

## **Testing**

*Dr. Md. Akhtar Hossain*

*Professor, Dept. of Fisheries, RU*

### **Testing**

- Testing of technology on farmer's field is required to improve the technology and to ensure the fitness of the technology into the farming systems for which they have been designed. Because physical and biological conditions of farmer's field may differ from those on-station
- The testing needs to be continued for several years on different farmer's fields for improving the technology into a viable one under farmer's situation.
- This testing provides an excellent means of evaluating how new technology fits into farmer's system and how farmers react to the proposed change or technology adaptation
- In these tests, farmer himself must be a participant so that his experience and knowledge can be incorporated into the refinement of the technologies.
- This also provides insight into the criteria by farmers in assessing a new technology.
- There are several procedures for testing technology on-farm condition viz., (i) Researcher-managed trials, (ii) Farmer managed trial, (iii) Multi location testing under extension supervision and (iv) Pilot production program

### **Researcher-managed trials**

- In these trials, treatments, replications, design and controls are determined by the researcher while the farmer contributes land and resources with partial labour.
- Inputs are provided by the researcher.
- Farmers may be invited to assess the treatments or technologies.
- In this case, farmers are more interested in cooperating with researchers to gain inputs while they give less importance to the utility of the technology
- Similarly, scientists prefer evaluations on yield and economics with less value on farmer's assessment
- In all sites available information from on-station research should be evaluated carefully so that these can be adapted quickly with one year's trial under researcher management.

### **Farmer managed trial**

- In these trials, treatments and trial design may be owned by farmers- either individually or as a group
- Here scientists provide farmers only technical know-how and facilitate farmers in getting necessary inputs.
- Since farmers may not always own sufficient numbers of animals/ponds, FMTs of livestock and fisheries are usually distributed to several farmers as replications

### **Multi location testing**

- It is a process of testing the new or improved technologies generated in an FSR site in other locations of the recommended domain or extrapolation area to validate and evaluate their performance in respect of farmer's reaction and acceptability
- MLT offers scope to identify the short-comings, if any of a generated technology and adjust and modify this before it is recommended for production program in a wider area
- MLT is conducted under the active participation of the farmers, technological guidance of the FSR team and the management supervision of the extension personnel and is evaluated on the basis of performance, stability, economic viability and farmer's acceptability.
- A strong and viable research-extension linkage is essential for success at this stage
- MLT also allows the researchers to determine the stability of a promising technology over sites

### **Pilot production program (PPP)**

- This production program is undertaken on the basis of MLT results.
- If the result of MLT is positive, then PPP is initiated
- Here participants utilize the technology on a full production level rather than on small plots, without being supplied with inputs and management suggestions by researchers
- PPP allows researchers to evaluate the effect of a new technology on other system components and farm resources through "whole farm" analysis
- Here data are drawn from entire fields which are more realistic for detecting problems with input supply, labour demand and post-harvest constraints
- In most cases, the output of this research process is not just a sub-system component, e.g., a new crop variety but rather an alternative set of technological options that encompass the farm production system as a whole
- The technical problems if any, encountered in execution of this program, are usually referred to the FSR team of the site where the technology was generated and feedback is given to solve the problem
- If the technology proves itself to be the successful one in this program, a final production program will then be organized by the department concerned (e.g., DAE, DoF, DLS etc.)