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Visualisation as a platform for entry into dialogue with farmers

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• Setting

In December 1996, we were asked to facilitate a workshop on On-Farm Research for researchers of the ROCAFREMI-network (Réseau Ouest et Centre-Africain de Recherche sur le Mil) in Ouagadougou, Burkina Faso. The workshop was to be attended by natural scientists working on millet improvement though out West and Central Africa.

The challenge of the workshop was to give participants the opportunity to explore new ways of interacting with farmers. This was achieved by having a practical phase in the workshop, in which scientists were given the opportunity to discuss with farmers their millet production systems together with their perceived constraints and bottlenecks. The researchers tried to identify potential solutions and went back to farmers to discuss probable on-farm trials for overcoming the identified bottlenecks.

A framework for interaction

For indigenous and scientific knowledge to interact, a framework is required, which:

- enables scientists to have an overview of the production system in all its complexity; and,
- provides farmers a means to point out important processes, bottlenecks and potentials they perceive in the system in which they operate. Based on the experience of PRA, we thought that visualisation would create a framework for interaction.

The visualisation had to be with symbols for two reasons. First, most farmers could not read or write. Second, and this proved to be more important, we had a complicated language problem in the workshop. Participants were mixed anglophone, francophone and lusophone, and only four of the 25 participants could speak the local language Moore. Therefore, we formed 4 groups with one Moore-speaker in each group. Each group worked with a different group of farmers. Symbols were used to help the scientists who did not understand Moore to understand the discussion. This reduced translation time.

The tool

Looking for a useful visualisation, we came across food-path analysis. This has been developed by health-oriented workers to understand household constraints leading to malnutrition. In this approach, one starts with a typical dish, then works backwards through all the operations involved in this dish, back to field preparation (in the case of agricultural households) and seed storage and collection. Once the sequence of operations is clear, one can start to explore the bottlenecks, such as shortage of required labour, cash or materials, for conducting each operation. Prioritisation of bottlenecks can lead to the identification of areas where future efforts can be concentrated.

To explore the millet-production system we had to adapt food-path analysis. We realised that major agronomic constraints, such as poor soil fertility, pest-incidence or lack of water, would not necessarily emerge, since there may be no interventions directly aimed at the

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constraint. For instance, there is no remedy against downy mildew and so it can be overlooked if we use a rigid list of operations in food production.

To get around this, we drew symbols on cards for each operation. These were spread out on the ground in whatever arrangement and sequence the farmers regarded as useful to make their point. Each card was an entry-point for probing questions, not only regarding material or labour constraints, but also regarding farmers' observations and previous solutions they had attempted.

How did it go?

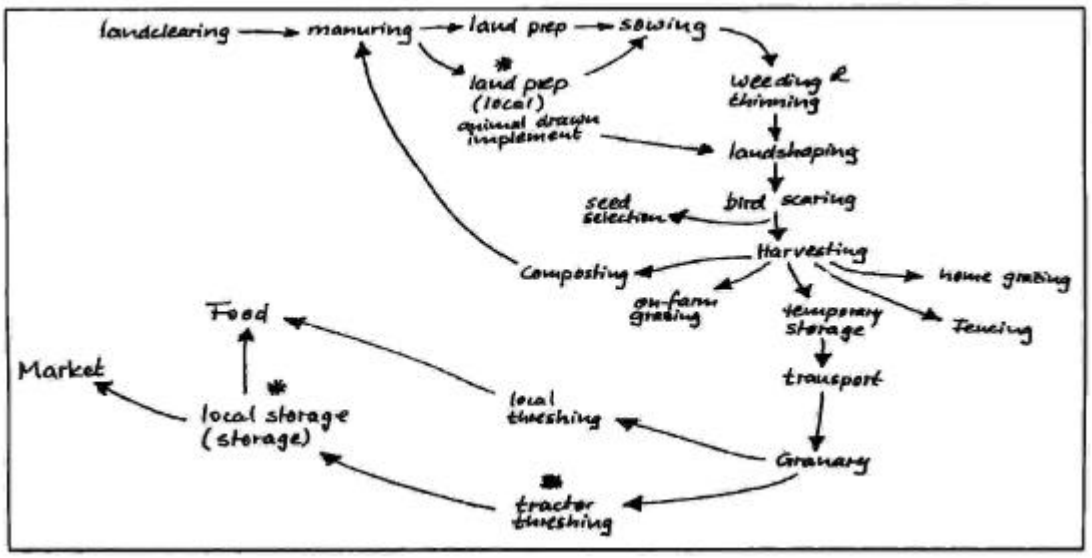
In a preparatory session among the researchers we played through a visualisation, with drawings on cards arranged on the floor. This helped us prepare for what we might encounter when interacting with farmers. We decided that the researchers would present their understanding of the system to the farmers, and ask them to comment and correct their analysis. This was because many of the workshop participants had been involved in systems research on millet for some years and knew the system rather well. Thereby we hoped to save on time.

In the field, the system of cards and symbols was arranged on the ground by the farmers. The meaning of each symbol was verbalised in French or English and written on overhead-sheets. The relative positions of the cards on the ground were copied onto paper. Figure 1 shows an example of a written translation of a symbolic system presentation.

The following were observed during interaction with farmers. Firstly, the visualisation saved time. Researchers knew a lot about the system already and farmers could relate to the presentation. They also added important aspects which had not been thought of by the researchers. For example, the farmers described how they grow millet in combination with sesame. This had not been considered previously by the researchers. Furthermore, the farmers described how they use shea butter to control downy mildew which was new to the researchers.

After seeing the symbols, the body language of farmers indicated that they identified with what the symbols represented. This indicated a consensus between farmers and researchers across different language, cultural and knowledge backgrounds.

Figure 1. Example of a written translation of a symbolic system-presentation drawn by male villagers in Bassenko village, 20 kilometres from Ougadougou. Asterisks are the farmers' perceived bottlenecks in the system.



Source: PLA Notes (1997), Issue 30, pp.16–18, IIED London

The visualisation on the ground started a whole range of interesting reflections about the system. Farmers and researchers often referred back to the diagram highlight the aspects and relationships of which they were talking. The researchers felt that it was a good means to enter into a dialogue with farmers.

The four groups identified different problems in their millet systems. The difference was particularly pronounced between the all-women group and the men's groups. However, key constraints, such as decreasing soil fertility and water scarcity, were identified in all groups.

The researchers found it difficult to refer to constraints in the system which they could not address. For instance, as agronomic researchers, they saw discussing bore-wells as outside their scope of work. However, during the visualisation, discussion among researchers became more focused on interactions between parts of the system rather than on specific agronomic problems.

What could be improved?

Although we were pleased with the effect the visualisation had on the interaction between researchers and farmers, there are four points we think should be explored further:

- It would be possible for the farmers to draw the symbols in the exercise to ensure that they can identify with those used.
- Visualisation cannot be more than an entry-point for discussion about the details of the workings of a system. Probing skills are a pre-requisite for making maximum use of this tool, yet we had underestimated how important this skill would be. We now recommend that a concerted effort be made to train outsiders in asking positive, open and encouraging questions before trying to visualise a production system with farmers.
- It proved difficult to visualise the results of some discussions and the consequences of changing something at one of those points, such as improving the efficiency of a particular operation. It also proved difficult to keep track of the implications of change for other production systems. We don't know how to solve this, but it may be another indicator that visualisation is an entry-point that helps to establish a framework for interaction.
- The fourth point is not directly related with the visualisation. We realised that there is scope in improving the formulation of hypotheses for on-farm-trials using this approach. Hypotheses should be discussed and agreed upon between researchers and farmers, using visualisation as a basis for interaction. In this way, trials on farmers' fields would be truly participatory as farmers have a say on the agenda.

• Conclusion

For researchers experimenting with visualisation for the first time, this was found to be a useful tool in getting farmers to participate in the diagnosis of problems and in the design of experiments. Many of the researchers who had not yet completed plans for the next cropping season, indicated that visualisation would be one of the tools they would use for a better understanding of farmers' circumstances. Trials in the pilot village in Burkina Faso, where this exercise was undertaken, are being revisited in the light of this approach and researchers plan to extend the use of this technique to two new sites at Thiougou and Zongo. The ROCAFREMI network plans to use this approach to ensure that farmers' views are incorporated in future research activities.

The implementation and sustainability of this experience depends on the availability of properly trained personnel. Furthermore, donors have a role to play in institutionalising farmer participatory approaches by taking a close look at the capacity of organisations to undertake participatory research. This means monitoring research proposals that claim to take a participatory approach to ensure that farmers have been consulted in the research process.

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