PTD practitioners: back to school?

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Farmer Field Schools (FFS) and Participatory Technology Development (PTD) are both participatory approaches for promoting sustainable agricultural development. They both work towards improving farmer decision-making capacity and stimulating local innovation. But what are the differences? Are these approaches overlapping or complementary? And what can they learn from one another?

FFS were developed in the late 1980s to train Indonesian rice farmers on integrated pest management (IPM). They were developed in response to the Green Revolution. The aim was to re-educate farmers in agro-ecology and develop their critical thinking, based on the knowledge already available about rice ecosystems. Farmer field schools focused on bringing this knowledge and understanding to farmers through group learning, based on adult education principles.

PTD was also developed in the late 1980s. The concept arose out of the ideas and "best practices" of small NGOs and the farming systems research and extension movement. PTD refers to a process of joint experimentation by development workers and farmers. The aim is to combine the best of local and external knowledge, and work together to generate and disseminate agricultural innovations.

Connecting and expanding knowledge

During an ethno-botanical study in Taropo Village on Sumbawa Island in Indonesia, a local farmer explained about a plant species known as "pupuk" (fertiliser). As he pulled out the small, clearly leguminous shrub, the many root nodules were very evident. The study team asked the farmer why this plant was named "pupuk". He said that "pupuk" had the ability to improve soil fertility and this species was, therefore, valued during fallow periods. We also checked with this farmer if he knew what the function of the root-nodules was. Without any hesitation, he claimed that they were for water storage. Small farmers possess a good deal of wisdom and experience, with which they manage to survive and produce for their families. But they do not know all of the components and processes that play key roles in agro-ecosystems.

What would be the added value if the farmer from Taropo Village knew about the nitrogen-fixing capacity of root nodules of "pupuk"? First, it validates the local observation that this plant species can play a role in soil fertility improvement. It could also provide the farmer with information that explains other indigenous knowledge held by the community, or contradicts certain local beliefs. Farmers could, for instance, draw a link to other species with root nodules, and thus widen the range of locally available species with potential for soil fertility improvement. The monitoring aspect of FFS, using indicators, could provoke some comparative studies, where farmers evaluate the real potential of different species. Finally, based on an increased awareness and understanding of a phenomena that is not obvious or easily observable, a farmer like the one from Taropo Village could become a valuable contributor to a team working on agricultural technology development.

Contrasting elements

PTD activities include:

- Critical analysis of community-managed changes in the agro-ecosystem;
- Identification and use of indigenous technical knowledge;
- Reconstruction of successful local innovation;
- Self-organisation and
- Self-implementation of systematic experiments.

These can sometimes be difficult to accommodate in the FFS setting. This is mainly because of the creative limitations of a "school" set-up, and the time limits on FFS imposed by a project approach. Not least, limitations are imposed by the attitude of many FFS-facilitators: they can be teachers, but they are not necessarily capable facilitators of a participatory approach, as intended in the PTD philosophy.

The crucial contrasting elements between the two approaches - FFS and PTD - could be summarised as follows:

- *Perception of "participation"*: while PTD promotes a bottom-up learning environment based on indigenous knowledge, FFS provide a more traditional teacher-student setting for learning about knowledge held by outsiders.
- *Attitudinal changes*: where PTD seeks major changes in attitudes of researchers and extensionists, FFS could be seen as the most effective way to accommodate the existing attitudes of these professionals.
- *The learning process*: although both approaches are largely based on self-discovery activities, FFS set "fixed" learning targets, while PTD is an open-ended process.

Conclusion

Clearly, the basic concepts of the two approaches are complementary, and the FFS approach provides fertile grounds for PTD. It is, however, important to distinguish between enhancing the basic knowledge of farmers so that they can experiment according to their specific circumstances (FFS), and agricultural technology development by or with farmers (PTD).

FFSs fill gaps in local knowledge, conduct holistic research on agro-ecosystems, and increase awareness and understanding of phenomena that are not obvious or easily observable. Their strength lies in increasing farmers skills as agro-ecosystem managers. The strength of the PTD-platforms lies in their systematic evaluation of locally acceptable, technological alternatives, as well as their ability to influence the research agendas of formal research and extension systems.

Growing interest in both FFS and PTD by a wide range of financing and implementing organisations reflects an underlying perception that they form viable new alternatives. Both approaches will evolve further, and their development should be carefully managed so as to draw on their underlying synergy. In order to fill the basic knowledge gaps that still exist, PTD groups can borrow from the FFS principle of educating farmers on agro-ecological components, patterns and processes. In turn, FFSs should pay more attention to revising the attitudes of agricultural development professionals to enable them to become more involved in PTD work. ■

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