11

Participatory tools for the evaluation of training interventions

By RAJIV S. SAXENA and SUBIR K. PRADHAN

Introduction

The World Bank-funded Uttar Pradesh Diversified Agriculture Support project (UPDASP) in India is supporting a Farming System Approach (FSA) in 32 districts of the state of Uttar Pradesh, with the major emphasis on natural resources management, employment generation, value addition and marketing. Large-scale demonstrations of Integrated Plan Nutrient Management (IPNM) and Integrated Pest Management (IPM) are being conducted in the selected villages. These are aimed at promoting balanced use of nutrients and agro-chemicals, improved crop rotations, and improved soil analysis capacity, which in turn may limit excessive use of hazardous chemicals and reduce the negative impacts of these chemicals on soil and ground water. The UPDASP is supported by the Project Coordination Unit (PCU)/District Project Coordination Units (DPCU), associated NGOs, government line departments like Agriculture, Horticulture, Animal Husbandry, and Dairy, and farmers' organisations. It envisages a system of technology dissemination and adoption through a farmer-to-farmer extension approach, aimed at the diversification and intensification of agriculture in a sustainable manner.

Training is an important part of the project, both for farmers and field staff. This article shares experience gained during a participatory evaluation of training provided under the project. The objectives of the evaluation were to:

- make the evaluation process immediately useful to the stakeholders so that they could take corrective actions without waiting for a report from the external evaluators;
- collect qualitative and quantitative feedback to assess the impact of the programme in order to inform planners;
- expose staff to the use of participatory methodologies and how they could be used in their regular monitoring and evaluation of training interventions.

We focus here on describing some of the participatory tools specifically developed for the evaluation, rather than on the outcomes of the evaluation. We hope that these will tools will be useful to those involved in the evaluation of training and other activities.

Participatory tools for evaluating training
Card Sorting

For monitoring and evaluation of training it is essential to look at the target group's training needs. To do this, a analysis of each person's job, or of each type of job, is needed. The card sorting technique helps to do this. Working in groups, the participants divide their job into its major roles and responsibilities (eight to twelve is common), and write each role/responsibility on a separate card

Participants then choose one particular responsibility

Figure 1: Card sorting exercise, showing responsibilities and tasks of NGO field staff
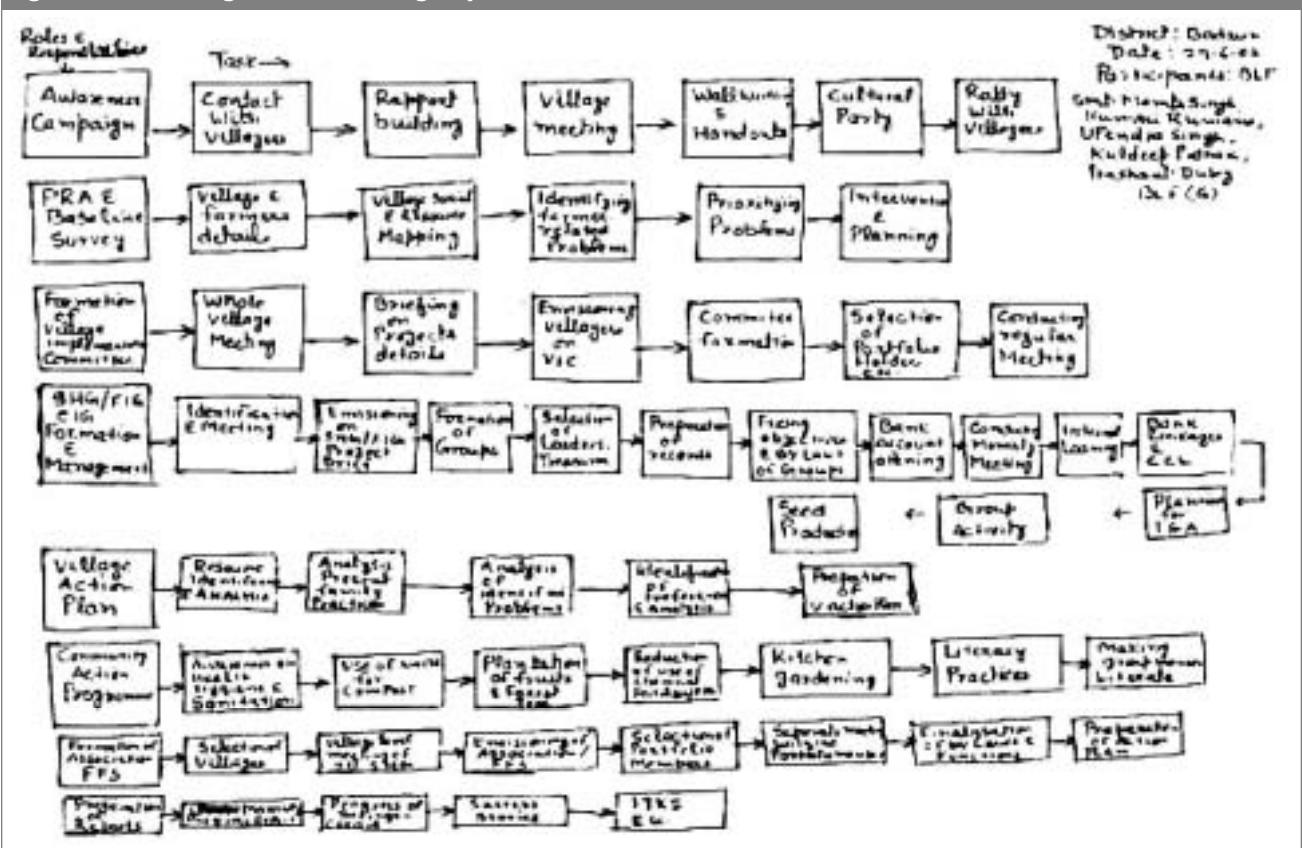
(one card) and identify the tasks required for each chosen area. Each of these tasks is written on a separate card. The cards are placed in a row next to the chosen responsibility, in a sequential order (from left to right). A similar process is followed for the identification of tasks for all the remaining responsibilities. Figure 1 shows an example of this type of analysis for NGO field staff at block level, carried out by the jobholders and their superiors, with the help of the evaluators.

The participants went on to discuss the knowledge, skills, and attitudes needed for performing each task satisfactorily. They also reflected on levels of performance and factors affecting this.

Johari's window[1]
This exercise was designed to help participants analyse the influence of their skills, knowledge, and other attributes on

their job performance. Field staff first classified the activities they undertook into two different categories: those which were a part of the job, strictly speaking, and those which were not. They then divided up the activities in each category according to how much or little they did of that activity. This gave the four categories shown in Table 1.

The exercises were done with small groups and at the end were triangulated with the larger group. The group then discussed the reasons why they did more or less of particular activities, and why staff carry out activities which are not part of their job. Activities which are part of the job were analysed in relation to existing levels of knowledge, skills, and attitudes.

To help participants analyse how far training has been helpful in enhancing their performance, participants then classified training received into four different categories:
• subjects were important and learning was more;
• subjects were important but learning was less
• subjects were less important yet learning was more;
• subjects were less important and learning was also less.

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[1] This is after Joseph Luft and Harrington Ingram, who created a set of squares to reveal what we know or don't know about something, and what others know or don't know. They named this 'Johari's window of opportunity'.

Table 1: Results of an analysis of activities undertaken by NGO field staff

	Performed less	Performed more
Should be done	• Train and strengthen groups • Inform farmers well in advance of the date and subject of training, exposure visits etc. • Have night halts in villages • Carry out area expansion activities • Hold whole village meetings for technology dissemination • Make efforts to revive defunct groups • Facilitate groups to resolve conflict • Evaluate training and other extension activities • Provide latest information about new varieties of seeds	• Form groups and open bank accounts • Conduct an awareness campaign • Carry out field visits • Carry out soil testing • Hold meetings with the groups • Encourage farmers to try organic farming • Submit various reports required by senior officials • Inform farmers of soil test results • Attend group meetings • Survey and prepare village action plan using PRA • Attend weekly/monthly meetings at block/district level
Should not be done	• Form groups by providing inducements • Form groups with more than one member from a family • Allow one person to be a member of many groups • Organise training which is not necessary for farmers (e.g. fruit & vegetable preservation)	• Write minutes of group meetings in groups registers • Organise field days in the villages • Guide farmers on subjects about which know little, e.g. storage of onion and garlic, integrated pest management, mushrooms, bee keeping, etc. • Compel unwilling farmers to participate in trainings/meetings

Table 2: Learning achieved in training, according to its perceived importance

		Learning	
		More	**Less**
Important	**More**	• Project objectives, components, and strategy • Programme organising skills • People's participation • Aerobic composting (NADEP), vermicompost and bio-dynamic composting • Maintaining transparency • Formation of groups • Bank account opening • Account keeping of groups • Procedure for getting cash credit limit for self-help groups • Selection criteria for demonstration and extension activities	• Application of PRA; prioritisation and analysis of issues in village planning • Analysis of economic benefits in demonstration • Motivation methods and team building • Resolving conflicts in groups • Selection process of master trainers & functioning of farmer field schools • Training methodology and identification of training needs • Preparation of action plan after exposure visits based on strengths and weaknesses • Technical subject knowledge to guide farmers properly • Communication and presentation
	Less	• Account keeping • Preparing balance sheets of groups • Information centre (Kisan soonchna Kendra)	• Documentation of success stories • Credit management and economic activities • Evaluation of own work • Why and how to do grading of groups • Method of organising field days • Awareness about the available literature in projects • Filling out reporting forms • How to facilitate participatory evaluation

One such example is given in Table 2.

Both exercises helped the participants to understand the relationship between tasks performed by them and the level of learning they had achieved through training.

Learning matrix

This exercise was conducted to understand the reasons for a high or low level of learning in training and identify areas for further improvement. Field staff identified major topics covered during past training interventions. They then decided on the level of learning achieved at each training: 'enough', 'less', or 'very less'. They also identified factors affecting the level of learning. These were:
• time given for concerned topic: sufficient or less time;
• training methodology followed: lecture or practice;
• effectiveness of trainers: good or medium; and,

Carrying out a fish bone analysis

Figure 2: Learning matrix prepared by NGO field staff

• number of times a topic was covered: once or repeated a number of times.

They then drew up a matrix, as shown in Figure 2, analysing the level of learning and the factors affecting this for each topic.

Fish bone

As most of the field staffs' time was devoted to activities related to awareness raising and technology dissemination (broadly called training/extension activities), it was of utmost important to have an in-depth analysis of these activities and sub-activities by field staff themselves. The fish bone technique was used to carry out this analysis (see Figure 3). Participants drew a picture similar to a fish bone on a paper and the main bone was labelled 'extension'. They then identified the various training and extension-related activities that they undertook – training, exposure visits, field days, wall writing, audio aids (left side), and demonstrations, folders/literatures, cultural party, awareness camps, and audio-visual aids (right side) – and marked these on sub-bones.

Parameters governing the effectiveness of each identified activity were also identified and shown as sub-sub bones. For example, under the activity 'training' (the top-most left one), identified requirements were: need base training, training method (practical), trainer, training place, timely training, sufficient time for the content, and literature provided. Similarly, under demonstration (the top-most right one) the requirements were: pre-demonstration training, timely availability of seeds and fertiliser, quality of seeds and fertiliser, soil testing, selection of field, selection of farmers, and carrying out demonstrations according to need.

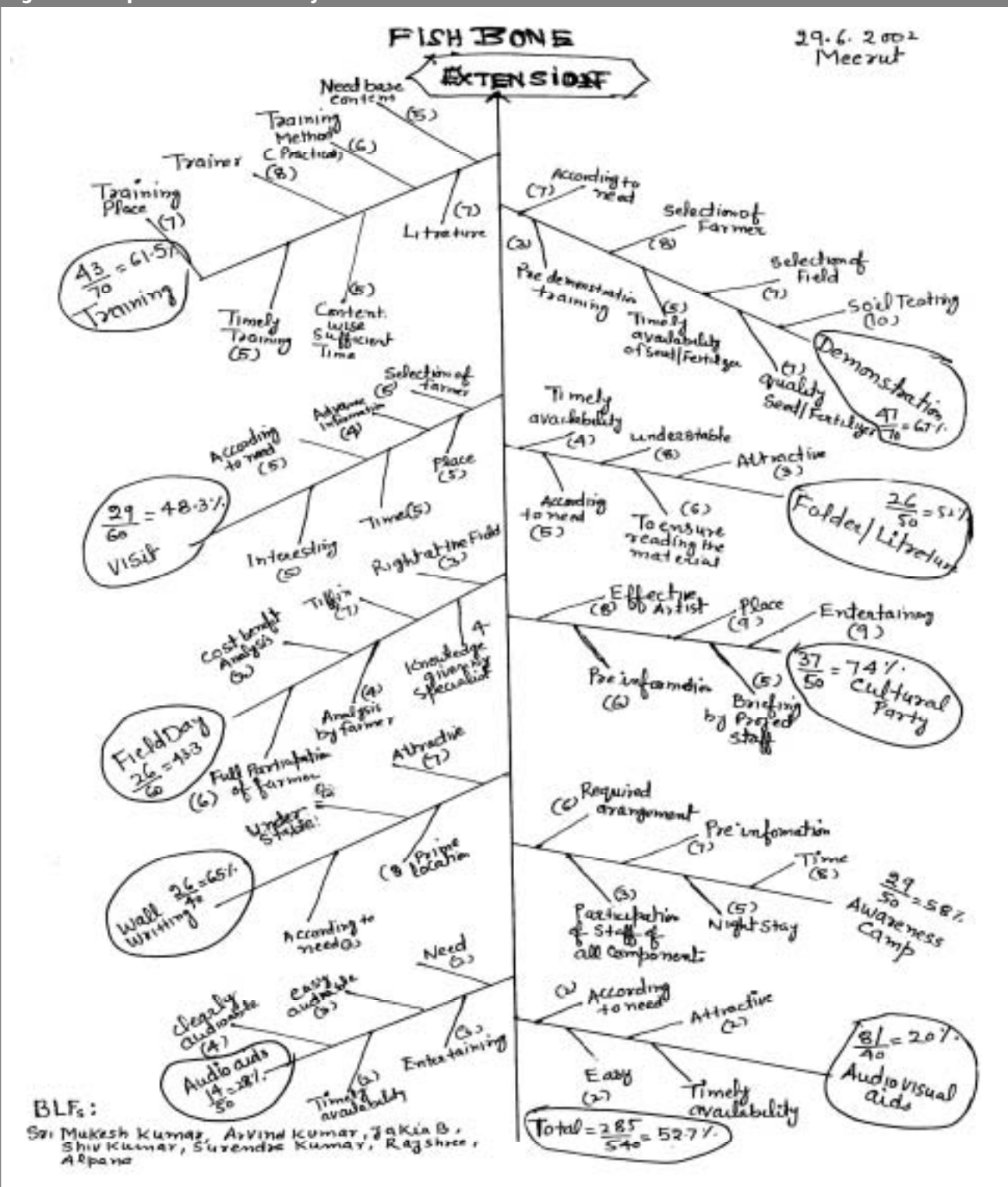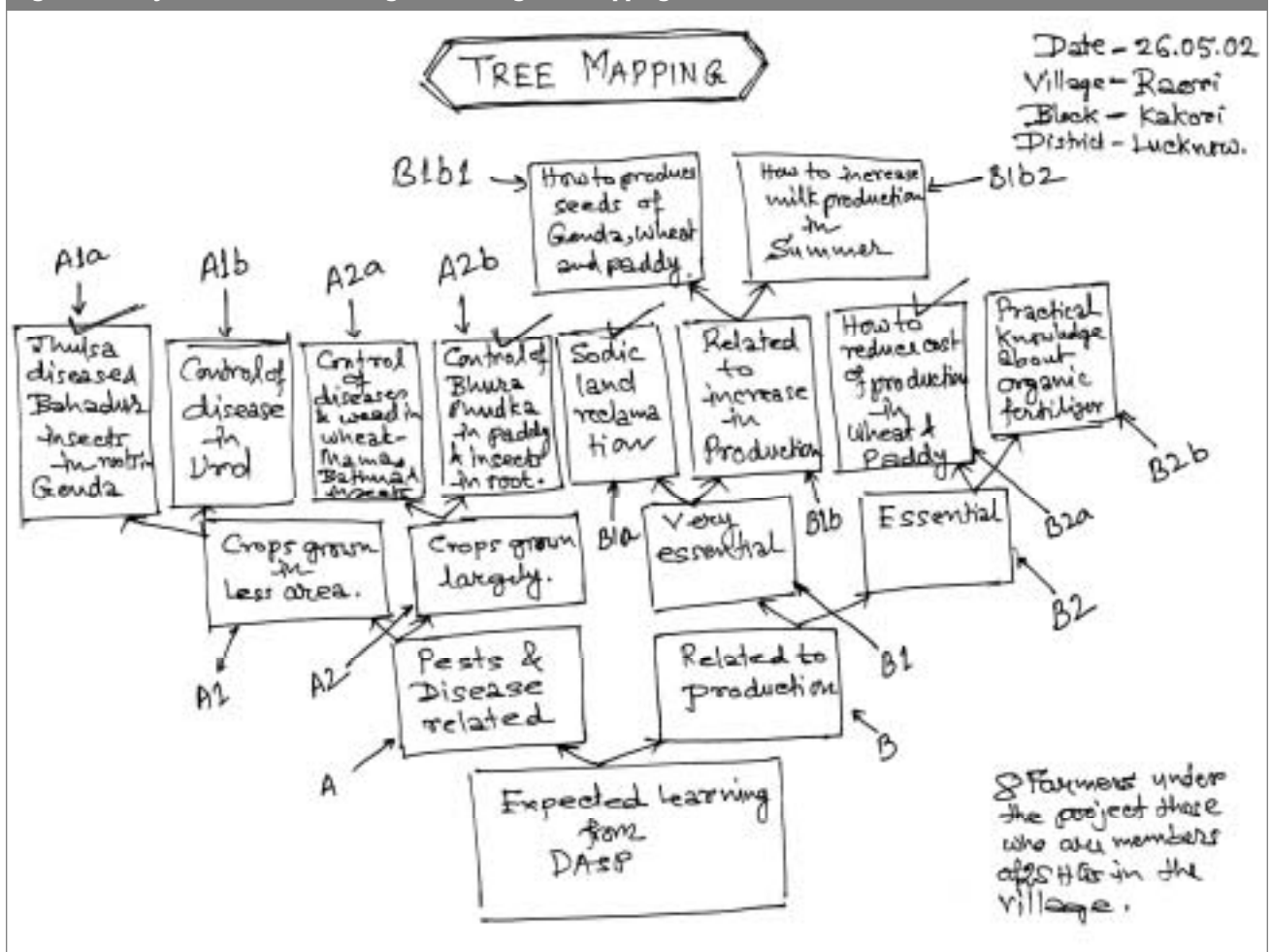**Figure 3: Example of a fish bone analysis of extension activities**

Figure 4: Analysis of farmers' training needs using tree mapping

Participants were then asked to score the extent to which each requirement was met for each activity, out of a maximum score of 10, and the scores were added together for each activity. In the case of training, the score was 43 out of 70 (i.e. 61.5%) and for demonstration it was 47 out of 70 (67%). However, aggregated scores for each activity were less important that the identification of parameters and the scoring of parameters or requirements to see to what extent each was being met.

This exercise helped field staff to understand the effectiveness of various activities as well as to identify areas for further improvement.

Tree mapping
Tree mapping was found to be one of the best participatory tools for analysing training needs and the extent to

which training needs were fulfilled.

In a group, farmers articulated their learning expectations from the project. All such expectations were written on one card each. This gave nine cards. Farmers were then asked to look at the topics on the card and to group them together into two broad categories according to the type of topic. Having looked at and discussed the different cards, the farmers divided them into two categories: pest and disease-related topics (A) and production-related topics (B). Farmers then discussed the cards in pile (A) and sub-divided them further into crops grown less (A1) and crops grown widely (A2). Pile (B) was sub-divided into production-related topics that were very essential (B1) and those which were less essential (B2). Each pile was then further sub-divided. (A1) was divided into disease and insects in marigold (A1a) and diseases in pulse crops (A1b). A2 was divided into

Figure 5: Farmers' ranking of different types of training activity
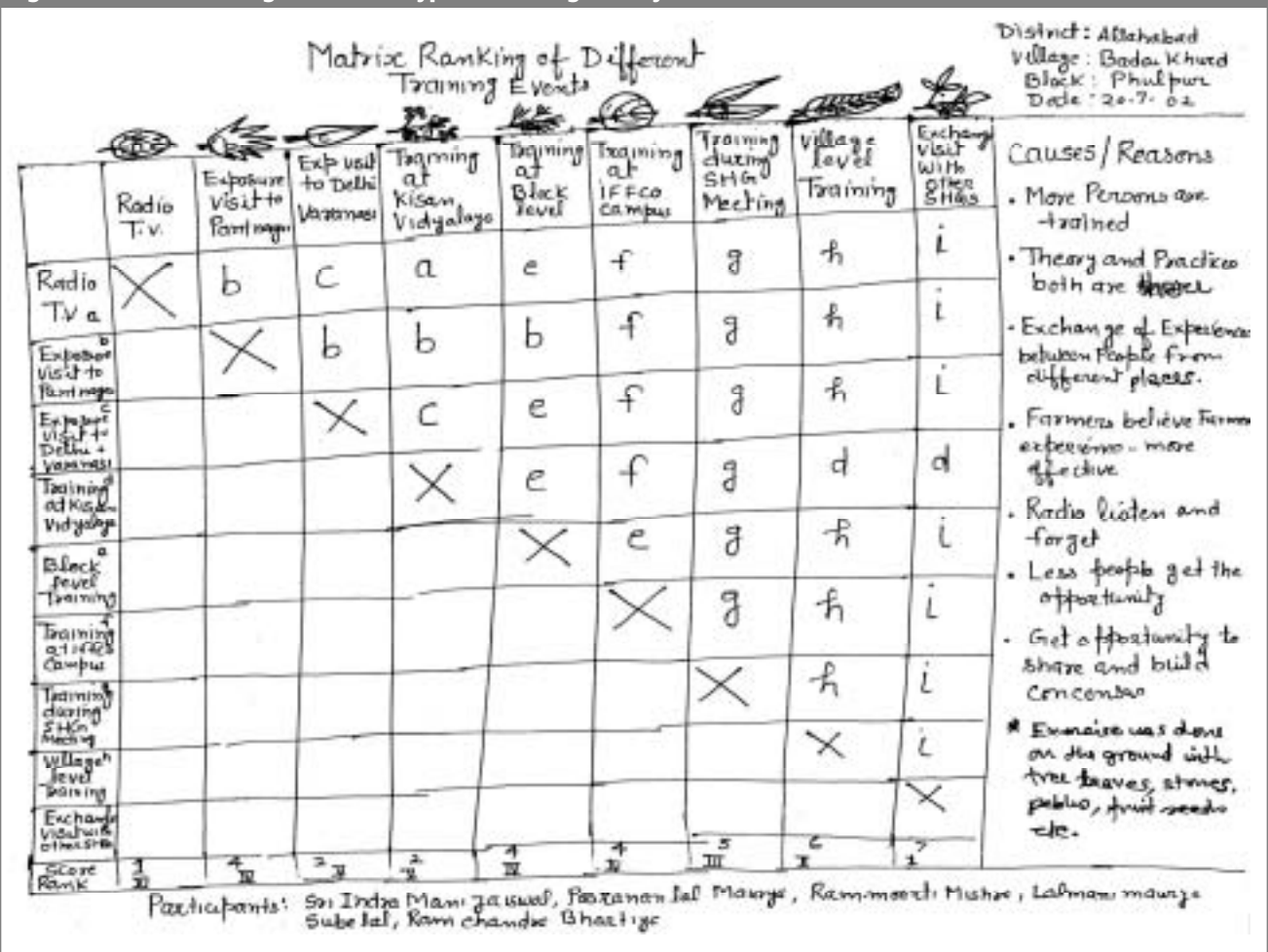
insects and weed in wheat (A2a) and brown plant hopper and insects in roots in paddy (A2b). This continued until there was a single leaf (card) in each branch. Lastly, out of all the expectations identified, farmers ticked the most important ones. While setting the criteria at each stage, farmers had to brainstorm a lot, and this helped them to discover many dimensions, which they were not aware of before.

An example of tree mapping is shown in Figure 4.

Ranking
Farmers' perceptions of the usefulness of different types of training activity are very important for planning future training. Planning requires insights from both farmers and field staff. The fish bone exercise helped field staff to develop their own understanding, while the matrix ranking exercise

was carried out to analyse farmers' perceptions.

Figure 5 shows the results of such an analysis by farmers. The most notable finding from this exercise was that exchange visits (item i), training at village level (h), and training during self-help group meetings (item g) were highly ranked by farmers whilst the project had been giving more importance to activities like exposure visits (items b and c) and block level training (item e), which farmers ranked as being less important.

Lessons learnt
Although we have a long experience in conducting training needs assessments, during this one in particular we realised how our work was limited in the past. Mostly we used to jump directly to needs assessment without analysing the related tasks. While doing card sorting, we

Farmers preparing a matrix

realised that we were (wrongly) directly asking participants about their learning requirements instead of facilitating them through the sequence followed above.

The tools and techniques used in the evaluation made clear to participants how effective participatory methodologies are, especially in the context of monitoring and evaluation. Field staff decided to initiate corrective measures even during the exercises. While sharing field experiences, the project authorities agreed to undertake such evaluations at regular intervals, internally. The World Bank Mission also recommended use of these tools and techniques, for which necessary training was given to all concerned.

CONTACT DETAILS
S. K. Pradhan, Senior Consultant
R. S. Saxena, Regional Chief
Centre for Symbiosis of Technology, Environment & Management (STEM), A-967/7, Indira Nagar, Lucknow – 226 016, UP, India.
Emails: subirpra@yahoo.com;
r_s_saxena@hotmail.com