

PTD should be routine



Crop cutting on a sample plot.

A concluding Farmers' Forum on PTD was held in December 1998 to assess the results and processes of the PTD experiments and to formulate recommendations for the improvement of the PTD process. Fifty-eight farmers from the 10 farmer experimentation groups participated in the forum.

Carlos S. Basilio

According to farmers, several significant results had been observed after three cropping experimentation seasons of organic fertiliser application. Use of organic fertiliser and ITRV do not necessarily mean lower yields. This strengthened farmers belief that organic farming is cheaper and more profitable particularly because the need for organic fertiliser decreases after some seasons and chemical pesticides are no longer required. However, in the transition from chemical to organic agriculture time is needed to build up yield levels.

Farmers observed that plants produced by organic fertiliser were sturdier and had a healthy green colour. They were better able to withstand typhoons that devastated the rice planted in the area. This sturdiness is as important as high yield to farmers in typhoon-sensitive areas.

The farmers observed that farm organisms like paddy fish, frogs and snails have returned to their farms. Farm soils have regained their natural colour, form and capacity to nurture life. Field flora such as the *burat aso* (*Sphenoclea zeylanica* L.) which had disappeared because of the extensive use of agro-chemicals can now be seen again in farms in the KADAMA and KALIKASAN area.

Soil fertility highest priority

Each farmer group was asked to assess the results of their PTD experiments using their own criteria, indicators and parameters. The parameters were clustered into composite indicators such as crop growth, yield, grain quality, income and the effect on soil, environment and health. Each indicator was scored from 1 to 10 based on the group's perception of its importance or its effect on the experiment. The most important indicator was scored ten.

Farmers gave high priority to improving soil fertility (Table 1). Six groups ranked it first in their priority setting possibly because farmers felt their soil was being gradually degraded through continuous and intensive use. Soil fertility was seen as the best way to secure, improve and stabilise high yield and income in the long-term and farmers are ready to invest in it. Farmers also wanted a return of edible flora and fauna from their fields and saw this as an indirect, positive effect of using fertilisers capable of regenerating soil quality.

The second priority was income and yield. Cost reduction is important because many farmers are dependent on costly loans and indebtedness is widespread. High yield and income are essential, but farmers' are also concerned how farming affects human health and the environment.

Farmers feel empowered

Almost all farmers found PTD a good approach because they were fully involved throughout the research process. Farmers felt empowered by the programme as academe acknowledged farmers' indigenous knowledge, experiences and skills and their leading role in technology development. KALIKASAN-NE and KADAMA farmers became well known for their efforts to develop sustainable agriculture and they felt equal partners in the research programme.

While the farmers' organisations have been strengthened in respect of technology development, the research programme absorbed a lot of their management capacity for long periods of time. This meant that the regular activities of the farmers' federations were reduced to a minimum and many farmers became dissatisfied.

Recommendations to improve PTD

During the course of the experiments farmers made a number of innovations and adjustments to ensure that experiments were adjusted to farm and farmer realities without any loss of scientific rigor. Farmers recommended that:

- There should be agreement among the members of farmer groups on the use of common cultural management practices for the experimental plots. Any deviations from agreed practices should be recorded, reported and discussed within the group.
- Seedlings for all experimental plots should be raised on a common seed-bed.
- Transplanting seedlings should be carried out on a specific day and, during transplanting, the group members should work on a mutual self-help basis.
- No replication of treatments is needed within the farm. Each farm serves as a replicate of the group's experiments.

Table 1. Summary of farmers' preference scores and ranks of the different composite indicators of PTD experiments.

Indicators	Total score	Average score	Rank frequency				
			1	2	3	4	5
Effect on crop growth	85	9.44	0	1	4	2	2
Effect on grain quality	89	9.89	0	1	5	3	0
Effect on yield	142	15.77	1	5	3	0	0
Effect on income	172	19.11	4	2	1	2	0
Effect on soil	195	21.67	6	2	1	0	0
Effect on environment	112	12.44	0	4	4	1	0
Effect on health	118	13.11	0	6	2	1	0

- Limit the number of sample plants and crop cuts to three.
- Increase the size of the plots from 333.33 m² to 500 m².
- Try to establish dikes between plots that are high and wide enough to prevent the mixing of treatments. Plant vegetables on the dikes to compensate for the loss of land to rice plants.
- Request the presence of the monitoring team at every critical activity especially during community orientation, site selection and evaluation, laying-out experimental plots, designing treatments, and harvesting crop cuts.
- Enforce strict use of criteria for farmer cooperators and put appropriate incentives and disciplinary mechanisms in place.
- Encourage and facilitate cross-farm and cross-site visits.
- Conduct regular, end of cropping season assessment and planning workshops.
- Conduct village level feedback of statistical and economic analysis.

Performance of roles

Farmer cooperators, area-coordinators, process documenters and monitoring

team members were evaluated. Farmers observed that their experiments were hindered by their other obligations; shortage of irrigation water; scarcity of chicken manure at critical times; and climatic factors like El Niño and typhoons. Farmers acknowledge, however, that the traditional 'bayanihan' system of group collaboration and the orientation and training they had received were very helpful. In the beginning it was difficult for all farmers to be involved in data collection. After receiving better orientation from the area coordinators their involvement improved. Not all area coordinators could collect data and write reports satisfactorily.

Process documentation was sometimes difficult. Schedules were not followed, farmer cooperators had no time for meetings, data was submitted late and documentors lacked proper training. It was suggested that more attention should be given to proper selection and training of farmer cooperators, area coordinators and process documentors.

Monitoring was complicated by the fact that the team members, area coordinators and farmer cooperators had different working schedules and limited experience

Table 2. Matrix ranking and scoring of recommended subjects for future PTD experiments

Research topics/activities	Total score	Rank
Plant breeding	9	2
Seed conservation	3	5
Varietal adaptability	11	1
Training in integrated cropping	2	6
Organic fertiliser production	4	4
Botanical pesticide production	4	4
Continue fertiliser experiments	7	3
Experiment with methods of rice planting	3	5
Experiment with Golden Snail control	1	7
Experiment with organic vegetable farming	2	6
Experiment with SALT farming	1	7

as well as by the climate during rainy season. The academe often had commitments at the university. Contradictory comments from members of the technical support group made farmers uncertain. It was stressed that monitoring should be carried out regularly even if area coordinators and cooperators were not present.

Participatory research was new to everyone involved so the learning process was very important. More exposure to carrying out experiments and studies is needed. This type of experimentation should become part of the everyday farming routine.

Recommendations for future studies

The participants were asked what sort of experiments and studies they wanted in future programmes. Most of the participants were interested in experiments on varietal adaptability of seed and plant breeding. Others wanted to continue with fertiliser experiments or study insect resistance, organic fertilisers, and seed conservation and collection (Table 2).

This report is based on: Basilio C, San Buenaventura TB, Hibionada RS. & Bugayong FA, 1999. **Farmers forum on participatory technology development.** ILEIA Collaborative Research Programme Philippines.

Carlos S. Basilio, Country Programme Officer, Philippines Research Programme, 10, Concio Apartments, Mayondon, Los Baños, Laguna 4030, The Philippines, Email csb@laguna.net



Threshing the paddy from sample plots.



Sun drying.



Farmers forum to assess PTD results.