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

A. Major Progress in First Year (2023-24)

Implementing organization: BARC, BWMRI, BRRI and BARI

1. BARC: Project Planning, DPP/TCP (Technical Cooperation Project) preparation, joined inception workshop at Vietnum (1) and arranged inception workshop at Bangladesh (1), organize research planning and evaluation meeting (3) Monitoring, reporting and presented first year report. BPH (10), FAW (24) and biocontrol sample (4) sent to RDA, Korea for whole genome sequencing.

2. BRRI: Uploaded AMIV data monthly (13), BPH monitoring, collection of BPH sample (10), insecticide management expt. and farmers training.

3. BWMRI: Uploaded AMIVS monthly, FAW monitoring, collection of FAW sample (14), management experiment, and farmers training.

4. BARI: FAW monitoring in Zinger, potato and cabbage, collection of biocontrol sample (4) and biocontrol management experiment.

## (A) Bangladesh Agricultural Research System, (BARC)

Bangladesh Agricultural Research Council, (BARC) conducted i) Inception Workshop, ii) research planning, iii) coordination meeting and monitoring of the project.

i) Inception Workshop on **"Asia Regional Fall Armyworm (FAW) and Brown Plant Hopper (BPH) Diagnostics and Monitoring and Surveillance Program"**

An inception workshop on "Asia FAW and BPH Diagnostics and Monitoring and Surveillance Program" was held at Bangladesh Agricultural Research Council (BARC), conference room-2 on 28 December 2023. The workshop aimed to assess FAW and BPH research project plan and activities during 2023-2027 of Asian Food & Agriculture Cooperation Initiative (AFACI), Rural Development Administration (RDA) in Republic of Korea, funded the program. Objectives of the workshop were to share the proposed plan of activities with different stakeholders. The workshop featured the participation of scientists from Bangladesh Agricultural Research Institute (BARI), Bangladesh Rice Research Institute (BRRI), Bangladesh Wheat and Maize Research Institute (BWMRI), academicians from Bangladesh Agricultural University (BAU), Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Sher-e-Bangla Agricultural University (SAU), Patuakhali Science and Technology University (PSTU), and high officials from Department of Agricultural Extension (DAE). They opined valuable insights and suggestions to guide the formulation of the future research activities. The session was graced by Dr. Shaikh Mohammad Bokhtiar, 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, and principal investigator, "Asia FAW and BPH Diagnostics and Monitoring and Surveillance Program" Bangladesh part welcomed the participants and provided an overview of the project. Under the BARC coordination and BRRI, BARI and BWMRI will implement the project.

Dr. Shaikh Mohammad Bokhtiar, Executive Chairman, BARC mentioned that Bio pesticide should be added in the treatment. Miscellaneous budget allocation should be minimized where as the number of training may be increased. A collaborative project also should be developed including BARC, BARI and BRRI for surveillance and monitoring of insect pests and diseases arising from climate change issues. Dr. Md. Abdul Salam, Member Director (Crops) mentioned that BRRI will study BPH and BWMRI on FAW. BARI should be included for working research on the bio control part. BARC will arrange all the training, meeting and workshops etc. He also indicated that the project budget should be reorganized as per discussion.

Dr. Nirmal Kumar Dutta, Chief Scientific Officer, BARI addressed that now a days FAW infesting the other crop like zinger, rice etc should be monitored regularly. Indigenous Bio-control Agents viz., *Telenomas remous*, *Trichograma* sp., *Metarhizium anisopliae, Beauveria bassiana* and other microbial agents should be identified and studied. New and less toxic chemical should be studied for managing the FAW and BPH. Dr. Sheikh Shamiul Haque, Chief Scientific Officer, Entomology Division, BRRI mentioned that WBPH should be taken in the whole genome sequencing program.

Mr. Md. Tajul Islam Patwary, Director, Field Services Wing, DAE proposed that the training of Sub Assistance Agricultural Officer (SAAO) and farmers should be arranged on BPH and FAW infested areas. Dr. Syed Nurul Alam, Former Director (Planning and Evaluation), BARI opined that two strain of FAW namely rice strain and maize strain should be characterized at molecular level.

**Based on the above discussion following recommendations were undertaken:**

1. BARI should be included for the bio control research part.
2. Crop priority and hot spot area should be identified and selected for monitoring BHP and FAW and training of SAAO and farmers there.
3. Biotype of BPH, WBPH and FAW should be identified and selected for whole genome sequence.
4. Indigenous Bio-control Agent viz., *Telenomas remous*, *Trichograma* sp., *Metarhizium anisopliae, Beauveria bassiana* and other microbial agents should be identified and studied thoroughly.

5. A collaborative project should be developed including BARC, BARI, BRRI for surveillance and monitoring of insect pests and diseases arising due to climate change issues.


**Inception workshop**

**B. On implementation activities for 2nd year (2024-2025)**

- Scouting, action thresholds and monitoring of FAW and BPH
- Bioassays involving either endemic EPF commercially available Bt products
- Biological control for FAW and BPH management
- Monitoring rice planthopper (RPH) densities by light trap and yellow sticky traps to find out the action threshold for proper management at field condition,
- Uploading light and yellow sticky trap data in AMIVS
- Bioassay of selected pesticides on RPH and field trials with the effect one(s).
- Conduct training for farmers and pesticide dealers
- Monitoring FAW in rice based ecosystem specially in dry seedbed
- Field demonstration, academic presentations and publication