scientific Publications During 2024-25

Islam, K. K., **Saifullah**, **M., Mahboob, M. G., Jewel, K. N. A**., Ashraf, S. M. K., and Hyakumura, K. (2024). Restoring soil fertility, productivity and biodiversity through participatory agroforestry: Evidence from Madhupur Sal forest, Bangladesh. Land, 13, 326. https://doi.org/10.3390/land13030326

Kumer Sarker, K., Kabir, M. S., Biswas, S. K., Niloy, K. M., Mofazzol, M. I. H., Hossain, A., and **Mahboob, M. G.** (2025). Sensor-driven automated shed and irrigation for summer tomato (Solanum lycopersicum L.) production in Bangladesh under the changing climate. Results in Engineering, 26, 104993. https://doi.org/10.1016/j.rineng.2025.104993

Asaduzzaman, M., **Mahboob, M. G.**, Sultana, S., and Naher, N. (2025). Assessing the contribution of mango orchards to carbon sequestration using field derived data and satellite remote sensing techniques in Shibganj, Bangladesh. Smart Agricultural Technology, 11, 100931. https://doi.org/10.1016/j.atech.2025.100931

Islam, A. T., Islam, A. K. M. S., Islam, G. M. T., Bala, S. K., Salehin, M., Choudhury, A. K., **Mahboob, M. G.,** Dey, N. C. and Hossain, A. (2024). Monitoring wheat area using Sentinel-2 imagery and in-situ spectroradiometer data in heterogeneous field conditions. Discover Agriculture, 2, 52. https://doi.org/10.1007/s44279-024-00069-4

Rahman, M. M., Islam, M. A., **Mahboob, M. G**., Mohammad, N., and Ahmed, I. (2024). Forecasting of potato yield estimation by satellite-based remote sensing technique. Acta Informatica Malaysia, 8(2), 49–55. https://doi.org/10.26480/aim.02.2024.49.55

SOILS UNIT

The Soils Unit of the Natural Resources Management Division, BARC, has been effectively implementing both its mandated responsibilities and additional initiatives during the reporting period. Since its inception, the Unit has prioritized planning, approving, reviewing, monitoring, and coordinating research programs related to soil fertility and fertilizer management, soil pollution, and climate change. These activities span across NARS institutes, universities, the Department of Agricultural Extension (DAE), and relevant NGOs.

In addition, the Soils Unit has actively conducted training programs, seminars, and workshops to strengthen linkages with national and international organizations, while facilitating coordination of soil-related research projects.

The professionals and their key activities in the Soils Unit during FY 2024–2025 are summarized below:

Name of the Professionals

Name	Designation
Dr. Md. Baktear Hossain	Member Director
Dr. Faridul Alam	Principal Scientific Officer
Dr. Ahmad Numery Ashfaqul Haque	Principal Scientific Officer

1. Project Development and Implementation

Project title: National Soil Information System to Support the Agrifood Systems in AFACI Countries (AFACI Soil Project: Phase -2)

The AFACI Soil Project Phase-2 is a collaborative initiative between the Bangladesh Agricultural Research Council (BARC) and the Soil Resource Development Institute (SRDI), with BARC serving as the coordinating agency. This second phase continues the earlier project titled *"Development of National Soil Types Map and National Soil Information Systems of Bangladesh (AFACI Soil Atlas Project)".* The project has been implemented since October 2023 and aims to strengthen soil information systems for sustainable agrifood management in Bangladesh.

Objectives of the Project

- Develop soil health indices and assess soil health through laboratory analysis of soil samples.
- Update the national soil database and maps of soil properties and potential threats.
- Establish a sustainable data management environment through a fully operational National Soil Information System.
- Enhance stakeholder engagement via the EduSOILs initiative to support informed land management decisions.
- Build national capacity for producing and delivering soil maps and information to guide sustainable land management policies.

Main Technical Activities

- Preparation of harmonized soil type maps for various districts using the World Reference Base (WRB) soil classification system.
- Development of an updated digital soil profile database.
- Creation of district-level topsoil nutrient databases to support national nutrient budget mapping and sustainable soil management.
- This project is expected to provide critical soil data and tools to inform agricultural planning, policy formulation, and sustainable land use practices across Bangladesh.

Progress of AFACI Soil Project (Phase–2) during July 2024 – June 2025

During the reporting period, significant advancements were made under the AFACI Soil Project Phase–2

- **District-Based Harmonized Soil Type Maps**

  Harmonized soil type maps for 12 districts in the Dhaka Division (excluding Dhaka district) were produced from July 2024 to June 2025. In total, 28 WRB-based harmonized soil type maps were developed for 28 districts covering the administrative divisions of Barishal, Khulna, and Dhaka. These maps were generated using GIS (Geographical Information Systems) technology, providing a critical tool for sustainable soil management and planning.

- **International Presentation**

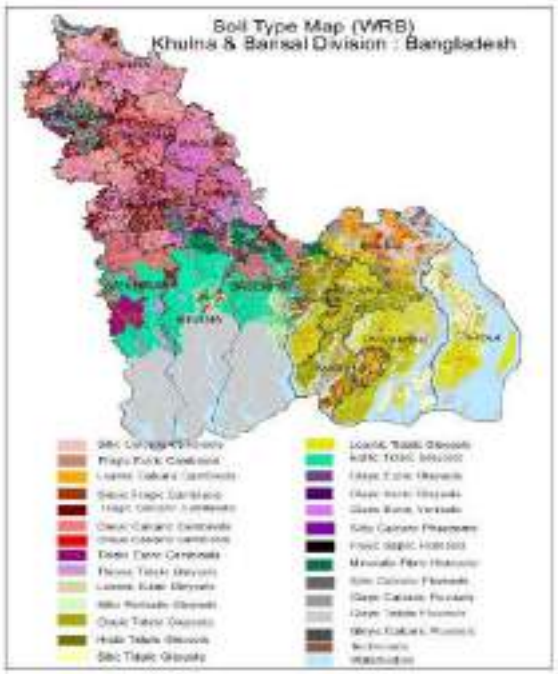
  A presentation titled Harmonizing Legacy Soil Data to Transfer Sustainable Soil Management Technology in Coastal Region of Bangladesh, highlighting the implications of the harmonized soil type maps produced during October 2023 – June 2024, was delivered at the Global Symposium on Soil Information and Data (GSID 2024) held in Nanjing, China from 25–28 September 2024. The symposium was organized by FAO-GSP (Global Soil Partnership) and the Chinese Academy of Sciences, showcasing Bangladesh's efforts in soil information standardization and sustainable land management practices at the international level.

  This progress demonstrates the project's contribution to enhancing national capacity for soil mapping, data management, and the promotion of sustainable agricultural practices.

Referred link

https://www.fao.org/fileadmin/user_upload/GSP/GSID24/Presentations/Day_1_Parallel_session_1/4_Presentation__GSID24_Bangladesh.pdf)

Location of Soil Type Maps for 28 Districts of Covering 3 Administrative Divisions



WRB-based Harmonized Soil Type Map as Presented in GSID 2024 (25–28 September 2024, China)

Horizon-Based Soil Analysis and Database Development

During the reporting period, horizon-based soil analysis was conducted on samples collected from 17 locations and incorporated into the existing digital soil profile database. The analyzed parameters included soil texture (% sand, % silt, % clay), pH, cation exchange capacity (CEC), base saturation percentage (BSP), organic carbon (%C), organic matter, electrical conductivity (EC), bulk density, $CaCO_3$ content, and macro- and micro-nutrients.

Prior to laboratory analysis, detailed descriptions of soil profiles were carried out at all sampling sites. Horizon-based soil samples were collected from each profile, along with edaphic property measurements, and then processed in the laboratory for analysis.

To support soil information harmonization and decision-making, the validated data will be integrated into the KHAMARI Apps, and data gaps will be addressed using updated datasets included in the Upazila Land and Soil Resource Utilization Guides (Upazila Nirdeshika). A nutrient budget will subsequently be developed using Digital Soil Mapping (DSM) techniques.
The project outcomes are expected to include:

- 64 district-level soil type maps depicting harmonized soil information across Bangladesh.
- A comprehensive national soil database with updated soil profiles and topsoil data.
- Updated National Soil Properties Maps with accurate attributes and characteristics.
- Soil nutrient and nutrient budget maps providing insights into nutrient dynamics for informed agricultural practices.
- National soil health indices and a user-friendly soil health dashboard for evidence-based land management decisions.
- A fully functional National Soil Information System (SIS) accessible to stakeholders.

These outcomes will directly contribute to sustainable soil management (SSM) and support food security in Bangladesh.

2. Policy-Level Contribution

2.1 Activities of the Fertilizer Technical Sub-Committee

The Fertilizer Technical Sub-Committee, established by the Ministry of Agriculture (MoA) in 1997, assists the National Fertilizer Standardization Committee in standardizing fertilizers and advising on fertilizer-related policies. The Member Director (NRM), BARC serves as the Convener, while the Additional Director (Input), DAE acts as the Member Secretary. The committee comprises 19 members, including the CSO (Soils) of BARC, CSOs from the Soil Science divisions of NARS institutes, CSO of OFRD, BARI, and representatives from relevant organizations such as the Departments of Environment, Livestock, Fisheries, BSTI, SRDI, BADC, BCIC, and the Director of AIS.

During 2024–2025, the PSO (Soils) served as a member of a three-member field monitoring team evaluating the capacity of a quality organic fertilizer production facility.

Principal activities of the Fertilizer Technical Sub-Committee include

- Organizing periodic meetings for standardization of new fertilizers and reviewing existing fertilizers.
- Conducting discussions on fertilizer needs and quality control measures.
- Providing technical advice on policy issues related to the use, import, export, or production of fertilizers and related materials.
- Monitoring fertilizer quality to ensure compliance with national standards.

During the reporting period, two committee meetings were held under the chairmanship of the Member Director, NRM Division, BARC. In these meetings, a variety of products-including organic fertilizers, chemical fertilizers, biofertilizers, plant growth regulators (PGRs), soil physical improvers, and soil amendments-were evaluated for standardization. Based on technical analysis, expert recommendations, and thorough discussions, the committee recommended several fertilizer products for approval by the National Fertilizer Standardization Committee, chaired by the Secretary of the Ministry of Agriculture.

Based on thorough discussions, technical analysis, and recommendations from experts, the following numbers of fertilizer products were recommended for standardization to the National Fertilizer Standardization Committee:

Sl. No.	Fertilizer recommendation for standardization	2024-25
1.	Organic fertilizer	14
2.	Chemical fertilizer	4
3.	Plant growth regulator	11
4.	Biofertilizer	1
	Total	**30**

Following fertilizer products under the standardization process

Sl. No.	Under the process of fertilizer standardization	2024-25
1.	Organic fertilizer	146
2.	Chemical fertilizer	47
3.	Plant growth regulator	98
4.	Bio-fertilizer	17
5.	Soil Conditioner	5
	Total	**313**

List of new fertilizer product applications for standardization

Sl. No.	New fertilizer application	2024-25
1.	Organic fertilizer	30
2.	Chemical fertilizer	6
3.	Plant growth regulator	16
4.	Bio-fertilizer	-
5.	Soil Conditioner	1
	Total	**53**

Final Proposal of Fertilizer Standardization Sent to the Ministry of Agriculture

A. Plant Growth Regulator (PGR)

i. Flora (Nitrobenzene-20%) PGR.
ii. Primapen 40 SL PGR.
iii. PRIME PLUS.
iv. SUPER GOLD.
v. BEST HUMIC BOOSTER.
vi. Cutting Aid (Rooting Hormone).
vii. Forge.
viii. Labiba Humet.
ix. NAC Gold.
x. NewSil.
xi. NEB.

B. Organic Fertilizer

i. Super Compost Sar.
ii. BRRI Organic Fertilizer.
iii. New Green Organic Fertilizer.
iv. Peoples Organic Fertilizer.
v. M Gold Joibosar.
vi. Sonalidin Joibosar.
vii. Japan Bangla Joibosar.
viii. ONE-X Organic Fertilizer.
ix. AgroSAL Organic Fertilizer.
x. Dolphin Organic Fertilizer.
xi. Biotech Mushroom Spent Compost.
xii. Sobuj Bangla Vermicompost.
xiii. Sathi Joibosar.
xiv. Magic Tricho-Compost.

C. Chemical Fertilizer

i. BARI Hydroponic Solution-1.
ii. Hydroponic Nutrient Stock Solution A.
iii. Hydroponic Nutrient Stock Solution B.
iv. ESTA KIESERITE.

D. Biofertilizer

i. Activator (Mixed Biofertilizer).

Policy documents, providing inputs/opinions

A. Opinion

i. Granting clearance in favor of the proposed Bangladesh Community Organic Agro Vision-Research and Development Council.
ii. Use of MOP fertilizer imported by BADC from Russia.
iii. Draft of Land Zoning and Protection Ordinance, 2025.
iv. Preliminary draft of "Off-site plan for protecting population in radiation emergency at Rooppur NPP" of Rooppur Nuclear Power Plant.
v. Policies related to liquid fertilizers.
vi. Proposed draft Memorandum of Understanding (MoU) between Soil Resource Development Institute (SRDI) and HEIFER Project International Bangladesh (HPIB).

B. Input

i. Proposal for directive recommendations regarding Humic Super.
ii. Report on the yield increase from the application of Northern Organic Fertilizer in rice.
iii. Action plan for achieving Land Degradation Neutrality (LDN) targets.

3. Research Management and Coordination

The Soils Unit of the Natural Resources Management Division, BARC, organized the Research Review and Planning Workshop on Soil Management Program of NARS Institutes 2024 at BARC from 7–9 October 2024. The workshop aimed to review the research programs conducted by NARS institutes during 2023-2024 and to plan activities for 2024-2025.

Participants included representatives from the National Agricultural Research System (BARI, BRRI, BINA, BSRI, BJRI, BFRI, BTRI, SRDI, CDB, BSRTI, and BWMRI), the Department of Agricultural Extension (DAE), Bangladesh Agricultural Development Corporation (BADC), and various agricultural universities.

The workshop was structured into an inaugural session, six technical sessions, and a recommendation and concluding session.

- Inaugural session: Dr. Nazmun Nahar Karim, Executive Chairman of BARC, served as Chief Guest, while Dr. Mohammad Khalequzzaman, Director General of BRRI, and Mr. Md. Jalal Uddin, Director General of SRDI, attended as Special Guests.
- Technical Session I & II (Soil Fertility and Fertilizer Management, 7 October 2024): Chaired by Dr. Md. Shahidul Islam, Former Director General of BARI, and Dr. M. Jahiruddin, Former Professor, Department of Soil Science, BAU.
- Technical Session III & IV (Soil Fertility and Fertilizer Management; Soil Micronutrients, Heavy Metals, and Environmental Problems, 8 October 2024): Chaired by Dr. M. Idris Ali, Former Director General of BINA, and Prof. Dr. G.K.M. Mustafizur Rahman, Vice-Chancellor of BSMRAU.
- Technical Session V & VI (Physical Aspects of Soil Management; Soil Microbiology, 9 October 2024): Chaired by Dr. N.I. Bhuiyan, Former Director General of BRRI, and Dr. Md. Abul Hashem, Former Professor, Department of Soil Science, BAU.

During the sessions, CSOs and heads of Soil Science divisions of BARI, BRRI, BINA, BSRI, BJRI, and senior scientists from BTRI, SRDI, CDB, BSRTI, and BWMRI presented their research progress for 2023-2024 and plans for 2024-2025.

After each session, participants engaged in discussions, and expert members provided valuable feedback. Recommendations were finalized based on reviews, comments, suggestions, and discussions of participants and experts, ensuring the alignment of soil research activities with national priorities and sustainable land management strategies.

Implementation of Recommendations from the Review Workshop 2023–2024

Sl. No.	Recommendations from the Research Review Workshop 2023–2024	Actions Taken by the Institute	% Recommendation Implementation by Institutes	Total % of Recommendation Implementation
1.	Bangladesh Agricultural Research Institute (BARI)	13	60.39	92.19
2.	Bangladesh Rice Research Institute (BRRI)	7	99.29	
3.	Bangladesh Institute of Nuclear Agriculture (BINA)	16	95.94	
4.	Bangladesh Sugarcrop Research Institute (BSRI)	2	95	
5.	Bangladesh Jute Research Institute (BJRI)	5	98	
6.	Bangladesh Forest Research Institute (BFRI)	2	95	
7.	Soil Resource Development Institute (SRDI)	3	93.33	
8.	Bangladesh Wheat and Maize Research Institute (BWMRI)	2	100	

4. Monitoring and Evaluation

Monitoring organic fertilizer and biofertilizer factories

The Principal Scientific Officer (Soils) served as the Convener of a three-member field monitoring committee tasked with evaluating the production capacity and quality assurance of organic fertilizer factories. As part of this responsibility, the committee conducted comprehensive field visits to multiple facilities across the country, including:

- Apex Trichocompost and Vermicompost Organic Fertilizer Factory, Gobindaganj Upazila, Gaibandha
- Tricost Compost Organic Fertilizer Factory, Haychem Bangladesh Limited, Gobindaganj, Gaibandha
- Somrat Joibosar Factory, Birol, Dinajpur
- Banglar Joibosar, Thakugaon Sadar
- Green Global Trico-Compost, Saidpur, Lalmonirhat
- Sonalidin Organic Fertilizer, Shailakupa, Jhenaidah
- M Gold Joibosar, Shailakupa, Jhenaidah
- Agrosal Joibosar, Chuadanga Sadar
- Matir Joibon Joibosar, Damurhata, Chuadanga
- Onex Joibosar, Aam Jupi, Meherpur

The primary objectives of these visits were to assess:

- Factory infrastructure and operational facilities
- Raw material management and composting processes
- Product quality and consistency
- Adherence to national standards for organic fertilizer production

Following the evaluations, the committee submitted detailed reports outlining findings and recommendations to the Technical Sub-Committee on Fertilizer (TSC) for review and necessary action.

Apex Trichocompost and Vermicompost Organic Fertilizer Factory Visit at Gobindagonj, Gaibandha

Tricost Compost Organic Fertilizer Factory, Haychem Bangladesh Ltd. Visit at Gobindagonj, Gaibandha

In addition, the PSO (Soils) and team conducted direct monitoring and evaluation of the Apex Biofertilizer Factory, Gobindaganj, Gaibandha, to ensure compliance with established standards and verify the quality and efficacy of biofertilizer products. These efforts contribute to the promotion of sustainable and environmentally friendly agricultural inputs in Bangladesh.

Monitoring Apex Biofertilizer Fertilizer factory visit at Gobindagonj, Gaibandha

Field Trials Inspection of Fertilizers Standardization in NARS Institutes

The Principal Scientific Officer (Soils) and the Member Director (Natural Resources Management) visited the ongoing field evaluation trials of IFFCO Nano Urea being conducted by the Bangladesh Rice Research Institute (BRRI) in Rajshahi, Gazipur, and Feni districts. The primary objective of the visit was to assess the field performance, efficiency, and crop response to the application of nano urea compared to conventional fertilizers. During the visit, the team closely observed the application methods, crop growth stages, and overall field conditions. They also discussed with the BRRI scientists about preliminary observations regarding yield potential, nutrient use efficiency, and the possible reduction of conventional urea requirements through the adoption of nano urea. The findings from these evaluations are expected to contribute to the development of improved fertilizer recommendations and sustainable nutrient management practices in rice cultivation.

Field evaluation of IFFCO Nano Urea at Rajshahi

5. Events Organized

Training

Training Program on Use of Fertilizer Recommendation Guide-2024

The Soils Unit of BARC organized four batches of training programs on the "Use of Fertilizer Recommendation Guide-2024 (FRG-2024)" at the BARC premises during 2024–2025. The first two batches were conducted on 20–22 October and 17–19 December 2024 with funding from BARC, while the next two batches were held on 5–9 January and 9–13 February 2025 under the funding of "Program on Agricultural and Rural Transformation for Nutrition, Entrepreneurship, and Resilience in Bangladesh (PARTNER)" program of BARC. Each session was attended by 30 participants (BARC-funded) and 25 participants (PARTNER-funded) representing NARS institutes (BARC, BARI, BRRI, BINA, BSRI, BFRI, BJRI, and BWMRI), BADC, and DAE. In the 1st and 2nd batches, the inaugural sessions were chaired by Dr. Md. Baktear Hossain, Member Director (NRM), BARC, with Mr. Md. Jalal Uddin, Director General, SRDI, attended as Special Guest. For the 3rd and 4th batches, Dr. Md. Baktear Hossain chaired the sessions, with Dr. Md. Rafiqul Islam, Director Research, BRRI, as Special Guest. Resource speakers delivered presentations on key aspects of FRG-2024, including fertilizer management and recommendations, the rationale for fertilizer use, climate-smart soil

Dignitaries Presenting Certificates among the Participants

management, and strategies for improving soil health and crop productivity. The closing sessions featured certificate distribution, with Dr. Nazmun Nahar Karim, Executive Chairman of BARC, attending as Chief Guest and delivering insightful remarks. These training programs were expected to enhance the capacity of agricultural researchers, extension personnel, and farmers to promote the judicious use of fertilizers for sustainable crop production.

Training Program on Use of Fertilizer Inspection Manual

A three-day training course on the Use of Fertilizer Inspection Manual held on 10–12 November 2024, organized by the Soils Unit, BARC. This training program was attended by 30 participants, primarily officials from the Department of Agricultural Extension (DAE) and NARS institutes, including BARI, BRRI, BINA, BSRI, and SRDI. Renowned scientists, DAE officials, and experts from government organizations delivered 18 lectures on diverse topics, such as fertilizer management acts, handling and storage of fertilizers, identification of adulterated fertilizers, standardization procedures for new fertilizers, specifications of organic fertilizers, preparation procedures, and quality control of biofertilizers and organic fertilizers. Mr. Md. Saiful Alam, Director General of DAE, and Mr. Md. Jalal Uddin, Director General of SRDI, attended as Special Guests. Dr. Md. Baktear Hossain, Member Director (NRM) of BARC, presided over the session. During the closing session, Dr. Md. Abdus Salam, Member Director (Crops) of BARC, distributed certificates to the trainees as the chief guest and delivered concluding remarks to mark the successful completion of the training course.

Certificate Distribution during the Closing Session

Training Program on Climate Change, Carbon Sequestration, and Adaptation Strategies

A three-day training course on Climate Change, Carbon Sequestration, and Adaptation Strategies was organized by the Soils Unit, BARC, on 22-24 April 2025. A total of 30 participants from 12 NARS institutes (BARI, BRRI, BINA, BJRI, BSRI, SRDI, BWMRI, CDB, BFRI, BTRI, FRI, and BLRI) and DAE attended the program. Dr. Md. Sohrab Ali, Additional Director General, Department of Environment, attended as a Special Guest. The inaugural session was presided over by Dr. Md. Baktear Hossain, Member Director (NRM), BARC. During the training, 18 lectures were delivered by renowned scientists, academicians, and experts from various government organizations and universities, focusing on climate change, adaptation and mitigation strategies, and climate-smart agricultural technologies and practices in Bangladesh. Participants shared their feedback and experiences, and certificates were awarded upon successful completion of the training.

Dr. Md. Baktear Hossain, MD (NRM), Delivering Speech

Workshop

The Soils Unit of the Natural Resources Management Division, BARC, organized the Research Review and Planning Workshop on Soil Management Program of NARS Institute 2024 at BARC on October 7–9, 2024. The workshop reviewed research activities of 2023–2024 and planned programs for 2024–2025. Participants included representatives from NARS institutes (BARI, BRRI, BINA, BSRI, BJRI, BFRI, BTRI, SRDI, CDB, BSRTI, BWMRI), DAE, BADC, and agricultural universities. The event comprised an inaugural session, six technical sessions, and a concluding session. Dr. Nazmun Nahar Karim, Executive Chairman of BARC, inaugurated the workshop, with Dr. Mohammad Khalequzzaman (DG, BRRI) and Mr. Md. Jalal Uddin (DG, SRDI) as special guests. Technical sessions addressed soil fertility, fertilizer management, micronutrients, heavy metals, environmental issues, soil characterization, and soil microbiology. Sessions were chaired by eminent experts, including Dr. Md. Shahidul Islam, Dr. M. Jahiruddin, Dr. M. Idris Ali, Prof. Dr. G.K.M. Mustafizur Rahman, Dr. N.I. Bhuiyan, and Dr. Md. Abul Hashem. CSOs and heads of Soil Science Divisions from various NARS institutes presented their research progress and plans. Each session included discussions and expert feedback, culminating in finalized recommendations.

Distinguished Guests on the Dais at the Inaugural Session of the Workshop

6. Events Attended

Regional Workshop on Reducing air Pollution by Creative Use of Pelletization, ICIMOD Headquarters in Kathmandu, Nepal.

Dr. Faridul Alam, Principal Scientific Officer, Soils Unit, Bangladesh Agricultural Research Council (BARC), participated in the regional workshop on Reducing air pollution by creative use of pelletization held on 18-19 July 2024 at the ICIMOD headquarters in Kathmandu, Nepal, organized by the International Centre for Integrated Mountain Development (ICIMOD). Action area of this workshop was stimulating action for clean air under the strategic group: reducing climate and environment risks, with support from the United States Department of State. Crop residue burning poses significant challenges to environmental sustainability and economic efficiency within the agricultural sector. Despite its negative impact on air quality, finding effective methods to reduce this practice has proven challenging. However, the conversion of crop residues into pellets presents a promising solution, transforming what was perceived as waste into a valuable source for energy and various other uses.

This workshop shed light on this innovative approach and delved into the creative use of crop residue, particularly through pelletization. The workshop aimed to bring regional partners together to share their capabilities, constraints, and potential models for crop residue pelletization to establish the foundations of the Regionally Fit Framework.

Dr. Faridul Alam, Principal Scientific Officer, Soils Unit, Bangladesh Agricultural Research Council (BARC), presented a regional workshop on Insight into Policy: Managing Crop Residue in Bangladesh's Agriculture Sector on 19 July 2024 at the ICIMOD headquarters in Kathmandu, Nepal. In the regional workshop, Dr. Faridul Alam presented the crop residue in Bangladesh aspect, describing how Bangladeshi farmers burn crop residues in the fields due to several compelling reasons. Firstly, farmers view burning as a quick and cost-effective method to clear fields, enabling them to promptly prepare for the next planting season. Secondly, the lack of awareness and access to alternative residue management techniques drives farmers towards burning. Thirdly, the practice of burning is ingrained in traditional farming methods and is perceived as a way to control pests and

Regional Workshop on Reducing Air Pollution by Creative Use of Pelletization, ICIMOD Headquarters in Kathmandu, Nepal

diseases that may reside in the crop residues. Overall, a combination of economic, technological, and educational barriers drives Bangladeshi farmers to burn crop residues, despite the environmental and health hazards associated with the practice. Crop residue management is a crucial component of conservation agriculture, focusing on sustainable farming practices that enhance soil health, increase water retention, and reduce erosion. Leaving crop residues, such as stems, leaves, and husks, on the field after harvest, farmers create a protective soil cover that helps maintain moisture, suppress weeds, and improve soil organic matter. This practice reduces the need for chemical inputs, promotes biodiversity, and mitigates greenhouse gas emissions. Effective crop residue management not only supports long-term agricultural productivity but also contributes to environmental conservation and resilience against climate change.

7. Publications

Soils Unit Published the Following Documents during 2024-2025.

I. Proceedings

i. Fertilizer Technical Sub-Committee Meetings.
ii. Research Review and Planning Workshop on Soil Management Program of NARS Institute 2024.

II. Training Manuals

i. Use of Fertilizer Recommendation Guide-2024.
ii. Use of Fertilizer Inspection Manual.
iii. Climate Change, Carbon Sequestration and Adaptation Strategies.

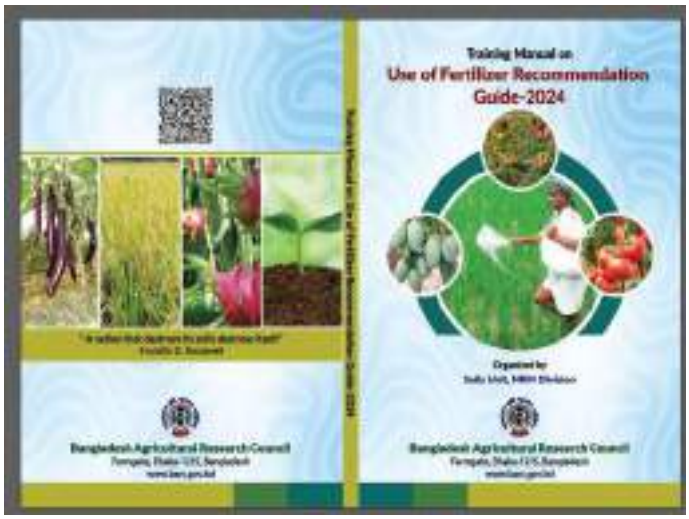
III. Research articles

i. Bakar, M. W. B. A., Uddin, M. K., Kasim, S., Zaibon, S., Shamsuzzaman, S. M., & **Haque, A. N. A.** (2025). Effect of Biochar and Silicon with Different Phosphorus Levels on Maize Yield and Soil Chemical Properties. *Nature Environment & Pollution Technology, 24(2)*.

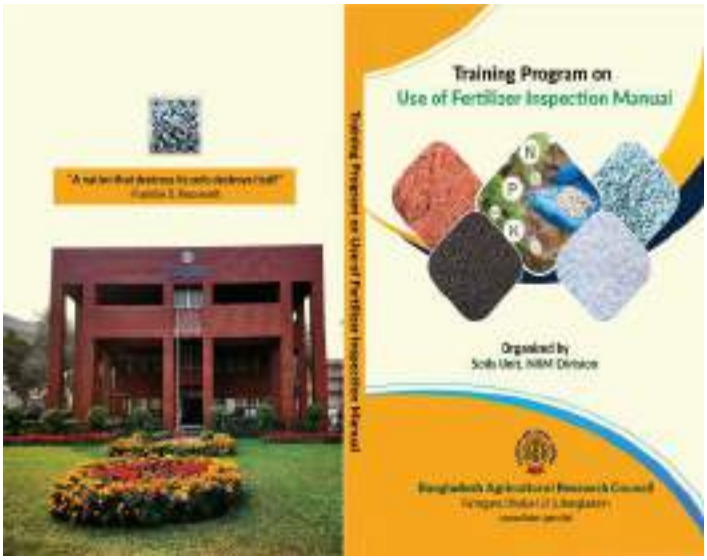
ii. Ahmed, R., Quddus, M. A., Uddin, M. K., Kasim, S. B., Mohdyusoff, K. H. B., Hossain, M. M., ... & **Haque, A. N. A. (2024).** Influence of Zinc Oxide Nanoparticles on the Productivity, Mineral Element Accumulation, and Fruit Quality of Tomato (Solanum lycopersicum L.). *Journal of Experimental Biology and Agricultural Sciences,* 12(6), 887-904.

iii. Bakar, M. W. B. A., Uddin, M. K., Kasim, S., Zaibon, S., Shamsuzzaman, S. M., **Haque, A. N. A.**, & Reza, A. (2024). Combined application of biochar and silicon fertilizer for improved soil properties and maize growth. *Nature Environment and Pollution Technology,* 23(3), 1527-1535.

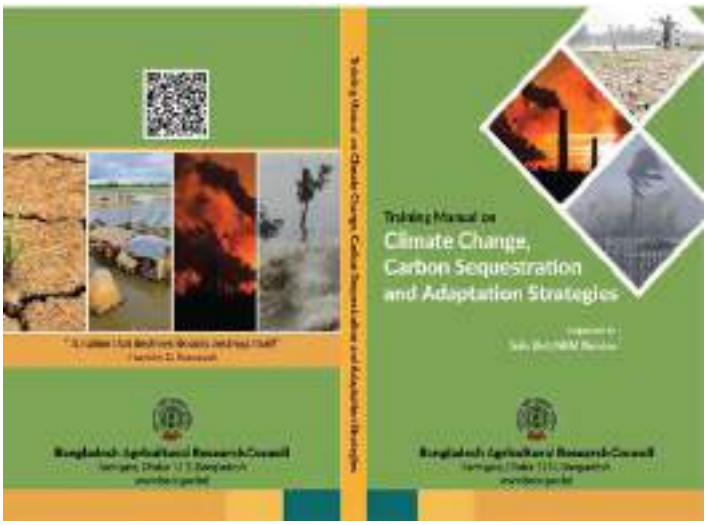
Proceedeings of Research Review and Planning Workshop on Soil Management Program of NARS Institute 2024



Training Mannual on Use of Fertilizer Recommendation Guide-2024



Training Manual on Use of Fertilizer Inspection Manual



Training Manual on Climate Change, Carbon Sequestration, and Adaptation Strategies

8. Other Activities

I. Activities Performed by the Member Director of NRM division:

A. Member of the Following Committees-

i. National Fertilizer Standardization Committee.
ii. Fertilizer (Management) Act, 2025 Committee.
iii. Editorial Board for the Upazila Land and Soil Resources Utilization Guide (Upazila Nirdeshika).
iv. Board of Management, Bangladesh Rice Research Institute (BRRI).
v. Board of Studies Committee, Faculty of Forestry and Environment, Gazipur Agricultural University

B. Convener of the Following Committe-

i. Technical Sub-Committee of Fertilizer Standardization

II. Activities Performed by the PSO, Soils Unit of NRM Division:

A. Member of the Following Committees-

i. Technical Sub-Committee of Fertilizer Standardization
ii. Departmental Chemistry Committee and Fertilizer & Related Products Sub-Committee of the Bangladesh Standards and Testing Institution (BSTI).
iii. Syndicate of Sylhet Agricultural University
iv. Regent Board of Noakhali Science and Technology University.

B. Convener of the Following Committe-

i. Field Monitoring Committee of organic fertilizer and biofertilizer factories.

Livestock Division

LIVESTOCK DIVISION

The Livestock Division of BARC is engaged in organizing and managing diverse research and related activities aimed at developing the livestock sector in Bangladesh. The division strives to improve the nutritional status of the general population through cost-effective livestock production and by ensuring an increased supply of animal-origin foods. It also contributes to enhanced crop production by providing healthy draft animals and biological manure, while supporting rural communities through employment opportunities, income generation, and fuel supply derived from profitable livestock rearing.

To fulfill the mandates of BARC and address national needs, the division is entrusted with planning, reviewing, prioritizing, approving, monitoring, evaluating, supervising, and coordinating livestock research programs implemented by relevant NARS institutions and other organizations, including universities, the Department of Livestock Services (DLS), and NGOs. It provides training and research support to NARS institutions, DLS, faculties of various educational institutions, and NGOs, while offering policy guidance to relevant NARS institutes and extension agencies. Furthermore, the division organizes, conducts, and participates in training programs, meetings, seminars, and workshops. It also plays a crucial role in supporting national programs for the prevention and control of emerging and re-emerging livestock diseases, promoting safe livestock production through good husbandry practices, addressing climate-related threats, and implementing mitigation strategies. Additionally, the division contributes to recruiting scientists and officers for NARS institutes and facilitates a wide range of research activities within the national agricultural research system.

Name of the professionals

Name	Designation
Dr. Nazmun Nahar Karim	Member-Director
Dr. Mohammad Rafiqul Islam	Chief Scientific Officer
Dr. Ali Akbar Bhuiyan	Principal Scientific Officer
Dr. Md. Masud Rana	Principal Scientific Officer

1. Project Development and Implementation

During the fiscal year (2024-2025), there was no project and financial activity with the Livestock Division. This division is seeking funding from donor agencies to support the development and implementation of precision livestock farming project by One health Approach, aimed at enhancing the safety and quality of livestock production and products.

The Livestock Division has not implemented any project during the fiscal year 2024-2025.

2. Policy-Level Contribution

i) Provided technical inputs for the Australia-Bangladesh Agricultural Bilateral Meeting (ABABM)–2024.

ii) Furnished comments on the Household Income Enhancement Training Manual (Livestock and Poultry Rearing)–2024 (গৃহস্থলী আয়বর্ধক প্রশিক্ষণ ম্যানুয়াল: গবাদি পশু এবং হাঁস-মুরগী পালন ২০২৪).

3. Research and Financial Management

Although this division of BARC does not directly implement research projects or manage finances, it plays a coordinating role by organizing review workshops on the research progress and programs of the Bangladesh Livestock Research Institute (BLRI). Scientists, extension officers, faculty members, and NGO personnel from various relevant organizations participated as attendees and expert members. The workshop carried out the following activities:

a) Reviewed and evaluated the final research progress of BLRI during the last financial year.
b) Provided technical recommendations for the development of BLRI's research programs and assessed the implementation status of previous recommendations.

4. Monitoring, Evaluation and Review

A field monitoring visit was conducted on 18 May 2025 at Bangladesh Agricultural University (BAU), Mymensingh, to review the following projects funded under the Research and Innovation Sub-project/PhD Fellowship of the Livestock and Dairy Development Project (LDDP):

a) Molecular Characterization, Conservation, and Utilization of BAU Black-White Crossbred Duck for Improved Meat Production
b) Technological Intervention for Ensiling Different Perennial Fodder for Cost-Effective Beef Cattle Production

During the visit, the project activities were assessed in relation to the planned objectives to evaluate progress and implementation status. Technical guidance was provided to support the smooth continuation of activities and to ensure the successful completion of both projects.

A field monitoring visit of the project titled Validation and Development of Best Management Practices (BMP) Napier Grass-Based Cost-Effective Feeding System for Dairy and Beef Cattle was conducted on 22 May 2025 at Bangladesh Livestock Research Institute, Savar, Dhaka. Funded under the Research and Innovation Sub-project/PhD Fellowship of the Livestock and Dairy Development Project (LDDP), the project activities were evaluated against the planned objectives to assess progress and implementation status. Technical suggestions were provided to ensure smooth execution of the remaining activities and successful completion of the project.

Subsequently, field monitoring visits were carried out on 24–25 May 2025 at Bangladesh Agricultural University, Mymensingh, covering the following projects:

a) Integrated Dairy Research Network (IDRN) – Way Forward for Sustainable Solutions for Generation and Dissemination of Data and Knowledge to Support Dairy Stakeholders in Bangladesh
b) Construction of Mobile Testing Laboratory for Assessing On-Site Raw Milk Quality in Char Areas of Bangladesh (visited on 24 May 2025)

c) Assessment of Knowledge, Attitudes, and Practices (KAP) of Livestock Handlers on Emerging Zoonotic Diseases and Implementation of Biosecurity Practices in Dairy Farms (visited on 25 May 2025)

All three projects are funded under the Research and Innovation Sub-project/PhD Fellowship of LDDP. The activities were evaluated in alignment with planned objectives, and technical recommendations were provided to facilitate the smooth execution of remaining activities and ensure successful project completion.

5. Event Organized

Workshop/Seminar

Annual Review Workshop on Research Progress 2023-24 and Research Program 2024-25 of BLRI

The Livestock Division, Bangladesh Agricultural Research Council (BARC) organized the Annual Review Workshop on Research Progress 2023-24 and Research Program 2024-2025 of the Bangladesh Livestock Research Institute (BLRI) on 27–28 November 2024 at the BARC Auditorium. The workshop was attended by scientists, extension officers, faculty members from relevant organizations, and officers from both public and private sectors.

The workshop consisted of an inaugural session, three technical sessions, and a concluding session. The inaugural session was chaired by Dr. Shakila Faruque, Director General, BLRI, with Dr. Md. Bayzer Rahman, Director (Administration), DLS present as Special Guest. Dr. Mohammad Rafiqul Islam, Member Director (Planning and Evaluation) and CSO (Livestock), BARC, presided over the session. Dr. Ali Akbar Bhuiyan, PSO, Livestock Division, BARC, welcomed participants and briefed them on the recommendations of the previous year.

During the two-day workshop, several experts delivered presentations and provided insights, including Dr. Ainul Huque, Former Director General, DLS; Dr. Kazi M. Kamaruddin, Former Director, PRTC, CVASU; Dr. Md. Mosharraf Uddin Molla, Member Director, AERS Division, BARC;

Distinguished Guests on the Dais at the Inaugural Session of the Workshop

Dr. A.B.M. Khaleduzzaman, Director (Production), DLS; Dr. M.A. Saleque, Chief Technical Advisor, ACI Animal Health; and Dr. Jahangir Alam, CSO and PD, Establishment of National Gene Bank Project, Animal Biotechnology Division, NIB.

Technical Session-I, held on 27 November 2024, was chaired by Dr. Nathu Ram Sarker, Executive Director, KGF and Former Director General, BLRI. Divisional heads of BLRI from the Animal Production Research Division, Poultry Production Research Division, Poultry Research Center, Buffalo Production Research Division, Goat Production Research Division, Sheep Production Research Division, and Dairy Research and Training Center presented their research progress for 2023-24 and proposed programs for 2024-25.

Technical Sessions II and III, held on 28 November 2024, were chaired by Dr. Md. Bahanur Rahman, Dean, Faculty of Veterinary Medicine, BAU, and Dr. Jahangir Alam Khan, Former Vice-Chancellor, University of Global Village and Former Director General, BLRI. Heads of the Animal Health Research Division, Transboundary Animal Diseases Research Center, Biotechnology Division, Climate Resilient Livestock Production Research Center, Socio-Economic Research Division, and Farming System Research Division presented their research progress and upcoming programs.

At the end of each session, participants engaged in discussions, after which expert members provided valuable opinions and suggestions. Finally, comprehensive recommendations were compiled based on participants' and experts' remarks and were forwarded to BLRI for incorporation into ongoing and future research programs.

Training

Advanced Training Program on Bioinformatics for Sustainable Development in Agriculture

The Livestock Division of Bangladesh Agricultural Research Council (BARC) organized a five-day advanced training program on Bioinformatics for Sustainable Development in Agriculture from 17–21 November 2024 at the Computer Lab of the Computer and GIS Unit, BARC. The program was attended by 22 participants from NARS institutes (BARC, BARI, BRRI, BLRI, BJRI, BFRI, BSRI), NIB, DLS, and SAU.

The training program was inaugurated by Dr. Abdus Salam, Member Director (Crops), BARC, as the Chief Guest. Mr. Hasan Md. Hamidur Rahman, Director, Computer and GIS Unit, BARC, attended as Special Guest, and Dr. Mohammad Rafiqul Islam, Member Director (Planning and Evaluation) and CSO (Livestock), BARC, presided over the inaugural session. Dr. Ali Akber Bhuiyan, PSO (Livestock), BARC, delivered the welcome address. The program was directed by Dr. Mohammad Rafiqul Islam and coordinated by Dr. Md. Masud Rana, BARC.

A total of 25 lectures and hands-on training sessions were conducted by renowned resource persons, covering a wide range of topics, including: Advancements and transformation of agriculture in Bangladesh, Bioinformatics applications for sustainable agriculture, Bioinformatics databases, including NCBI, Ensembl, and TAIR, Genomic and transcriptomic analyses, Phylogenetic and metabolomics analyses, Integration of genomic and proteomic analyses for drug discovery, Toxicogenomics analysis for drug discovery, Use of common

Group Photo of Dignitaries and Participants of the Training

bioinformatics tools, Nanotechnology applications, and Next Generation Sequencing (NGS) tools and their applications in agriculture.

The closing session was graced by Dr. Nazmun Nahar Karim, Executive Chairman, BARC, who awarded certificates to the participants and delivered insightful remarks as the Chief Guest.

Training Program on Good Livestock Husbandry Practices in Bangladesh

The Livestock Division of Bangladesh Agricultural Research Council (BARC) organized a five-day training program on Good Livestock Husbandry Practices in Bangladesh from 12–16 January 2025 at BARC Conference Room-1. The program aimed to enhance professional knowledge on safe livestock production practices, ensure better food safety, and improve the quantity and quality of livestock and their products.

A total of 30 participants from BLRI, BARC, DLS, SAU, GAU, KAU, YTC, Milk Vita, and other public and private organizations attended the training. The program was directed by Dr. Mohammad Rafiqul Islam, Member Director (Planning and Evaluation) and CSO (Livestock), BARC, and coordinated by Dr. Ali Akbar Bhuiyan, PSO (Livestock), BARC.

During the program, 25 lectures were delivered by renowned resource persons, covering a wide range of topics, including: Importance of good livestock husbandry practices in Bangladesh, Dairy, beef, buffalo, poultry, goat, and sheep production practices, Value addition, value chain, and supply chain management of livestock-sourced foods, Milk, meat, and egg processing, preservation, packaging, and marketing, Livestock slaughter, examination, preservation, and transportation, Contamination and adulteration issues in quality and safety of livestock-sourced foods, Management, prevention, treatment, and control of livestock diseases, and Livestock welfare and responsibilities of farm owners and enterprises in accordance with the Animal Welfare Act 2019 of Bangladesh.

The closing ceremony was graced by Dr. Nazmun Nahar Karim, Executive Chairman, BARC, who awarded certificates and shared insightful remarks. Dr. Mohammad Rafiqul Islam presided over and officially closed the training program.

Training Program on Antimicrobial Resistance in Bangladesh

The Livestock Division of BARC successfully organized a five-day training program on Antimicrobial Resistance (AMR) in Bangladesh from 26–30 January 2025 at the Central Disease Investigation Laboratory (CDIL), Gulistan, Dhaka. The program aimed to enhance knowledge and skills among NARS scientists, departmental officers, and faculty members in AMR surveillance and research within the livestock and poultry sectors. The inaugural session was graced by Dr. Md. Abu Sufiun, Director General of the Department of Livestock Services (DLS) as Chief Guest, with Dr. Abdul Aziz Al Mamun, Director of Central Veterinary Hospital, DLS as Special Guest, and was chaired by Dr. Mohammad Rafiqul Islam, Member Director (Planning and Evaluation) and CSO (Livestock), BARC. Dr. Md. Golam Azam Chowdhury, Principal Scientific Officer, CDIL, DLS, delivered the welcome address highlighting the training objectives, and the program was coordinated by Dr. Md. Masud Rana, PSO, Livestock Division, BARC. A total of 25 participants from BLRI, BFRI, NIB, DLS (LRI, CVH, CDIL, QC Lab), DoF, SAU, PSTU, GAU, and Gono Bishwabidyalay actively took part in the program. Over the five days, 25 lectures and hands-on sessions were conducted by expert resource persons covering a wide range of topics, including the AMR/AMU situation in Bangladesh and globally, national AMR surveillance initiatives, irrational use of antimicrobials, rational antibiotic therapy following AMU guidelines, biosafety and biosecurity in AMR laboratories, antibiotic selection for livestock and poultry, alternatives to antibiotic use, molecular mechanisms and detection of AMR, bacterial virulence genes, AWaRe categorization and therapeutic application in farm practices, as well as hands-on training on collection, transport, preservation, and processing of bacteriological samples, antimicrobial sensitivity testing, and bacterial identification using MALDI-TOF. The training concluded with certificates awarded to participants in recognition of their active engagement and successful completion of the program.

Training Program on Good Livestock Husbandry Practices in Bangladesh

The Livestock Division of BARC successfully organized the second batch of a five-day training program on Good Livestock Husbandry Practices in Bangladesh from 2–6 February 2025 at BARC Conference Room-1. The program aimed to enhance professional knowledge on safe livestock production, improve food safety, and ensure higher quantity and quality of livestock and their products. Thirty participants from BLRI, DLS, SAU, DYD, CCBDF, LRI, and Gono Bishwabidyalay attended the training. The inaugural session was graced by Dr. Mohammad Rafiqul Islam, Member Director (Planning and Evaluation) and CSO (Livestock), BARC, as Chief Guest, while Dr. Ali Akbar Bhuiyan, PSO (Livestock), BARC, delivered the welcome address and coordinated the program. Over five days, 25 lectures were delivered by expert resource persons covering a wide range of topics, including good livestock husbandry practices for dairy, beef, buffalo, poultry, goat, and sheep production; value addition; value chain and supply chain management of livestock-source foods; milk, meat, and egg processing, preservation, packaging, and marketing; livestock slaughter, examination, preservation, and transportation; contamination and adulteration issues; disease management, prevention, treatment, and control; livestock welfare; and responsibilities of farm owners under the Animal Welfare Act-2019. The training concluded with certificate distribution by Dr. Mohammad Rafiqul Islam, who also shared insightful remarks with the participants.

Training Program on Application of Gene Editing Tools for Sustainable Development in Agriculture

The Livestock Division of BARC successfully organized the first batch of a five-day training program on the Application of Gene Editing Tools for Sustainable Development in Agriculture from 23–27 February 2025 at the conference room of SAARC Agriculture Centre. The program aimed to equip participants with advanced knowledge on genome editing tools to enhance production and sustainability in agriculture and the livestock sector. The training was inaugurated by Dr. Md. Harunur Rashid, Director, SAARC Agriculture Centre, with Dr. Mohammad Rafiqul Islam, Member Director (Planning and Evaluation) and CSO (Livestock), BARC, presiding over the session. The program was directed and coordinated by Dr. Mohammad Rafiqul Islam and Dr. Md. Masud Rana, PSO (Livestock), BARC.

Distinguished Guests on the Dais at the Inaugural Session

A total of 25 researchers, officers, and academicians from NARS institutes (BARI, BRRI, BLRI, BJRI, BINA, BFRI), NIB, DLS, DoF, SAU, GAU, BAU, and Gono Bishwabidyalay participated in the training. Over five days, expert resource persons delivered lectures on a wide range of topics, including the advancement and transformation of agriculture, the importance and applications of genome editing, standard operating procedures for research, homology-independent targeted integration, primer design, CRISPR-Cas technology, base editing, random mutagenesis with radiation, epigenome editing, optogenetics-based genome editing, transposon-mediated genome editing, protein-enabled gene editing, transcription activator-like effector nucleases, zinc finger nucleases, prime editing, RNA editing, RNA interference, and homologous recombination.

Upon successful completion of the training, certificates were awarded to the participants by Dr. Md. Harunur Rashid, while Dr. Mohammad Rafiqul Islam presided over the closing session and formally concluded the program.

Training Program on Application of Gene Editing Tools for Sustainable Development in Agriculture

The Livestock Division of ARC successfully conducted the second batch of a five-day training program on the Application of Gene Editing Tools for Sustainable Development in Agriculture from 20–24 April 2025 at the Computer Lab, Computer and GIS Unit, BARC. The program aimed to enhance participants' knowledge of genome editing tools to improve production and sustainability in agriculture and the livestock sector.

Dignitaries Presenting Certificates among the Participants

A total of 20 participants from eleven institutions, including BARI, BRRI, BLRI, BFRI, BJRI, BINA, BWMRI, NIB, DLS, SAU, and Lal Teer Livestock Development Ltd., attended the training. The inaugural session was graced by Dr. Mohammad Rafiqul Islam, Member Director (Planning and Evaluation) and CSO (Livestock), BARC, as the chief guest, while Dr. Shah Md. Monir Hossain, CSO (Crops), BARC, participated as special guest. Dr. Md. Masud Rana, PSO (Livestock), BARC, delivered the welcome address and coordinated the training program.

Throughout the five-day program, expert resource persons delivered lectures on a broad range of topics, including the advancement and transformation of agriculture, the importance and applications of genome editing, standard operating procedures for research, homology-independent targeted integration, primer design, CRISPR-Cas technology, base editing, random mutagenesis with radiation, epigenome editing, optogenetics-based genome editing, transposon-mediated genome editing, protein-enabled gene editing, transcription activator-like effector nucleases, zinc finger nucleases, prime editing, RNA editing, RNA interference, and homologous recombination.

Upon successful completion of the training, certificates were awarded to participants by Dr. Mohammad Rafiqul Islam, recognizing their active participation and achievement.

7. Event Attended

ACASA Meeting ACASA Climatic Risks and Adaptation Options Write-Shop Tahachal, Kathmandu, Nepal

Addressing the increasing climatic risks affecting agriculture, the Borlaug Institute for South Asia (BISA), with support from the Bill & Melinda Gates Foundation (BMGF), is collaborating with national agricultural research systems across South Asia to develop the Atlas of Climate Adaptation in South Asian Agriculture (ACASA). This comprehensive atlas aims to provide village-level, spatially explicit data to inform adaptation strategies across the region.

Under this initiative, the ACASA Climatic Risks and Adaptation Options Write-Shop was held from 10–12 September 2024 at the Soaltee Hotel and Resort, Tahachal, Kathmandu, Nepal. Dr. Ali Akbar Bhuiyan, Principal Scientific Officer (Livestock), BARC, represented Bangladesh at the workshop. He actively participated in sessions on small ruminants in South Asia, contributing to manuscript review and plenary discussions on "Assessment of Granular Risks and Adaptation Options in Domesticated Small Ruminants in South Asia."

The workshop focused on granular-level climate risk assessment and potential adaptation strategies, primarily covering Bangladesh, India, Nepal, and Sri Lanka, where BISA is implementing the program. The outcomes of this write-shop are expected to inform targeted adaptation measures and strengthen climate resilience in the livestock sector across the region.

8. Research Presentations

Dr. Ali Akbar Bhuiyan, Principal Scientific Officer (Livestock), BARC, presented a research study titled "Evaluation of Superdosing Phytase in Low Phosphorus and Calcium Diet on Performance, Nutrient Digestibility, and Blood Parameters of Broiler Chickens at 42 Days of Age" at the 13th International Poultry Seminar, held on 18–19 February 2025 at Radisson Blu, Dhaka. The presentation highlighted key findings on improving broiler performance and nutrient utilization through enzyme supplementation in poultry diets.

9. Publications

i. Contributed to the publication of the BARC Annual Report (2024-25).
ii. Contributed to the publication of the BARC Newsletter (2024-25).
iii. Published a training manual titled 'Advanced Training Program on Bioinformatics for Sustainable Development in Agriculture' November 2024.
iv. Published a training manual titled 'Training Program on Antimicrobial Resistance in Bangladesh' January 2025.
v. Published a training manual titled 'Training Program on Good Livestock Husbandry Practices in Bangladesh' January 2025 and February 2025.
vi. Published a training manual titled 'Training Program on Application of Gene Editing Tools for Sustainable Development in Agriculture' February 2025 and April 2025.
vii. Published a popular article by Dr. Mohammad Rafiqul Islam and Dr. Md. Masud Rana. The Necessity of Eating Eggs as a Daily 'Super Food' for Pregnant Women. Safe Food Digest, October 2024. (গর্ভবর্তী নারীদের দৈনিক 'সুপার ফুড' হিসেবে ডিম খাওয়ার প্রয়োজনীয়তা)

viii. M.N. Hossain, S. Sharmin, M.M. Rahaman, M.M. Rana, M. Fakruddin, M.M. Ahmed. 2025. Using Probiotic Consortium to Poultry Feed as a Substitute for Antibiotic Growth Promoters. Food Safety and Health, 00:1–12.

ix. M.M. Rana, M.S. Karim Sarker, M.R. Islam, M.R. Hassan and M. Aftabuzzaman, 2024. Effectiveness of superdosing phytase to low phosphorus and calcium diet on growth performance, nutrient digestibility, blood parameters of broiler chickens. International Journal of Poultry Science, 23: 78-85.

x. U. Ety. M.Sarker. M.M. Rana, F. Sharmin, N. Nourin Lisa and S. Zihan. 2025. Determining the effects of water spinach and quantitative feed restriction on meat quality parameters of local geese in Bangladesh' 24th European Symposium on Poultry Nutrition, 23-26 June 2025, Maastricht, The Netherlands.

10. Other Activities

The following routine activities are regularly carried out by the scientist of Livestock Division:

i. Organized demand-driven training programs to enhance the capacity of NARS institutes and other relevant organizations in livestock research and development.

ii. Prepared and shared the proceeding of review workshop on 'last financial year research progress and current financial year research program of BLRI'.

iii. Coordinated and shared research findings or policy recommendations from workshops and seminars with relevant NARS institute and stakeholders.

iv. Acted as a member/member secretary in different committees formed to observe national and international days (e.g., World Food Day, Independence Day, Victory Day, World Egg Day, etc.).

v. Prepared proceedings and documentations for meetings, seminars, and conferences.

vi. Actively participated in workshop, seminar and training sessions organized by different divisions and units of BARC, as well as other national and international organizations.

vii. Attended project-related workshops including inception, review and completion, arranged by different Divisions/Units of BARC and other organizations.

viii. Contributed to review and evaluation process of ongoing research projects and development programs funded by the KGF, PARTNER, LDDP and other funding agencies.

ix. Developed project proposals and programs on livestock research and capacity-building with seeking financial assistance from national and international donor agencies.

The Division Actively Worked in Various Committees:

i. Acted as a member of the National Avian Influenza Control committee, DLS.

ii. Acted as an Academic Council Member of Sylhet Agricultural University, Sylhet.

iii. Acted as a member of the Antimicrobial Resistance (AMR) sectorial working group, DLS.

iv. Acted as a member of the National PPR control committee, DLS.

v. Acted as a member of the lecturer recruited committee of Patuakhali Science and Technology University, Patuakhali.

vi. Acted as a member of the Food and Agriculture committee of Bangladesh Standards and Testing Institution.

vii. Acted as a member of the Management Board of Bangladesh Reference Institute for Chemical Measurements.
viii. Acted as an external examiner for graduate and postgraduate programs at different universities.
ix. Acted as MS thesis evaluator and co-supervisor for students in livestock-related disciplines.
x. Worked as a member of the Editorial Board of the Bangladesh Journal of Agriculture (BJA).
xi. Worked as a member of the recruitment committee of BLRI, BIRTAN, LDDP and other projects.
xii. Acted as a member of the promotion commitees-2 of BLRI.
xiii. Acted as a member of the BLRI Technology Evaluation committee.
xiv. Acted as a member of the BLRI technical program evaluation committee.
xv. Acted as a member of the selection committee for Research and Innovation Sub-projects LDDP, DLS.
xvi. Worked as a technical member for the evaluation of research proposals and ongoing projects under BARC, KGF, PARTNER, LDDP and other organizations.
xvii. Acted as a technical member of different advisory committees to support the inter-agency collaboration and policy implementation framework.

Agricultural Economics and Rural Sociology Division

AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY DIVISION

The Agricultural Economics and Rural Sociology (AERS) Division is a key unit of BARC, focusing on the socio-economic dimensions of agriculture. The division undertakes research and advisory work in areas such as crop economics, forecasting and demand-supply analysis, market studies, and strategic policy formulation, providing timely inputs to the Ministry of Agriculture as needed. Research programs are either independently developed or coordinated with relevant institutions, ensuring efficiency and avoiding duplication. The division also regularly reviews the research progress and ongoing programs of NARS institutes to facilitate effective coordination and enhance the impact of agricultural research in Bangladesh.

Name of the Professionals

Name	Designation
Dr. Md. Mosharraf Uddin Molla	Member Director (C.C.) and Chief Scientific Officer
Dr. Md Abdus Salam	Principal Scientific Officer (Deputation)
Dr. Md. Shofiqul Islam	Principal Scientific Officer
Md. Sazzadur Rahman Sarker	Principal Scientific Officer (A.C.) (Deputation)

1. Project Development and Implementation

- Preference and feedback study for GAP protocol and other proposed research at farm level
- Input and output analysis of rice and wheat cultivation in Bangladesh

2. Policy-Level Contribution

Comments provided on

- Vienna Convention on the Law of Treaties (1969)
- Import Policy Order 2024-2027
- Draft Cooperative-Based Agricultural Production and Management Policy-2024
- Framework of the Bangladesh National Productivity Master Plan (FY 2021-2030)
- Framework Agreement on Comprehensive Partnership and Cooperation
- Bangladesh-Bhutan Preferential Trade Agreement (BB-PTA)
- Bangladesh-South Korea Economic Partnership Agreement (EPA)
- Brief flyer on key initiatives by ministries/agencies to support women entrepreneurs
- U.S.-imposed reciprocal tariff and non-tariff measures and Bangladesh's position within the WTO
- WTO Retreat on Sustainable Agriculture in the Multilateral Trading System
- China's draft MoU for establishing a Working Group on Promoting Unimpeded Trade
- Framework Agreement on Comprehensive Partnership and Cooperation (PCA) with the European Union
- Draft MoU between the Trading Corporation of Bangladesh and the Trading Corporation of Pakistan

Inputs provided on

- 3rd meeting of the Bangladesh–Singapore Working Group and proposed agenda for the 4th meeting
- Implementation of the Doha Programme of Action (2022–2031)
- Input-output survey for determining the production cost of paddy and wheat
- 81st session of the Economic and Social Commission for Asia and the Pacific (ESCAP)
- 5th session of the Bangladesh–Turkey Joint Economic Commission
- 7th meeting of the Working Group on Women's Trade and Economic Empowerment
- 9th meeting agenda of the Bangladesh–Pakistan Joint Economic Commission
- 2nd Joint Trade Commission (JTC) and updated agenda for the 3rd JTC with Vietnam
- 6th meeting of the Bangladesh–Japan Public–Private Joint Economic Dialogue (PPED)
- Budget Speech of the Honorable Economic Adviser for FY 2025–2026
- Trade and Investment Cooperation Forum Agreement (TICFA)
- 3rd meeting of the Joint Working Group on Cooperation with the Eurasian Economic Commission (EEC)
- Trade and Investment Promotion Framework (TIPF) between Bangladesh and South Korea

Impact

- Provided critical guidance on trade, investment, and agricultural policy issues
- Supported alignment of national policies with international obligations and development priorities

3. Monitoring, Evaluation, and Review

GAP protocol validation project

- Around 450 baseline survey data for the GAP Protocol Validation Project (Activity 1.1.1) were collected from 15 implementation areas: Dhaka, Chapainawabganj, Cumilla, Narsingdi, Jessore, Mymensingh, Rajshahi, Pabna, Joypurhat, Chattogram, Tangail, Sylhet, Moulvibazar, Bogura, and Rangpur.

Baseline survey under GAP

- The survey included 15 different GAP validation crop plots, comprising five fruit crops-mango, guava, pineapple, jara lemon, and jackfruit and ten vegetable crops-potato, cabbage, brinjal, bottle gourd, pointed gourd, bitter gourd, yard-long bean, stolen, snake gourd, and papaya.
- Additionally, fifteen Focus Group Discussions (FGDs) were conducted across the project areas to validate the baseline survey data.

Focus Group Discussion under GAP

Preference and Feedback Analysis of Farming System Project

- Around 90 baseline survey data collected from three project implementation areas of farming system project (Activity 8.1.3.6) namely Patuakhali, Khulna and Satkhira districts.
- In addition, three FGDs were conducted to validate the data of the study areas.

Preference and Feedback Analysis of Agro-forestry Project

- Around 240 baseline survey data collected from eight project implementation areas of agro-forestry project (Activity 8.1.3.7) namely Rangpur, Rajshahi, Patuakhali, Coxsbazar, Bandarban, Sherpur, Khulna and Pabna districts.
- In addition, eight FGDs were conducted to validate the data of the study areas

Preference and Feedback Analysis of Refinement of Agro-technologies Project

- Around 210 baseline survey data collected from two project implementation areas of refinement of agro-technologies project (Activity 8.1.3.5) namely Rajshahi and Khulna districts.
- In addition, seven FGDs were conducted to validate the data of the study areas.

Monitoring, Reviewing, And Evaluation Report of Program/Activities of NARS institutes

Monitoring Activities

Monitored and validated various activities under the PARTNER project through Activity 8.1.3.8, including GAP protocol validation, farming systems, agroforestry practices, and the refinement of agro-technologies.




Monitoring activities of GAP Protocol Validation Project

Monitoring Activities of Agro-forestry Project

Monitoring Activities of Refinement of Agro-technologies Project

4. Events Organized

Workshop

Review Workshop: Review of Socio-Economic Research Programs of NARS Institutes

The Annual Review Workshop on Socio-economic Research Program (2024-25) and Future Research Program (2025-26) of NARS Institutes was held on 25 June 2025 at Bangladesh Agricultural Research Council (BARC), Farmgate, Dhaka, organized by Agricultural Economics & Rural Sociology (AERS) Division, BARC. In the inaugural session, Dr. Nazmun Nahar Karim, Executive Chairman of BARC, was the Chief Guest. Professor ASM Golam Hafeez, Member, Bangladesh Public Service Commission (BPSC) was present as the Guest of Honor. Dr. Md. Mosharraf Uddin Molla, Member Director (AERS), BARC, presided over the session. Dr. Md. Shofiqul Islam, PSO (AERS), BARC first made a welcome presentation on the implementation status of recommendations by agricultural economics division of different NARS institutes from last year's workshop. The session chair welcomed everyone and stated the workshop's aims highlighting the importance of this review workshop.

Hon'ble Guests and the Expert Members

A total of 85 participants, including scientists, professors, agricultural experts, and delegates, attended the workshop from various research organizations, universities, and the private sector. The current and future research activities were presented by the head or nominee of the relevant division from seven NARS institutes (BARI, BRRI, BINA, BSRI, BWMRI, BLRI and BFRI) during the technical session. The scientist (Agricultural Economist) of BWMRI attended the review workshop for the first time and presented their future research program though there is no agricultural economics division yet. The first technical session was presided over by Dr. Firoz Shah Shikdar, former Director General of BRRI, and the second by Dr. Jahangir Alam Khan, former Director General of BLRI. Four expert reviewers namely Dr. M. Shahadad Hossain, former Director General of BARI; Dr. A.S.M. Anwarul Huq, former Director General of BJRI; Dr. B. A. A. Mustafi, Former Director (Admin and CS), BRRI, Gazipur; and Prof. Dr. Dr. M. Wakilur Rahman, Department of Rural Sociology, BAU, Mymensingh critically reviewed the presented research programs.

Workshop: National Budget 2025-26: Agriculture Perspective

A workshop on *National Budget 2025-26: Agriculture Perspective* was organized in Conference-2, BARC on 26 June 2024. The keynote speaker was Dr. Md. Abdus Salam, Principal Scientific Officer (AERS), BARC. All the scientists and officers of BARC were participated in the workshop. Dr. Md. Abdus Salam, Member Director (Crops) and Dr. Md. Saifullah, Member Director (Administration and Finance) of BARC were attended in the workshop as discussant. Dr. Nazmun Nahar Karim, Executive Chairman, BARC was the chief guest in the workshop.

Workshop on National Budget 2025-26: Agriculture Perspective

The Resource Speaker mentioned that the National Budget 2025-26 for Bangladesh demonstrates a comprehensive approach to supporting the agriculture sector, with a focus on increasing productivity, ensuring sustainability, and improving farmers' livelihoods. However, careful implementation and continuous support are necessary to achieve the desired outcomes and address the challenges facing the sector. There's an emphasis on providing subsidies for essential inputs like seeds, fertilizers, and pesticides which are critical for increasing crop yields and ensuring food security.

Workshop: Impact of LDC graduation in agricultural exports: Challenges and way forward

A workshop on *Impact of LDC graduation in agricultural exports: Challenges and way forward* was organized in Auditorium, BARC on 08 January 2025. Dr. Md. Mahmudur Rahman, Additional Secretary, PPC Wing, Ministry of Agriculture (MoA) was present as the chief guest at the workshop. Dr. Md. Mosharraf Uddin Molla, Member Director (AERS), BARC presented the keynote paper. Mr. Md. Hafizur Rahman, Administrator, FBCCI and former Additional Secretary, Ministry of Commerce, and Dr. Md. Wakilur Rahman, Professor, Department of Rural Sociology, Bangladesh Agricultural University, Mymensingh, were present as discussants. Representatives nominated by various departments and agencies under the Ministry of Agriculture, Ministry of Fisheries and Livestock, and representatives from agricultural universities, along with various stakeholders, were also present at the workshop.

Hon'ble Guests and the Expert Members

The workshop was chaired by Dr. Nazmun Nahar Karim, Executive Chairman, BARC. At the beginning of the workshop, the welcome address was delivered by Dr. Md. Abdus Salam, PSO (AERS) and DPD, Partner Project, BARC. He welcomed all those present and highlighted the context of the workshop. The main aim of the workshop was to analyze the potential challenges and opportunities for Bangladesh's agricultural sector following its graduation from Least Developed Country (LDC) status.

Training

Training on Econometrics for Socio-Economic Research: Tools and Applications

A five days training programme on Forecasting Methods for Agricultural Data Analysis was held on 10-14 November 2024 at Computer Lab., BARC organized by Agricultural Economics and Rural Sociology (AERS) Division. The resource speakers were the Professors from Sher-e-Bangla Agricultural University, Dhaka. Twenty agricultural economists from NARS institutes (sixteen participants from BARI, BRRI, BSRI, BWMRI, BLRI and BFRI) and agricultural universities (four

Training on Econometrics for Socio-Economic Research: Tools and Applications

participants from Sher-e-Bangla Agricultural University and Bangabandhu Sheikh Mujibur Rahman Agricultural University) attended in the training programme. Dr. Md. Mosharraf Uddin Molla, Member Director, AERS Division, BARC was the chief guest at concluding session and handed over the certificates to the participants of the training Programme.

This training aimed to equip participants with practical econometric skills to analyze socio-economic data, model economic behaviors, and generate insights for informed decision-making and policy development. The overall objective of the course was to improve the decision-making in agriculture, optimizing resource use and enhancing productivity. The scientists themselves applied the method using a data set provided for the purpose. They also developed their skill in the operation of the software packages such as STATA, SPSS, Eviews and R software.

Training on Production and Market Trends Forecasting Using Statistical Modeling

A five days training programme on Production and Market Trends Forecasting Using Statistical Modeling was held on 05-09 January 2025 at Computer Lab., BARC organized by AERS Division. The resource speakers were the Professors from Bangladesh Agricultural University, Mymensingh. Twenty agricultural economists from NARS institutes (sixteen participants from BARC, BARI, BRRI, BSRI, BINA, BWMRI, BLRI and BFRI) and agricultural universities (four participants from Sher-e-Bangla Agricultural University and Gazipur Agricultural University) attended in the training programme. Dr. Nazmun Nahar Karim, Executive Chairman (R/C), BARC was the chief guest at concluding session and handed over the certificates to the participants of the training Programme.

Training on Production and Market Trends Forecasting Using Statistical Modeling

This training aims to enable the participants to understand the importance of agricultural data forecasting and learn about fundamental of forecasting in agricultural research; to develop understanding about scenario and pattern analysis of agricultural data; to be able to select suitable methods for time series data analysis. The overall objective of the course is to improve the decision-making in agriculture, optimizing resource use, and enhancing productivity. The scientists themselves applied the method using a data set provided for the purpose. They also developed their skill in the operation of the software packages such as STATA, SPSS, and R software.

Training on Advanced Forecasting Methods for Agricultural Data Analysis

A five days training programme on "Advanced Forecasting Methods for Agricultural Data Analysis" was held on 23-27 February 2025 at Computer Lab., BARC organized by AERS Division. The resource speakers were the Professors from Bangladesh Agricultural University, Mymensingh. Twenty-one agricultural economists from NARS institutes (seventeen participants from BARI, BRRI, CDB, BWMRI, BLRI and BFRI) and agricultural universities (four participants from Sher-e-Bangla Agricultural University and Gazipur Agricultural University) attended in the training programme. Dr. Md. Mosharraf Uddin Molla, Member Director (AERS), BARC was the chief guest at concluding session and handed over the certificates to the participants of the training Programme.

Training on Advanced Forecasting Methods for Agricultural Data Analysis

This training aims to empower participants to move beyond basic forecasting techniques and leverage the power of advanced methodologies to extract valuable insights from agricultural data, ultimately contributing to a more resilient and efficient agricultural sector. Upon completion of this training, participants understood advanced agricultural forecasting methods, selected appropriate techniques for diverse data, applied models using relevant tools, evaluated model performance, interpreted and communicated results effectively, integrated external factors into their analyses and developed reliable forecasting systems to improve agricultural decision-making and sustainability.

Training on Global Trade Strategies for Agriculture Commodities

A five days training programme on "Global Trade Strategies for Agriculture Commodities" was held on 04-08 May 2025 at Conference Room-2, BARC organized by AERS Division of BARC. The resource speakers were the higher officials of Ministry of Agriculture, Federation of Bangladesh Chambers of Commerce and Industry (FBCCI), Professor from agricultural universities and officials from private organizations. A total of twenty five participants attended the training programmes who are working in the NARS institutes. Dr. Md. Mosharraf Uddin Molla, Member Director (AERS), BARC was chief guest in the inaugural session of the training program.

The aim of this training program was to enhance the knowledge and capacity of participants in understanding and applying effective global trade strategies for agricultural commodities. The program was designed to equip stakeholders such as policymakers, agribusiness professionals,

Training on Global Trade Strategies for Agriculture Commodities

exporters, and researchers with the tools and insights needed to navigate international markets, improve trade competitiveness, comply with global trade regulations, and leverage opportunities in the evolving landscape of agricultural trade.

Training on Public Private Partnership in Agriculture

A three days training programme on "Public Private Partnership in Agriculture" was held on 22-24 June 2025 at Public Private Partnership (PPP) authority, Agargaon, Dhaka organized by AERS Division of BARC. The resource speakers were the higher officials of Public Private Partnership (PPP) authority, Agargaon, Dhaka. A total of thirty participants attended the training programmes covering both public and private organization who are working in the agriculture sector. Muhammad Rafiqul Islam, Chief Executive Officer of Public Private Partnership (PPP) Authority was the chief guest in the training programme. A K M Abul Kalam Azad, Director General (Admin & Finance), Public Private Partnership (PPP) Authority was present in the training program as special guest. The inaugural session of the training program was chaired by Dr. Md. Mosharraf Uddin Molla, Member Director (AERS), BARC.

Training on Public Private Partnership in Agriculture

This training aims to enable the participants to understand the importance of PPP project in the agriculture sector; to explore the prospects and major challenges of the PPP project; to understand the partnership framework; to learn the PPP project development process and to be able to submit PPP project in a systematic way. The overall objective of the course was to align all stakeholders with the goals, processes, and expectations of the partnership and to improve the knowledge and analytical skills of the stakeholder to develop PPP project in the agriculture sector.

5. Events Attended

CGIAR 22nd System Council Meeting

CGIAR 22nd System Council meeting and related events was held in Penang, Malaysia (WorldFish Headquarters) on 2-6 June, 2025. Dr. Md. Mosharraf Uddin Molla, Member Director (AERS) attended as an official representative of Bangladesh, which holds a voting seat on the CGIAR System Council on behalf of the South Asia Constituency (Bangladesh as the Member and Sri Lanka as the alternate member). He also took part in various side events of SC22, as well as the WorldFish Science Fair and Field Trip, organized by the International Centre for Living Aquatic Resources Management (WorldFish).

CGIAR 22nd System Council Meeting at WorldFish Headquarters

6. Publications

Book

i. Projections of Supply and Demand for Selected Food Crops in Bangladesh by 2030 and 2050 (2nd Edition, 2025)

Journal article

i. **Islam, M.S.**, Bell, R.W., Miah, M.M. and Alam, M.J., 2024. Effects of unbalanced fertilizer use on system productivity and profitability under rice-based cropping systems: Evidence from Eastern Gangetic Plain. Soil use and management, 40(3), p.e13107.

7. Other Activities

- Worked as a member of BJRI board, member of Executive Council, BARC, Tender Evaluation Committee, Recruitment committee, Investigation committee, Receiving committee (goods), etc.
- Act as member of Terms of Reference (ToR) preparation committee of MoA
- Acted as an Expert Member on Socio-economic Research Review Workshop of NARS institutes.
- Performed as an Expert Evaluator of different project under KGF-BKGET
- Participation in Inter-Ministerial Committee of MoA for estimating cost of production of paddy, rice and wheat
- Participation in Agricultural Price Advisory Committee for estimating minimum price
- Participation in procurement activities of SACP project of DAM
- Annual Report 2024-25 of AERS division was prepared
- Scientists of the division worked as reviewer of scientific journals
- Scientist of the division worked as supervisor and examiner of MS Thesis

COMPUTER AND GIS UNIT

The Computer & GIS Unit of BARC was established in 1985 to meet the growing ICT and geospatial information needs in agricultural research and development. The Unit is entrusted with managing BARC's ICT systems, including hardware, software, networking, digital services, and GIS applications. Its strategic objective is to position BARC as the central ICT and BARC's ICT systems information hub of the National Agricultural Research System (NARS).

Major responsibilities include ICT infrastructure development, MIS operations, troubleshooting, and training; GIS-based land and crop zoning studies; and development of innovative digital tools such as the Khamari Mobile App. The Unit also supports data management, policy inputs, research coordination

Name of the Professionals

Name	Designation
Hasan Md. Hamidur Rahman	Director
Hasan Mahmud	Senior System Analyst
Md. Hanif	System Analyst
Al-Helal	Programmer
Md. Nura. Alam Uzzal	Data Entry Officer
Rashedul Islam	Data Entry Officer

1. Project Development and Implementation

Project Development

- Crop Zoning & Land Suitability System - Ongoing (funded by MoA).
- Atlas of Climate Adaptation in South Asian Agriculture (ACASA) - Ongoing (inter-national collaborative project).
- Piloting Light Detection and Ranging (LiDAR) Technology for Agricultural Trans-formation - Ongoing (FAO, MoA, BARC collaboration).
- Funding sources include MoA, FAO, BRAC, ICIMOD, AFACI, and other nation-al/international agencies.

Project Implementation

Crop Zoning & Land Suitability

- Completed crop suitability assessment and zoning for 464 of 495 upazilas.
- Updated soil, agro-edaphic, fertility, and climatic datasets for 54 upazilas.
- Released iOS version of Khamari App; >2.25 lakh downloads.
- Conducted field trials validating fertilizer recommendations and AWD techniques.
- Organized training workshops across 11 regions, training 769 extension personnel.

Inauguration of the Khamari Mobile Application

Atlas of Climate Adaptation in South Asian Agriculture (ACASA)

- Conducted 18 FGDs across agro-climatic zones.
- Organized national workshop on gender-sensitive adaptation planning (March 2025).
- Developed Gender Suitability Framework for adaptation strategies.
- Collaborated with BRAC, Bangladesh Bank, and DAE for integrating Atlas outputs into planning, credit, and advisory services.

Implementation of Atlas of Climate Adaptation in South Asian Agriculture

Piloting Light Detection and Ranging (LiDAR) Technology

- LiDAR survey completed in Delduar upazila, Tangail.
- Conducted advanced training on LiDAR (Feb 2025).
- Prototype agricultural applications under development with IWM.

2. Policy-Level Contributions

- Technical inputs for Farmer Smart Card Policy 2025.
- Contributions to committees: NSDI (SoB), BGISP (BBS), e-DC (BCC), Agricultural Land Protection, Innovation Committee, etc.
- Advisory support to MoA on crop zoning, GAP, climate adaptation, and digital agri-culture policies.

3. Research and Financial Management

- Coordinated research under NATP, ARMIS, AFACI-ATIN, AgMIP, and ICIMOD projects.
- Provided data, maps, and ICT support to BARC divisions and NARS institutes.
- Supported procurement of ICT hardware/software (14 computers, accessories, and an-tivirus licenses).

4. Monitoring, Evaluation, and Review

- Prepared Half-Yearly and Annual Progress Reports (Feb 2024–Jan 2025).
- Conducted PAC and coordination meetings for project oversight.
- Validated soil fertility and profitability datasets for 476 upazilas.

5. Events organized

i. Training on D-Nothi for Officers

The training programme was held on 22 October 2024 at BARC. One day Training Program having 20 Participants (Male: 19, Female: 01)

EC, BARC Delivering Speech at the Inaugural Session

ii. Training on D-Nothi for Officers Training on D-Nothi for Staffs

Two batches of hands-on training sessions on D-Nothi for staff were conducted from 26 to 28 November 2024 and from 01 to 03 December 2024. A total of 47 BARC staffs participated in the program, which was divided in two separate batches of 24 and 23 participants (Male: 37, Female: 10) respectively.

Training on D-Nothi for Staffs

iii. Training on the Utilization and Management of the Integrated Digital Service Delivery Platform (IDSDP)

Two hands-on training sessions on the Integrated Digital Service Delivery Platform (IDSDP) were conducted in BARC's Computer & GIS lab on October 23 and 27, 2024. A total of 40 BARC scientists and officers participated in the training program, divided into two batches.

Training on the Utilization and Management of the IDSDP

iv. Training on GIS & Remote Sensing for smart Agriculture

The basic GIS & Remote Sensing training program for smart agriculture took place at BARC's Computer & GIS Unit lab from May 04 to 08, 2025. Organized by the Computer & GIS Unit of BARC, the training was attended by 20 (Male: 15, Female: 05) Scientists and officers from various agricultural-related institutes and organizations.

Training on GIS & Remote Sensing for smart Agriculture

v. Training on Machine Learning Technique in Agriculture

A training program on Machine Learning Techniques in Agriculture was organized at the Computer & GIS Unit Lab of BARC from June 9 to 13, 2025. A total of 25 Participants (Male: 20, Female: 05) scientists and officers from BARC and various agricultural research organizations participated in the program.

Dr. Md. Mosharraf Uddin Molla, MD (AERS), Addressing the Session

vi. Training on Crop Zoning System Development

A training program on Machine Learning Techniques in Agriculture was organized at the Computer & GIS Unit Lab of BARC from May 31 to June 4, 2025 and from June 15 to 19, 2025. A total of 11 (Male: 10, Female: 1) scientists and officers from BARC participated in the program.

Training on Crop Zoning System Development

vii. Workshop on Innovation Showcasing

The workshop on "Innovation Showcasing" took place at the BARC training building on March 10th, 2025. Organized by BARC's Computer & GIS Unit, the workshop was attended by 60 scientists and officers from BARC.

Workshop on Innovation Showcasing

6. Events Attended

The personnel of Computer and GIS unit attended various meetings/seminars/workshops under different capacity at BARC and other organizations during this period. Some of those are focal point meetings and workshops, PCR workshops, stakeholder workshops, monsoon and climate related workshops, a2i, d-Nothi trainings, my-Gov workshops, SoB workshops, NSDI workshops AI for Agriculture-Bangladesh AI Summit-2025 etc.

7. Transferable Technology

Mobile app 'Khamari' is developed under crop zoning project and training in field level stakeholders including farmers, traders, and extension personnel is going on.

8. Collaborative Work (National and International)

During the period, the Director (Computer & GIS) and Principal Investigator of the ACASA project took part in several international workshops and training programs, including:

i. The ACASA Climatic Risks and Adaptation Options workshop held from 10-12 September 2024 in Nepal.
ii. The ACASA use cases workshop conducted from 1-3 October 2024 in Sri Lanka.
iii. The Spatial Crop Modelling workshop organized from 12-14 May 2025 in Nepal.
iv. Along with Dr. Golam Mahboob, PSO (Forestry), he also participated in the Advanced LiDAR training at AIT, Thailand, from 6-16 July 2024.

9. Other Activities

I. Server and Network Operation

a) Updated the firmware of the firewall and installed new virus detection signature in the firewall.
b) Email accounts creation for newly recruited professionals in the new platform. Smooth access and availability of internet service was ensured throughout the year.
c) Procured and installed cloud-based antivirus Bit Defender (150 users) in desktop computers, laptops, workstations and servers of BARC centrally for the protection of computers from virus, spyware, adware, ransomware or malware.
d) SSL/TLS certificate installed for BARC & Crop zoning website.
e) Installed PoE switch to replace PoE injector for the Access Points of Main Building. One new rack is also installed.
f) Cable dressing, tagging & labeling were done in the main building, training building and AIC building.
g) Year round maintenance was done for WAN connectivity.

II. Maintain & Update Zoom License and Host Virtual Meetings using BdREN Platform

Received 8 zoom users with 300 participants license each from BdREN as supplementary service by membership subscription. Created more than 59 meetings during this period and provided support to host and managed the virtual events.

III. Data Standardization & Interoperability Activity in Collaboration with a2i

The Bangladesh Agricultural Research Council (BARC), with technical support from a2i, organized a series of six workshops aimed at creating an agro-data ecosystem through the Workshop on Validation of Dataset for Data Standardization and Interoperability for Smart Agriculture. A notable three-day workshop was held at the National Agriculture Training Academy (NATA) from June 18-20, 2023, where the Hon'ble Secretary of the Ministry of Agriculture provided online guidance on preparing draft datasets and metadata. The workshop series included participation from various agricultural institutions, focusing on drafting and analyzing 34 datasets. To validate these datasets, a significant two-day workshop took place at BARC on April 29-30, 2024. This event saw the participation of the Hon'ble Secretary of the Coordination and Reform Division and the ICT Division, among other notable attendees. Discussions during the workshop covered the current state of data standardization, technical aspects, and future actions. The outcome of these discussions led to the successful validation of the datasets, highlighting the importance of a unified data standard and data interoperability for agricultural development. The validated datasets are to be published and promptly uploaded to the BNDA website, ensuring their proper use and sustainability. This initiative underscores the critical role of data standardization and interoperability in the development of the 'Khamari' mobile app, which aims to provide comprehensive agricultural services to farmers. The workshops and the subsequent validation of datasets are pivotal steps towards enhancing national capacity for climate-resilient and sustainable agricultural development in Bangladesh. Despite these notable achievements, the current progress of the initiative has encountered a temporary standstill.

IV. Database and Apps Development

a) The Personnel Data Sheet (PDS) application is upgraded to version 6.0 from the earlier version 5.0.
b) New user request approval of different online applications of BARC as a routine job.

V. Uploading, Updating and Maintenance of BARC website

a) A new feature titled Human Resource Development has been created, where information related to higher education (domestic/foreign), training, workshops, and seminars is uploaded according to the respective fiscal years.
b) A new feature titled Laws/Regulations/Plans has been developed, which is regularly updated with information related to laws, regulations, policies and planning/ vision document.
c) Information related to Development Projects and Regional Projects is being updated on a regular basis.
   A new section for Good Agricultural Practices (GAP) was designed and necessary documents were also uploaded.
d) BARC web portal (www.barc.gov.bd) was being updated regularly based on data received from different sections/units/ divisions. Files were uploaded and pages were updated in regular basis.
e) Website upload and update report sent to MoA, BARC administration and APA focal point within 7th day of each month as well as quarterly basis. During this period 1416 files were uploaded and 147 pages updated.

VI. D-Nothi Administration and Support

a) Programmer is assigned as D-Nothi Admin instead of System Analyst
b) Collaborated with BCC professionals to update/create positions in BARC's e-Filing system.
c) Conducted D-Nothi administration tasks: user creation, updates, and deletions for new recruits.
d) Generated D-Nothi reports in prescribed formats, disseminated to MoA, BARC administration, and APA focal points monthly and quarterly.
e) Provided technical support for D-Nothi operations to scientists, officers, and staff across divisions, units, and sections.
f) There are 131 users in BARC, with a total of 837 D-Nothi cases completed and 907 letters were issued.

VII. Functioning of BARC Innovation Team

Director (Computer & GIS) has been working as Innovation officer of BARC since 2013.

Progress:

a) A workshop was organized for all BARC scientists and officers.
b) Two meetings of the Innovation team were held.
c) A new innovative initiative, Online Leave Management, was introduced for all divi-sions and units.

VIII. Climate Database Update

The daily weather data of 2024 was purchased from BMD, processed, generated monthly data and uploaded in the website (http://apps.barc.gov.bd/climate)

IX. Continuation of GIS Activities

Maintenance and necessary output preparation of AEZ land resources database and local level Upazila Nirdeshika database (soil, land, nutrition and others) is an on-going activity. AEZ land resources data is used for earlier crop zoning study of Bangladesh. The AEZ database is being used extensively in current Crop zoning project. Part of these data is also been used in ACASA project.

GIS Activity-

a) Ongoing maintenance and output preparation of AEZ and Upazila Nirdeshika databases.
b) Use of AEZ data in crop zoning studies and current projects.
c) Regular validation and standardization of GIS data.
d) Collaboration with stakeholders for data updates.
e) Conducting training sessions and workshops for capacity building.
f) Plans for future expansion to additional districts for improved agricultural practices.

X. Support to BARC and Different Components of GAP, PARTNER

Supports provided to KGF, SAC, GAP team & PARTNER project time to time in procurement of goods, works and services along with BARC.

XI. Support to Divisions/Sections of BARC for Hardware/Software; Data Analysis; Information Sharing and Resource Management

a) Support provided to different divisions/units/sections to fix various types of computer hardware, software and networking related problems.
b) Several types of maps such as climate map, haor region map etc. provided to scientists/ researchers/ extensionists as per requirement. Besides this, climate data, land and soil data etc. with their shape files are shared with researchers.

XII. Support for Planning, Budgeting and Procurement of Computer Resources (Hardware, Software & Accessories)

Procured 14 computers along with other computer accessories like printer, scanner, UPS etc. under revenue budget. Purchased 231 toners centrally for BARC officials with the perpetual support from our Procurement wing.

XIII. Personal Data Sheet (PDS) Management

Personal Data Sheet (PDS) Management system was updated to a new version that promises a more efficient and user-friendly experience for all employees. The leave management feature is newly introduced. Here users can get notification regarding his/her next recreation leave due date. With improved user activation, seamless upgradation, and robust operations and maintenance procedures, the PDS platform aims to enhance data management and security, contributing to a more reliable and effective data management solution. It is also mentioned that BRRI is utilizing the PDS in full swing since inception.

XIV. Development of Flipbook Platform for e-book Hosting

a) The in-house development and release of the Flipbook Platform for e-book hosting has been successfully completed.
b) Link to access flip book: http://apps.barc.gov.bd/flipbook/flipbook

XV. Participation in Different Committees

- e-DC Project of Bangladesh Computer Council (BCC)
- BGISP related Committee of Bangladesh Bureau of Statistics (BBS)
- NSDI implementation Committee of Survey of Bangladesh (SoB)
- NADC Related Committee
- Computers for Identifying the Status of the Computers of NATP-2
- BARC Website update Committee
- Grievance Redress System Committee
- Citizens Charter Committee
- Market Price Verification Committee
- Agricultural Land Protection Committee
- Committee to Develop Khamari App as a one-stop solution
- Farmer Smart Card Policy 2025
- Innovation Committee etc.

XVI. Publications

i. Published a booklet titled Khamari Mobile App: A Smart Technology for Balanced Fertilizer Use and Increased Crop Production.
ii. Journal Article titled Estimation of Boro Rice Area in Bangladesh using Sentinel-2 Imagery and Machine Learning Algorithms published in Bangladesh Journal of Agriculture.

XVII. Agricultural Land Protection

Prepared map for single crop, double crop, tri-crop area for all over the country. Ministry of Agriculture (MoA) is working with Ministry of Land (MoL) to preserve these areas as per laws and regulations of our country.

XVIII. Training Workshop on Crop Zoning & Khamari App

A total of 11 training-workshops were held across the 11 DAE regions, as summarized below:

Sl. No.	Region	Date	No. of Participants
1	Dinajpur	20/04/2025	45
2	Rangpur	21/04/2025	66
3	Rajshahi	29/04/2025	65
4	Chattogram	05/05/2025	68
5	Dhaka	08/05/2025	115
6	Bogura	14/05/2025	64
7	Sylhet	17/05/2025	67
8	Madaripur	28/05/2025	59
9	Barishal	29/05/2025	76
10	Jessore	01/06/2025	70
11	Khulna	02/06/2025	62
	Total		**757**

Workshop on Crop Zoning & Khamari App, Dinajpur

Workshop on Crop Zoning & Khamari App, Dhaka

Training on Crop Zoning & Khamari App, Jessore

Training on Crop Zoning & Khamari App, Madaripur

AGRICULTURAL INFORMATION CENTRE

AGRICULTURAL INFORMATION CENTRE

Agricultural Information Centre (AIC), a knowledge management hub of BARC, is engaged in collecting, organizing and disseminating research information. It renders knowledge services to the stakeholders ranging from researchers to policy makers with a view to enhancing their capacity. This service is aimed to facilitate agricultural productivity. The center works on the principle of providing quality agricultural information in order to accelerate research and development. AIC provides knowledge services to the National Agricultural Research System (NARS) including documentation services. The documents generated in the institutes of NARS and beyond are huge in number subsequently being deposited in the AIC library of BARC. Information in terms of quantity and quality is managed in an institutional repository. For efficient service delivery, AIC functions through two dedicated sections: 1. Documentation and Publication 2. Library and Reprography

Name of the Professionals

Name	Designation
Dr. Md. Mosharraf Uddin Molla	Director (A.C.)
Dr. Susmita Das	Principal Documentation Officer
Dr. Md. Taibur Rahaman	Principal Librarian (A.C.)
Dr. Sufara Akhter Banu	Senior Scientific Editor
Md. Saimum Hasan	Information Officer
Mohammad Nazmul Islam	Graphics Designer
Md.Wasiuzzaman	Junior Bibliography Officer

Documentation and Publications

The Centre published the biannual Bangladesh Journal of Agriculture (BJA), Annual Report, Quarterly BARC Newsletter, NARS Directory, technical reports, telephone directory, yearly diary, greeting cards, training manuals, etc. It also prepared a substantial number of reports for the Agriculture Standing Committee and developed question-and-answer documents, including supplementary, star-marked, and non-star-marked questions required by Parliament sessions and relevant ministers.

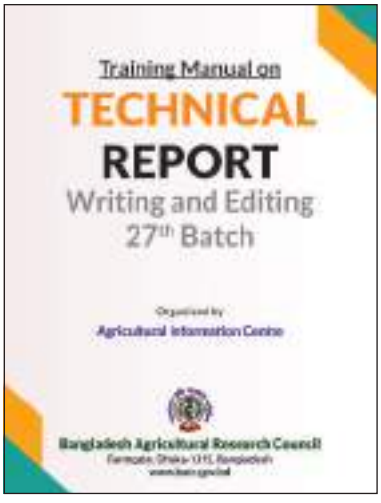
AIC organized annual religious and national events through designing and distributing Eid, Bangla and English New Year greeting cards, and banners. It also took part in advertisements to disseminate scientific information and contributed to the design of various research publications. In addition, AIC monitored different research projects and participated in numerous national and international seminars, workshops, symposiums, and other relevant programs. The Centre was also involved in preparing notes for events organized by BARC or ministries, including guest arrangements for different national seminars, workshops, and symposiums. Furthermore, it acted as master of ceremonies or facilitator for a range of national and international seminars, workshops, and symposiums.

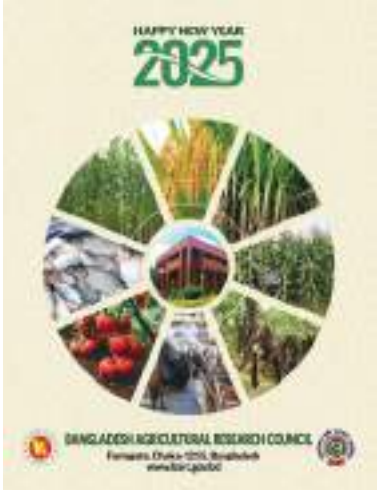
Information was maintained by AIC in two forms: digital databases for easy access by users and printed inventory documents available in the library. The Centre also attempted to bring out a printed inventory of information resources in a series publication. This inventory was intended to help users identify materials of their interest more efficiently.

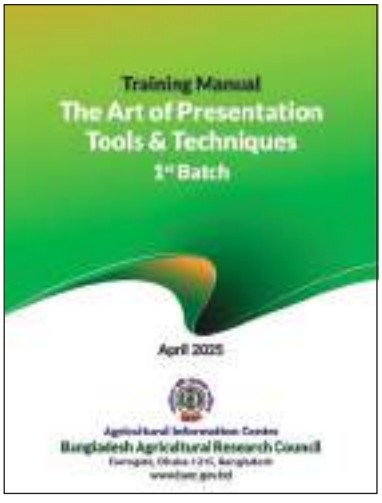
During this period, the following publications were accomplished by AIC

a. Publication of BARC Annual Report 2023-24
b. Publication of NARS Directory 2023-24
c. Publication of BJA Vol: 49(2), December 2024
d. Publication of BJA Vol: 50(1), June 2025
e. BARC Newsletter April-June, 2024 (Vol. 22.2)
f. BARC Newsletter July-September 2024 (Vol. 22.3)
g. BARC Newsletter October -December 2024 (Vol. 22.4)
h. BARC Newsletter January-March 2025 (Vol. 23.1)
i. BARC Desk Calendar 2025
j. BARC Diary 2025
k. Training Manuals (2)

Glimpse of Different Publications from AIC







Glimpse of Different Publications from AIC

This section is responsible for collection development, literature searches, database updating and maintenance, news clipping services, resource exchange and sharing, as well as photography and photocopy services. It also manages the receipt of publications from various national and international organizations and provides publications to NARS and other national and international institutes upon request. The section primarily serves scientific professionals, graduate students, and policymakers.

AIC has devoted considerable efforts and resources to developing an outstanding library collection that meets the expanding needs of agricultural research and serves as an information resource center for NARS institutes. The AIC Library holds a total collection of approximately 26,000 information resources, including 21,000 books, reports, and pamphlets, along with about 1,400 bound journals and serials.

Development of Collection

Each year, new books, reports, pamphlets, and bound journals are systematically added to the existing collection. The AIC Library currently maintains a total of approximately 26,000 information resources, including books, reports, pamphlets, and bound journals. During the year 2024–25, a total of 398 new books and reports were procured, and six current journals/newsletters were collected and made available through AIC.

Update and Maintenance of Databases

The Agricultural Information Centre continuously updated and maintained its databases of various publications. The Centre's repository, managed through DSpace, included a Koha database containing 15,200 books and reports of different types. New entries were regularly added, and existing records were systematically updated to ensure accuracy and accessibility.

News Clipping Services

The Centre collected news clippings from daily newspapers in both Bangla and English, covering research-related issues, events, programs, and ceremonies in the agricultural sector. These clippings were identified, processed in various formats, and circulated to users for their reference. A total of 2,440 articles were compiled, disseminated via email to BARC officers, and uploaded to the BARC website. Subsequently, the clippings were organized with a content list and preserved in the library. Additionally, a hard copy was prepared and maintained as a reference resource.

Resource Exchange and Sharing

The AIC library performed resource exchange and sharing activities with national and international organizations during 2024-25 like the previous years. Recently the library has started collecting information materials from FAO, CGIAR Centers, BBS, BANSDOC, and NARS institutes regularly.

Photography and Photocopy Services

AIC regularly provides photography and photocopy services to all divisions and units. Last year, it captured photographs of 213 workshops/trainings/seminars/meetings. It also supplied 18339 photos in digital form to the concerned divisions and officials.

Library and Information Service

During 2024-25, 285 users of different categories used the BARC library. Besides the BARC and NARS scientists, university teachers and students, NGO and private organizational personnel used the library for meeting their queries.

International Linkage

Agricultural Information Center, BARC is linked with different international organizations. Dr. Susmita Das, Principal Documentation Officer, AIC, acted as Asia Ambassador of Plan S- an International Expert Group of Open Access Research, a board member of the working group of AgriXiv-a preprint repository for agriculture in India, and a Core Member of YPARD Bangladesh.

Dr. Susmita Das Participated as Invited Speaker at International Conference on Open Access

Dr. Susmita Das, Principal Documentation Officer at BARC, attended the two-day *International Conference on Open Access to Scholarly Information* as an invited speaker. The event, held on September 20–21, 2024, was organized by Dr. BMN College of Home Science in collaboration with the SHPT School of Library Science and the Bharat Ratna Maharshi Karve Knowledge Resource Centre, SNDT Women's University. The conference brought together 85 participants from South Asia and across India to explore the pivotal role of Open Access (OA) in fostering sustainable knowledge societies.

Dr. Das delivered a presentation titled *Responsible Publishing: Defining Our Role in the Scholarly Communication Ecosystem*. In her talk, she addressed ethical challenges in scholarly publishing, including the importance of peer review, the dangers of predatory journals, and the role of scholars in promoting transparency. As a Plan S Ambassador, she also highlighted the responsibilities of peer reviewers and Open Access advocates. While acknowledging challenges such as infrastructure, funding, and policy shifts, Dr. Das emphasized that innovative models—such as collaborative funding and Diamond Open Access—could provide viable solutions. She further recommended preprint publishing to help avoid predatory journals and highlighted UNESCO's Open Science initiative, Diamond Open Access, and the COAR global repository network.

Moments of the Program

The conference opened with a formal inaugural ceremony, introduced by distinguished dignitaries. Dr. Mala Pandurang, Convenor and Principal of BMN College of Home Science, presided as Chief Guest, alongside Professor Dr. Subhash Chavan, Convenor of SNDT Women's University, and other eminent guests, including Dr. Sridhar Gutam, Principal Scientist at the ICAR-Indian Institute of Horticultural Research. During the session, the official conference proceedings were launched.

A key highlight of the conference was a panel discussion on the current landscape of Open Access, moderated by Dr. Meghana Sanjeeva. Panelists—Dr. Gutam, Dr. Kaushal Giri, Dr. Sunita Pujar, Dr. Vrushali Dandawate, and Dr. Shantashree Sengupta—discussed diverse aspects of OA, including its visibility and integration with AI.

The conference concluded with thought-provoking sessions on Open Access and Altmetrics, focusing on innovative approaches to measuring research impact. The proceedings, comprising 35 papers, captured the valuable contributions of all participants.

Events Organized

Training/Workshop/Seminar

Agricultural Information Centre (AIC) arranged different workshops, trainings, seminars, and meetings for wider and quick delivery of agricultural scientific findings.

Training Program

Technical Report Writing and Editing

The Agricultural Information Centre (AIC), BARC, organized a three-day training program on Technical Report Writing and Editing from 19-23 January 2025 at BARC. The primary objective of the program was to equip NARS scientists and officers with modern skills in technical report writing and journal paper editing. Thirty scientists from NARS institutes participated in the training. The inaugural ceremony was graced by the chief guest, and Course Director Dr. Md. Mosharraf Uddin Molla, Director, (A.C.), AIC, and Member Director, AERS Division, BARC. In his speech, Dr. Molla

Group Photo of the Participants and the Guests

emphasized the critical importance of technical report writing and journal paper editing for scientists, and shared valuable techniques for enhancing writing skills. Dr. Md. Mostafizur Rahman, Director of the Manpower and Training Unit, attended as the Special Guest, stressing the necessity of strong technical writing skills for every agricultural scientist.

After the successful completion of the training, a closing ceremony was held. The EC of BARC, acting as the Chief Guest, distributed certificates to the participants. The session was chaired by Dr. Kabir Uddin Ahmed, Director of AIC, who also expressed his gratitude to the guests and participants. The program was mastered by Dr. Susmita Das, Principal Documentation Officer, AIC, who delivered the welcome address and highlighted the key objectives of the training as the Course Coordinator.

Training on The Art of Presentation: Tools & Techniques

The Centre organized a three-day training program on *The Art of Presentation: Tools & Techniques (1st Batch)* from 27–29 April 2025 at BARC, financially supported by APCU, PARTNER, BARC. The program aimed to enhance professional presentation and communication skills of 25 participating scientists from various NARS institutes, focusing on modern slide design, voice modulation, body language, eye contact, and audience engagement to help researchers convey their scientific work effectively.

Certificate Giving Ceremony During the Closing Session

The inaugural ceremony was graced by Dr. Md. Mosharraf Uddin Molla, MD (AERS) and Director (AIC), BARC, who attended as the Chief Guest on behalf of the EC, BARC. In his remarks, he emphasized that *strong communication is as essential as strong research for advancing agricultural innovation*. Dr. Susmita Das, Principal Documentation Officer, AIC, delivered the welcome address, highlighting the objectives of the training, including building confidence and improving technical presentation skills.

The training featured interactive sessions, hands-on exercises, and practical demonstrations, allowing participants to refine their presentation techniques. The program concluded with a closing ceremony, where Dr. Md. Abdus Salam, Member Director (Crops), BARC, distributed certificates. Participants appreciated the course for its practical value and relevance, noting its

significant contribution to professional growth and their ability to present research outputs effectively to policymakers, development partners, and peers.

Events Attended

The entire AIC officers attended the World Food Day 2024, World Soil Day 2024, Vegetable Fair 2024 2024 etc., programs. Dr. Mst. Sufara Akhter Banu, Senior Scientific Editor, AIC Submitted 12 rapporteurs' reports of 12 programs in the concerned divisions of BARC

Preparation of Policy Documents and Inputs

Agricultural Information Center prepared Monthly Report/Annual Report for the Cabinet Division, Progress on Implementation of the Decisions of the Deputy Commissioners' Conference, Implementation of the decisions of Cabinet/Advisory Council Meetings, including other activities related to the Cabinet Division (Secretary Committee meetings, Divisional Commissioner coordination meetings, fortnightly confidential reports, etc.)

Publications

Six scientific papers, two issues of the journal, one annual report, one training manual, one NARS directory and four issues of BARC newsletters were published by Agricultural Information Centre (AIC), BARC during 2022-23.

Scientific Paper (06)

- Das, S. (2024). Responsible Publishing: Defining Our Role in the Scholarly Communication Ecosystem, OAS, Mumbai, India
- Development and Contribution of e-Resources Network to Science
- Bangladesh Academy of Agriculture
- Book chapter on multiliteracy frameworks (Designing Next-Gen Libraries: De Gruyter Book-2024, India)
- Review a Book Chapter entitled Livelihood Pattern and Aspirations of Farm Labourers
- Supervision of MS Thesis (as a co-supervisor of two (2) MS students of Genetics and Plant Breeding Department of Sher-e-Bangla Agricultural University)

Annual Report (01)

Ahmed, K. U., Das, S., Sarker, M. S. R., Banu, M. S. A., and Hasan, M. S. Annual Report. 2023-24. Bangladesh Agricultural Research Council (BARC). Farmgate, Dhaka-1215, Bangladesh.

NARS Directory (01)

Karim, N.N., Molla, M. M. U., Das, S. & Hasan M. S. (2024). Directory of Annual Agricultural Research Program of NARS Institute. 2023-24. Bangladesh Agricultural Research Council (BARC). Farmgate, Dhaka-1215, Bangladesh. Published on 2023.

BARC Newsletter (04)

Molla, M. M. U., Das, S., Banu, M. S. A., and Hasan, M. S. 2024. Newsletter. Bangladesh Agricultural Research Council (BARC), Farmgate, Dhaka-1215, Bangladesh. 22(2, 3 & 4):1-12.

Molla, M. M. U., Das, S., Banu, M. S. A., and Hasan, M. S. 2025. Newsletter. Bangladesh Agricultural Research Council (BARC), Farmgate, Dhaka-1215, Bangladesh. 23(1):1-12.

Collection of ISBN Numbers (02)

ISBN Numbers for seven books of BARC were brought by AIC through proper formalities. i.e.,

I. Bangladesh GAP Protocol Pineapple
II. Bangladesh GAP Protocol Citron
III. Bangladesh GAP Protocol Aroid stolon
IV. Bangladesh GAP Protocol Cabbage
V. Bangladesh GAP Protocol Potato
VI. Bangladesh GAP Protocol bitter-gourd
VII. Bangladesh GAP Protocol Snake Gourd

Popular Articles (04)

Dr. Susmita Das, Principal Documentation Officer, AIC, BARC wrote popular articles on-

1. How Women Are Revolutionizing Our Agriculture (The Daily Star, 13 April 2025)
2. Role of Private Sector in Agriculture Market Dynamics (The Financial Express, 23 April 2025)

How women are revolutionising our agriculture

SUSMITA DAS

How Women Are Revolutionizing Our Agriculture (The Daily Star, 13 April 2025)
https://www.thedailystar.net/opinion/views/news/how-women-are-revolutionising-our-agriculture-3869711

Role of private sector in agricultural market dynamics

The emergence of the private sector has changed the agricultural production landscape, playing an increasingly important role in the seed industry, particularly in the vast varieties of hybrid vegetables, maize, and rice

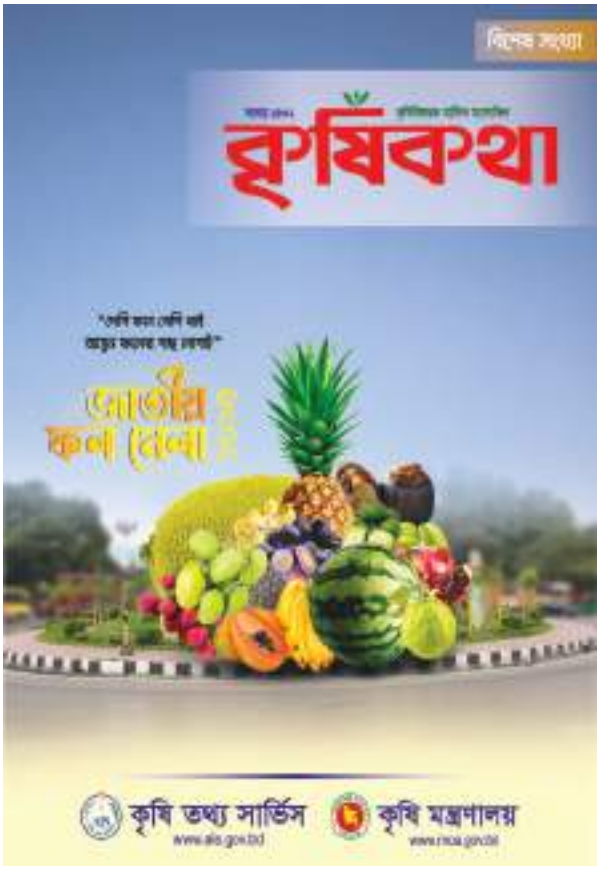
Role of Private Sector in Agriculture Market Dynamics (The Financial Express, 23 April 2025)
https://today.thefinancialexpress.com.bd/views-reviews/role-of-private-sector-in-agricultural-market-dynamics-1745421033

গ্রন্থাগার সেবার উন্নয়নে সোশাল মিডিয়ার গুরুত্ব

The Role of Social Media in Enhancing Library Services

গ্রন্থাগার সেবার উন্নয়নে সোশাল মিডিয়ার গুরুত্ব (লাইব্রেরিয়ান ভয়েস : জুন, ২০২৫ সংখ্যা)
https://www.librarianvoice.org/wp-content/uploads/2025/06/June-2025.pdf

Special Issue for Fruit Fair 2025,& Special Issue for World food Day 2024 Additional Activities



Other Activities

Agricultural Information Centre (AIC) also performed various other duties for meeting different requirements of the BARC.

a. The centre organized Editorial Board Meeting undertaken by Bangladesh Agricultural Research Council.
b. It designed and Prepared 30 Banners and 25 cover designs for different programs and publications. Also designed 6 Greeting cards, 4 Newsletter, 1 Calendar, 1 Diary and 980 pages illustrations
c. It was involved with different research projects and participates in different national and international seminars, workshops, symposiums, and other relevant programs were mentored by Agricultural Information Centre during 2024-25.
d. Last year, The centre monitored different research projects undertaken by Bangladesh Agricultural Research Council.
e. As a member of different monitoring teams, Agricultural Information Centre participated in different field visits to various localities where projects have been undertaken by BARC and Cropzoning during 2024-25.

f. The Agricultural Information Centre, as a member of the BARC innovation team, contributed to generating innovative ideas, piloting and showcasing different innovations in BARC.
g. During 2024-25, The centre prepared speeches for chief guests, special guests of different national seminars and international conferences, seminars, workshops, and symposiums.
h. AIC was involved in preparing notes and rapporteur's reports for 13 events organized by BARC during the reported time.
i. The centre acted as master of ceremonies or facilitator for different national and international conferences, seminars, workshops, and symposiums organized by BARC during 2024-25.
j. AIC worked as focal person of Krishi media, Monthly Report/Annual Report for the Cabinet Division, Progress on Implementation of the Decisions of the Deputy Commissioners' Conference, Implementation of the decisions of Cabinet/Advisory Council Meetings, including other activities related to the Cabinet Division (Secretary Committee meetings, Divisional Commissioner coordination meetings, fortnightly confidential reports, etc.).
k. Distributed publications to different national & international organizations.
l. Monitored research projects, participated as a member of different team/committee, master of ceremonies (different seminars and workshops), etc.

ADMINISTRATION AND FINANCE

ADMINISTRATION AND FINANCE DIVISION

This division is primarily responsible for overseeing the administration, management, and financial aspects of the organization. It handles regular financial matters, including budgeting, and ensures smooth organizational operations. In addition, the division organizes and facilitates various high-profile management body meetings to support effective decision-making and institutional governance.

Name of the Professionals

Name	Designation
Dr. Md. Saifullah	Member Director
Md. Abdul Mottakin	Director (Support Service)
Muhammad Mahbubul Hassan	Deputy Director (Establishment)
Mirza Tosaddeque Hossain	Executive Engineer (Engineering Section)
Dr. Md. Taibur Rahman	Senior Assistant Director (Procurement)
K. M. Ali Haider	Senior Assistant Director (Establishment)
Md. Al-Amin	Protocol Officer (Administration and Finance)
Md. Shohag Fokir	Assistant Director (Establishment)
Aysa Siddika	Assistant Director (Store)
Mohammad Tawfiqur Rahman	Assistant Director (Common Services)
Md. Mustafa Kamal	Assistant Director (Establishment) (A.C.)
Md. Abdul Momen	Security Officer (A.C.)

Meetings and Human Resource Management (FY 2024–2025)

Executive Council Meetings (ECM)

- Two Executive Council Meetings were held during the financial year.

BARC Recruitment/Promotion Committee-1 (DPC-1)

- Four meetings were held.
- Seventeen Principal Scientific Officers (4th Grade) from NARS institutes (BARI, BRRI) were promoted to Chief Scientific Officer/Director (3rd Grade).

BARC Recruitment/Promotion Committee-2 (DPC-2)

- Two meetings were held.
- Recruitment process for one Programmer is ongoing.

BARC Recruitment/Promotion Committee-3 (DPC-3)

- Two meetings were held.
- Recruitment process for 35 personnel is ongoing. The posts are as follows:

1. Maintenance Inspector (01)
2. Transport Supervisor (01)
3. Word Processing Assistant (01)
4. Head Assistant (03)
5. Stenographer-cum-Computer Operator (01)
6. Auditor (02)
7. Office Assistant-cum-Computer Operator (02)
8. Telephone Operator (01)
9. Store Clerk-cum-Computer Operator (01)
10. Electrician (01)
11. Dispatch Rider (01)
12. Plumber (01)
13. Pump Operator (01)
14. Office Assistant (18)

Increment, Promotion, Retirement, and Benefits

- All increment, promotion, PRL, and retirement benefit orders were issued by the Establishment Unit.
- Eight employees proceeded on PRL during the fiscal year.
- Retirement benefits for all employees have been settled or are under process.

Finance UNIT

The Finance Unit is responsible for overseeing all financial aspects of BARC. It plays a fundamental role in making financial decisions for both internal and external affairs. The unit manages the budget, prepares financial reports, and ensures that all financial transactions are conducted legally and ethically.

Its primary functions include accounting and reporting, auditing, payroll management, cash management, and fund investment. In addition, the unit is responsible for issuing debt for capital projects, managing the retirement fund, processing payments to suppliers, and preparing and executing the annual budget.

Name of the Professionals

Name	Designation
Mr. Ajit Kumar Chakraborty	Director (A.C.)
Mr. Md. Daloar Hossain	Deputy Director (Accounts)
Mr. Kamrul Hasan	Senior Asstt. Director (Budget)
Mr. Md. Mominul Islam	Senior Asstt. Director (Audit)
Mr. Md. Jobair Reza	Senior Asstt. Director (Accounts) (C.C.)
Mr. Kazi Golam Azam	Asstt. Director (Audit) (C.C.)

Funding and Financial Management

BARC receives funds from the Government's Development and Revenue Budgets to implement its annual mandate activities, including research management, coordination, monitoring, evaluation, technology transfer, and manpower development. In this regard, the Finance Unit prepares the Medium-Term Budgetary Framework (MTBF) and financial plans for medium-term activities, ensuring timely disbursement of funds to achieve organizational goals.

The unit maintains comprehensive records of all expenditures incurred during the year and submits reports to the concerned Ministries, the Chief Accounts Office (CAO), IMED, Development Partners, and other government bodies on time. It also reconciles accounts with the CAO to prepare the final accounts, which are then submitted to the Public Accounts Committee (PAC) of the National Parliament for review.

Budgeting and Expenditure Control

The Government of Bangladesh introduced the Medium Term Budgetary Framework (MTBF) in FY 2005–06 for all Ministries, including the Ministry of Agriculture and its divisions, bodies, and corporations. In line with this directive, BARC prepares its annual budget in the MTBF format for both Revenue and Development heads and submits it to the Ministry of Agriculture for approval.

This approach ensures fiscal discipline, transparency, and alignment of financial resources with strategic priorities.

Fund Release and Disbursement

BARC submits proposals to the Government for quarterly fund releases based on the approved annual budget allocation. During the financial year 2024–25, BARC received a total of Tk. 3952.05 lakh, which covered the following expenditure heads:

- Salary and allowances
- Supply and services
- Research activities
- Pension and retirement benefits
- Repair and maintenance
- Manpower development
- Capital fund

Funds were subsequently disbursed to the Agricultural Research Institutes (ARIs) and other associated organizations in accordance with the approved budget plan. These allocations supported the implementation of key activities such as technology transfer, research management, and manpower development.

The overall financial progress achieved during FY 2024–25 is summarized below:

Financial Progress Under Revenue Budget

(Taka in lakh)

Sl. No.	Line Items	FY 2024-25		Achievement (%)	Remarks
		Budget	Expenditure		
1.	Basic Salary	758.00	658.23	86.84%	
2.	Allowances	570.45	507.74	89.01%	
3.	Supply and Services	543.60	363.37	66.85%	Embargo at 02 sub heads.
4.	Workshop, Seminar	80.00	74.00	92.50%	
5.	Training	650.00	609.42	93.76%	
6.	Repair and Maintenance	94.00	85.13	90.56%	
7.	Retirement Benifit	770.00	769.99	99.99%	
8.	Research	405.00	1.16	0.29%	
9.	Municipal tax	15.00	7.63	50.87%	
10.	Office equipment	20.00	18.66	93.30%	
11.	Computer & accessories	25.00	24.87	99.48%	
12.	Furniture	11.00	10.80	98.18%	
	Total	**3942.05**	**3131.00**	**79.43%**	
	(+) Own income	10.00	0.00	-	
	Total with Own income	**3952.05**	**3130.00**	**79.22%**	

4. AFACI Projects and Others

Sl. No.	Projects Name
1.	AFACI Salt tolenent Rice
2.	Development of Upazilla Land suitability assessment and crop zoning system of Bangladesh (KGF)
3.	Capacity building for conducting adaptive trials seaweed cultivation in coastal area (KGF)

Accounting

The Finance Unit of BARC maintains its accounts in accordance with standard government accounting practices to ensure transparency, accuracy, and accountability. During the reporting year, the unit systematically recorded all financial transactions through both manual registers and digital platforms.

Key accounting records and tools maintained include:

- Cash Book
- General Ledger
- Trial Balance
- Bank Reconciliation Statements
- Advance Register
- Budget Control Register
- iBAS++ Software Posting (Budget and Expenditure)
- Contributory Provident Fund (CPF)
- Gratuity Accounts
- Leave Salary Accounts
- Benevolent Fund
- Other supporting financial registers and documents

Through diligent record-keeping and regular reconciliation, the Finance Unit ensured compliance with financial regulations and supported timely reporting to the relevant authorities.

Government Audit

The Agriculture & Environment Audit Department of the Government of Bangladesh (GoB) conducted audits of BARC's financial activities up to FY 2022–23 and FY 2023–24. These audits were carried out to ensure transparency, accountability, and compliance with public financial management standards.

Settlement of Audit Objections

In FY 2024–25, a total of twenty-five (25) audit observations were raised against BARC. Out of these, four (04) audit objections were fully resolved during the reporting year. Efforts are ongoing to address and settle the remaining observations in consultation with the concerned authorities.

Sl. No.	Particular	Settled audit objections	Amount (Tk)
1.	Revenue	03	2,56,10,987.00
2.	Development	01	1,33,68,750.00
	Total	**04**	**3,89,79,737.00**

Reporting

BARC Finance unit has kept all the record of expenditure incurred during the year and reported to the Agriculture Ministry, IMED, CAO, Development Partner and other Government offices monthly, quarterly, half yearly and annually for revenue and development programs.

Monitoring and Evaluation

Monitoring and Evaluation are the integral part of an effective planning and performance based budgeting plan became successful and the value for money was realized only when the proposed targets for outcomes/outputs were achieved. To attain the targets, BARC Finance section regularly maintained desk monitoring on the utilization of fund for planned activities including budgetary and expenditure control mechanism.

Reconciliation

BARC also reconciled the Accounts with CAO.

Retirement benefits

During the year 2024-25, retirement benefits and CPF payment made to the Officer's and Staff of BARC are shown below: -

A) CPF Final payment: - CPF Final payment provided to the Officer's and Staff during the year is as follows:

1.	Officer's (1 person)	Tk. 29,51,032.00
2.	Staff (8 persons)	Tk. 79,66,315.00
	Total=	**Tk. 1,09,17,347.00**

B) CPF Loan (Non Refundable):- CPF loan(Non Refundable) provided to the Officer's and Staff during the year is as follows:

1.	Officer (1 person)	Tk. 6,60,000.00
2.	Staff (5 persons)	Tk. 15,81,563.00
	Total.=	**Tk. 21,81,563.00**

C) CPF Loan: CPF loan provided to the Officer and Staff during the year is as follows:

1.	Officer's (4 persons)	Tk. 25,00,000.00
2.	Staff (3 persons)	Tk. 9,10,000.00
	Total.=	**Tk. 34,10,000.00**

D) Gratuity payment: Gratuity payment provided to the Officer's and Staff during the year is as follows:

1.	Officer (Nill)	Tk. 0.00
2.	Staff (6 persons)	Tk 1,31,85,900.00
	Total.=	**Tk. 1,31,85,900.00**

E) Leave Salary payment: Leave Encashment allowed to the Officer and Staff during the year are as follows: -

1.	Officer's (2 persons)	Tk. 11,80,554.00
2.	Staff (7 persons)	Tk. 28,86,410.00
	Total.=	**Tk. 40,66,964.00**

F) Benevolent Fund: Benevolent Fund allowed to the Officer's and Staff during the year are as follows:-

1.	Benevolent allowence (16 persons)	Tk. 1,92,000.00
2.	Medical allowence (04 persons)	Tk.1,37,030.00
3.	Burial shroud allowence (0 person)	Tk..00
	Total.=	**Tk. 3,29,030.00**

G) Rest & Recreation Leave payment: Rest & Recreation Leave Encashment allowed to the Officer's and Staff during the year are as follows:-

1.	Officer's (22 persons)	Tk. 11,48,980.00
2.	Staff (12 persons)	Tk. 1,65,540.00
	Total.=	**Tk. 13,14,520.00**

Income tax

Salary statements are provided to the Officer and Staff for payment of Income tax during the reporting year.

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