

# **Krishi Gobeshona Foundation (KGF)**

**Proceedings on Second Annual Review Workshop  
on CGP 2nd Call & CEP Projects held on 03-04  
October 2017.**

**03-04 October 2017**

A two day long workshop on “**Second Annual Review Workshop on CGP 2<sup>nd</sup> Call & CEP Projects**” was held at Training Room, BARC during October 03-04, 2017 organized by Krishi Gobeshona Foundation (KGF). A total of 15 projects were presented in the workshop where 9 projects are on crops sub-sector and 6 projects on livestock sub-sector. Crop sub-sector includes 7 CGP (Competitive Grants Program) and 2 CEP (Capacity Enhancement Program) projects which were presented on 1<sup>st</sup> day. In livestock sub-sector, CGP 6 projects were presented on 2<sup>nd</sup> day of the workshop

Dr. Wais Kabir, Executive Director (ED), KGF was present as the Chairperson in the inaugural session. Dr. Bhagya Rani Banik, Executive Chairman, BARC was present as the Chief Guest in the inaugural occasion. Dr. Kazi M Kamaruddin, Program Director (Livestock & Fisheries), KGF welcomed and briefed the workshop to the audience. Participants included NARS Institutes, Department of Livestock Service and Department of Agricultural Extension, Hortex Foundation, Professors of Universities, and relevant experts from other organizations attended the workshop

At the outset, the ED stated the objectives of the workshop by saying the importance and strengthening the monitoring, evaluation and reviewing the progress of the projects. Also he mentioned that KGF has to give importance the capacity enhancement of the NARS Scientists.

The Chief Guest suggested to KGF for more attention on the climate change impact, haor agriculture, variety development, small machinery etc. related projects and program in future

Projects presented in the workshop are under implementation by different NARS institutes and Universities. All respective coordinators and PIs are requested to follow the feedback and suggestions of the review workshop as recorded in the proceedings for improvement and successful implementation of the projects.

Each of the projects report was reviewed by pre-selected relevant experts before the workshop and they have submitted their comments/suggestions in review report. The review reports are already sent to the respective coordinators/Pis and all are requested to follow that for improvement in future implementation of the projects activities.

### **Technical Session-I (Crop sub-sector)**

Dr. Md. Shahidur Rashid Bhuiyan, Professor, Department of Genetics and Plant Breeding, SAU, Dhaka chaired the session. Six CGP projects were presented in this session. After each of the presentation, participants took part in the discussion and gave suggestions which are noted as below-

#### **1. TF 32- SF/15:**

**Improvement of Soil Fertility and Crop Productivity through nutrient management and conservation agriculture in the triple cropping pattern**

Dr. Md. Jahiruddin, Professor, Dept of Soil Science, BAU and Principal Investigator presented the 2<sup>nd</sup> year progress made as far as per objectives. The presenter suggested to keep 30% of rice straw while harvesting was not practically feasible as commented in the discussion. But if it can be made possible is good for conservation agriculture. In such case steps should be taken to spread nationwide.

Recommended pesticide use should be practiced. Minimum tillage conserves soil and minimizes GHG. Conservation agriculture means less disturbance of soil which conserves soil moisture also. Question rose about whether soil moisture was monitored or not, if not should be. The reviewer of the project mentioned that these are included in the cropping pattern study in his review report.

## **2. TF 27 – SF/15:**

### **Adaptation of Improved Soil Fertility Management Practices for Variable Soil Conditions under Intensively Cropping Systems**

Dr. G K Mustafizur Rahman, Prof., Dept of Soil Science, BSMRAU and Principal Investigator presented the 2<sup>nd</sup> year progress made as far as per objectives.

The discussants suggested to use biochar, rice straw residue for avoiding arsenic and also emphasized on mitigation of soil acidity. Also suggested to be careful when using rice straw residue to prevent blast/other disease.

Cropping pattern based research using rice straw will improve the soil physical and chemical condition of soil. Question arose whether any steps have been taken to mitigate soil arsenic problem in the project. Use of crop residue is how far feasible should be discussed with farmers and if feasible they should be encouraged to incorporate crop residue with the soil. Is there any relation of arsenic and yield and if any public health related issues associated with heavy metal are there should be studied. In the way of discussion it came out that 20 ppm arsenic increase causes toxicity and subsequent yield reduction. Presenter mentioned that rice straw was used as chief source in boro season and it was a validation trial of rice straw use. The reviewers suggested to avoid duplication of activities and suggested chemical analysis. PI informed that arsenic and other chemical analysis is going on and C/N ratio will be recorded.

## **3. TF 16 – WM/15:**

### **Collection, Evaluation and Introduction of White Maize for Human Consumption in Bangladesh**

Dr. Md. Jafarullah, Prof. Dept. of Agronomy, SAU, Dhaka and Principal Investigator presented the 2<sup>nd</sup> year progress report. Principal Investigator focused on the project progress of 2<sup>nd</sup> year. The discussants suggested the PI for working jointly with maize breeding division of BARI for better output of the project. Also requested to include issues of plant protection which was absent in the project and suggested to make a team with breeder-entomologist-pathologist and soil scientist. Maize is an exhaustive crop so less exhaustive crop should be considered for the next crop in the pattern. The audience suggested that this maize can be grown in the problem soil where common crop could not be grown. They emphasized on OP variety, glutinous in nature, research on hybrid development and nutritional benefit for success of white maize. Also

suggested to include private sector for importing high yielding white maize variety like brown maize and also to include BARI white maize variety in the research program.

Question came about number of irrigation, duration in different season and also about yield. Suggestion came to use paired row system of planting. In white maize no beta carotene is present so how feasible it will be to disseminate this maize could be a question. There is no local variety of maize so the variety used as local check was not correct. It will be difficult for white maize to compete with other crops as it is yet to be proved its superiority over other crops. None of the BARI hybrid maize variety can compete with any imported hybrid is also a concern expressed by the house. The evaluator informed that one MS and two PhD students is going to complete their degree from the project work.

#### **4. TF 22 – PS/15:**

##### **Productivity Enhancement of Goor and Chewing type Sugarcane through management of Major Diseases in Non-mill Zones**

Dr. Md. Shamsur Rahman, PSO & Head, Pathology Division, BSRI, Ishurdi and Principal Investigator were absent so Coordinator presented the 2<sup>nd</sup> year progress report and presented the progress of the project. Yield increase was shown up to 30-57% in recommended practice over control sugarcane field in the non-mill zone through management of major diseases especially red rot. Suggestion came to show the yield increase for each intervention in the report separately in tabular form or by graph. Overall comment was that the finding is very encouraging and should be disseminated in the targeted non mill zone.

#### **5. TF 33-ARI/15:**

##### **Farm Productivity Improvement in Haor Areas through Integrated Farming Systems Approach**

Dr. Md. Abul Kashem, Professor, Dept. of Soil Science, Faculty of Agriculture, Sylhet Agricultural University, Coordinator and Principal Investigator were absent. In presence of other PIs of all 3 components (crops, livestock, socio-economic) presentations were done by three students which was criticized by the session chair. The chairman opined that it should not be done in future any more. Considering the date of sowing and harvesting it was found that the duration of mustard variety was too long which was more than 100 days and it should be checked and corrected. In case of effect of organic fertilizer question rose why it was one type of organic fertilizer and suggested to take more than one for comparison. Question rose about why short duration varieties were not selected for the project in consultation with BARI, BRRI scientists or related experts of other institutes. The audience suggested involving more farming system experts in the project through meetings/consultation for improvement in the different stage of implementation.

#### **6. TF 26 –ARI/15:**

##### **Validation and Up-scaling of Bee Keeping Practices for Improving Yield and Quality of Bee Products**

Dr. Mohammad Sakhawat Hossain, Associate Prof., Dept of Entomology, SAU, Dhaka and Principal Investigator presented the 2<sup>nd</sup> year progress report. The audience discussed about the pesticide use in the mustard field and suggested to avoid negative effect on honey bee production in the mustard field. The reviewer suggested to be careful about disease infestation from outside. Another question came from the house that the natural bee population is decreasing day by day in alarming rate, whether they have any study on that or not. If not should be done as this is very important. While answering about solidification of honey the presenter informed that all honey solidified except the honey from litchi flower. The house was informed that four MS students have completed their degree out of this project work. Suggestion came from the house that a complete message should be prepared from the project findings for the farmers and producers.

Chairman wanted to know about the use of herbicides and pesticides in the crop and suggested to use only the recommended ones. He also suggested to use BARI / BRRI variety wherever possible. He opined that PIs of haor project should consult FSR experts for better results. At last session Chairman thanked all for their cooperation to conduct the session.

## **Technical session-II (Crop sub sector)**

Dr. Sheikh Ghulum Hussain, Former Member-Director (Planning & Evaluation), BARC & Consultant CIMMYT chaired the session. One CGP and two CEP projects were presented and discussed in the session. After each of the presentation participants took part in the discussion.

### **7. TF 32- SF/15:**

#### **Integrated Nutrient Management for Intensive cropping in coastal and charland areas of Bhola District**

Md. Shahidul Islam, SSO, OFRD, BARI, Bhola and Principal Investigator presented the 2<sup>nd</sup> year progress report. The house opined that crop sequence in cropping pattern was good and suggested to monitor the supply of nutrient from crop residues. The audience was found critical of the project approval process and expressed their dissatisfaction as the project was approved with only one treatment. However the house thanked PI for including local farmers practice to compare yield. Overall the project performance was not found satisfactory to the audience.

### **8. CEP III:**

#### **Mitigation Greenhouse Gas (GHG) Emission from Rice-based Cropping Systems through efficient fertilizer and Water Management: Addendum to Climate Change and Adaptation (BRRI Component)**

Dr. Jatish Chandra Biswas, Chief Scientific Officer & Head, Soil Science Division, BRRI, Gazipur presented the 1<sup>st</sup> annual progress report of the project. The reviewer told that objectives are not fully related to the title.

One of the discussant gave his opinion that while draining out excess water from the field nutrients are also lost, in that case gas emission measurement will not give correct result. Also

the emission varies from location to location and on varying soil type. So participants commented that the model is erratic in nature to quantify gas emission.

#### **9. CEP III:**

#### **Mitigating Greenhouse Gas (GHG) Emissions from Rice-based Cropping Systems through Efficient Fertilizer and Water Management (BAU Component)**

Dr. M. Rafiqul Islam, Professor, Department of Soil Science, BAU, Mymensingh presented the 1<sup>st</sup> annual progress report. The comments on this project were also the same as the BRRRI part.

About two GHG projects, Chairman suggested using different coefficient for different soils as dry soil, inundated soil and so on for effective modeling. Chairman thanked KGF for funding GHG project. He also emphasized on proper documentation and to have more authentic and precise data by using the already procured highly sophisticated equipments from project fund. The chairman expressed that study for GHG mitigation in agriculture has just been started in Bangladesh and need to develop our skill in this field. It is required to develop for future program planning in agriculture research and development. House also emphasized on use of more cow-dung. N<sub>2</sub>O emission, methane emission in the context of global perspective should also be considered while setting the project objectives.

Lastly the session Chairman thanked all for their cooperation to conduct the session and for active participation in discussion and concluded the session.

#### **Technical Session on Livestock Sub Sector**

Second day session was chaired by Dr. Kazi Abdul Fattah, former Director-General, DLS and there were 6 presentations set for the day. Facilitated by Dr. Kazi M. Kamaruddin, Program Director (Livestock & Fisheries), KGF

**Following are the interactions arose from discussion session:**

#### **10. TF 24- 'Epidemiological and patho-biological investigation of repeat breeding syndrome and development of strategies for improving the fertility of repeat breeder dairy cattle'**

It was a very needful research for the livestock development, and the results may bring important lessons for the researchers, development workers and millions of households engaged in dairy cattle rearing across the rural areas.

In absence of the PI, the presentation was made by a Research Fellow engaged in the project.

The summary of discussion:

- (i) Very important research and may need more work with greater sample size.
- (ii) Methodology and approach need to precisely re-written.
- (iii) The key results should be given as per activity chart
- (iv) Future plan of activity should be made with expected key results.

#### **11.TF 17- Refining and validation of BAU-Bro Chickens**

The research work was praised by the discussants and was long needed research. But there should be continued efforts with coordinated packages to develop a 'breed'/hybrid / strain from indigenous genetic resources covering to look at (i) breeding (ii) immunological study and (iii) nutritional aspects. Other specific issues raised were:

- 1: Farmer selection should be more diversified considering the agro-ecological zones
- 2: Audience wanted to know why it is called BAU Bro chicken ?
- 3: In the results, variations and relationship parts are missing.
- 4: Food Conversion Ration (FCR) is shown as 1.76 whereas the commercial farmers claim 1.4 – this needs explanation.
- 5: Vaccination schedule is missing – good to add.

#### **12. TF 18- Exploring epidemiology, anthelmintic resistance and genetic diversity of some common gastrointestinal nematodes of small ruminants in Bangladesh**

Not many discussions generated. But it was recommended to develop a 'package' for farmers' support including problem identification plus recommendations how to solve the problems. Question raised why the infected animals are not slaughtered to carryout full investigation on both the host and parasites? The PI may add appropriate answer to this question.

#### **13. TF 19- Community Engagement in Biosecurity (CEB) for the prevention of infectious diseases of poultry based on epidemiological risk analysis,**

The participants felt that the farmers will be benefited if biosecurity is practiced as per recommendations of the project. However, following issues were discussed:

- 1: What is advice for biosecurity of native chicken?
- 2: The research need to answer 'what are the steps needed if mortality starts partially killing few animals' in biosecured farm? What is the quarantine procedure need to be answered?

#### **14. TF 20-Studies on the Pigeon Diseases in Northern Bangladesh'.**

It was a new research work never taken before and good amount of observation revealed from relatively smaller budget. The research has opened specific windows for research e.g., disease control, vaccination, breeding, rearing and so on. Publication of a book and a booklet on pigeon rearing is praiseworthy. Although the book could have been reader friendly if it was edited for spelling mistakes and sentence formation in some cases.

Questions raised during discussions were as follows:

- 1: How one pair of bird can produce 20 pair baby pigeon in a year?
- 2: The calculation of commercial purpose investment and profit seems unrealistic.

The PI may add clarifications to answer the questions.

#### **15. TF 21- Use of Probiotic to Improve Nutritional Value of Rice Straw and its Impact on Dairy Cow Production'.**

After the presentation, there were few questions raised from the house:

1. Whether we can develop commercial probiotics useful for cattle feed.
2. Can we perform isolation and identification of local probiotics in relation to the cattle feed.

The PI may add appropriate answers to the questions.

**Recommendations:**

- The research need to look at the control work to validate why we should use probiotics with straw
- It is important to have bacterial count of treated straw before feeding
- Gas production is missing – need to be incorporated
- There are tables but nothing said in the text – needs to be revised with explanation.
- Financial report was not in right format – needs correction.

Chairman of the session lastly thanked all for their cooperation to conduct the session and for lively participation in the discussion.

The above discussed projects are implementing in the different ecosystem of Bangladesh and the review workshop is expected to provide feedback and suggestions for successful implementation of the projects. These projects are sponsored by KGF.