



# Measuring the impact of watershed management projects

Keith J. Virgo and Jyotsna Sitling

**In the Doon Valley Project of northern India, four different types of participatory evaluation were adopted to meet the various needs of donors and villagers. The method with the most impact, however, was probably the inter-village monitoring, in which visits to other villages helped foster lively competition and joint action to protect the environment.**

Participatory monitoring and evaluation (PMAE) has been in vogue for some eight years, not just in watershed projects but also in a wide range of rural development programmes. PMAE techniques were envisaged for the Doon Valley Project from 1995, but they were not fully introduced until later, by which time the staff felt more confident about scrutiny by the communities and a need was seen for a participant-based evaluation of activities. The Doon Valley Integrated Watershed Management Project has been operating in the outer Himalaya of northern India; it is implemented by the Government of Uttaranchal, with an EC-funded Technical Assistance team over the period 1993 to 2001.<sup>1</sup>

This article examines some of the lessons learned and the practical benefits of PMAE activities in the wider context of a project, such as changes in practices and improvements in sustainability. Although derived mainly from a watershed project, the lessons have wider application to other community-based programmes.

First, we should ask what is participatory evaluation? The key questions are: who should participate and for whom are we evaluating? These are key issues that are often overlooked.

## For whom are we evaluating?

In 1999, the Doon Valley Project decided to initiate impact evaluation and sustainability studies in the

villages, using participatory methods. However, some of the indicators proposed by the project team proved to be inconsistent with what the villagers perceived to be important. The divergence was either in terms of topics to be evaluated (as interventions were based on participatory planning, project activities differed between villages), or of the indicators to be used. This highlighted the fact that communities and projects have different needs, which demand compromises in methods and approaches.

In the end, two approaches were adopted:

*External monitoring and evaluation* to meet the needs of donors and government, which enables comparison across all villages in relation to project objectives. The official 'Impact evaluation and sustainability' study served this end. It was conducted in a participatory fashion but the outputs reflected the external needs rather than those of the communities.

*Internal monitoring*, managed by villagers themselves, to help them learn from and improve their contributions to project activities. The approach can be participatory and the topics to be assessed and the indicators to be used can vary between communities (see Box 1). Consequently, the results may be neither statistically analysable nor relate directly to a project's objectives. However, such systems can be valuable for the communities themselves in terms of organizational learning and systems development and can run parallel to 'official' PMAE studies.

### Box 1. Villagers' poverty indicators

Many projects use official criteria for determining 'poverty': in India this is the Below Poverty Line (BPL) index. However, poverty and marginalization have complex social dimensions and can change from year to year. Wealth-ranking by the community can be a surer means for identifying poverty. The following indicators were developed by a community in Rajasthan to identify relative family wealth:

- food security
- irrigated land
- access to credit
- number of beds
- contact with people (visitors)
- social respectability

Source: IFFDC, Western India Rained Farming Project (DFID-funded)

In Doon Valley, new monitoring criteria were developed by individual villages but there were wide variations, according to specific needs. As a compromise, these were consolidated with the standard, externally designed criteria through a simple system of weightings. The maximum score for a village was set at 1000, of which 80 per cent of marks were assigned to the standard project criteria and 20 per cent to criteria proposed by the individual village. This enabled evaluations of 'success' to include factors that were perceived as important by the communities, whilst retaining a sufficient level

of comparability between villages, to suit project needs.

### Who should participate?

'Participation' in evaluations can be used simply to transfer the burden to the communities. This might be acceptable if they were to set the criteria but, as we have seen above, projects have their own evaluation needs. In Doon Valley, four different types of 'participatory evaluation' were adopted, each involving different types of participant but each with its own benefits.

*Inter-village monitoring.* Tree planting, during the rainy seasons, had been encouraged from the start. However, from 1997, this developed into annual campaigns, based on voluntary labour (*shramadhan*), involving progressively more villages. Responsibility for monitoring the activities was handed over to the communities, enabling them to set their own criteria for success (see Table 1). Communities selected individuals who toured the adjacent villages as a monitoring group to evaluate the tree plantings and to award prizes for the best village. This, in turn, exposed villagers to adjacent communities and they learned to appreciate the need for joint action to protect their environment. Ultimately, this led to village groups combining as formal 'federations', based on the common purpose of environmental conservation. It also inculcated a sense of critical self-analysis among villagers.<sup>2</sup>

The evaluation criteria chosen by the communities are listed in Table 1. Although the project perceived the quantity of planting as a measure of participation, the community regarded it only as an input, with survival percentages as the true output, which would be subject to later community evaluation. This in turn led to some intriguing, and perhaps devious, community approaches (Box 2).

#### Box 2. Community views of evaluation criteria

It was observed that the total number of trees planted by the communities during the 1999 *shramadhan* decreased to 69 900 from 105 500 in 1998, despite increases in participating villages (from 59 to 82), erosion-prone areas treated (from 61 to 92) and number of volunteers (from 1800 to 2900). When the reason for the low quantitative performance in 1999 was explored, it transpired that the community had laid emphasis on the quality of work and thus had reduced the quantity planted.

When the same issue was further explored, the community members also confided that they had knowingly under-reported the quantity of material planted to make allowance for mortality and thereby to show greater survival percentages when the community evaluation exercise was carried out by their federation. In this way, they hoped to gain the coveted prize for best performance.

*Internal impact evaluation and sustainability studies.* These studies focused on evaluating outputs of project technical activities and the sustainability of institutions created. Five-point questionnaires were developed for each topic, based on the SCF approach.<sup>3</sup> Communities shared in deciding the scores. This was participatory in the sense of involving communities, but the agenda and evaluators were external. Apart from the positive evaluation results, perhaps the greatest achievement of this study was in sharing experiences between project staff. The Doon Valley Project operated as four administrative divisions; this engendered healthy competition but field staff rarely had an opportunity to learn from experiences outside their own division. Mixing staff to evaluate activities in other divisions facilitated experience-sharing, introducing another dimension to the meaning of 'participation'.

*Quantified participatory assessments (QPA).* This rapid evaluation method<sup>4</sup> converts villagers' assessments into numbers, to facilitate comparisons between communities in terms of quantities (e.g. fuel wood collected) and of indices of change (e.g. agricultural income). Although the criteria were largely externally defined, community groups were responsible for deciding the scores, with project community organizers simply acting as facilitators.

The studies centred on semi-structured focus-group discussions for women and men separately, at which each question was discussed and consensus scores were agreed out of a maximum of 100. The numerical scores could not be averaged across villages but the number of villages achieving a given score could be analysed. The assessments yielded surprisingly positive results. For example, figures for mean annual fuel wood use showed a decline of over 40 per cent, 220 hours were saved per household in collecting fodder and fuel, and agricultural incomes increased by 40 per cent. The success of soil conservation works was given a zero score in some villages, but this proved to be the result of an earthquake and exceptional rains that had destroyed some structures.

Another lesson from the QPA studies concerned returning to early villages. The project operated on a rolling programme of four years per village; communities realized that initially neither they nor the project staff were experienced (see Box 3) and requested supplementary work for the first-year villages to rectify mistakes.

Table 1 Villagers' evaluation criteria for tree planting

Criterion	Maximum score
1 The survival percentage of the total planting stocks planted in the previous rainy season in the village through <i>shramadhan</i> .	30
2 The percentage of village population who attended <i>shramadhan</i> .	30
3 The overall assessment on how much the <i>shramadhan</i> input was successful for treating the erosion-prone area.	40

#### Box 3. Learning by villagers

'At first, we treated the project as something of a joke – then we realized its worth. After seeing the work, enlightenment set in and awareness developed. We have seen the way our women have come forward and progressed. Look at the way loaning is progressing. Now, we ourselves are searching for ways to improve our lot.'

*President of Chhandrabaga II Federation*

# participatory monitoring and evaluation



Inter-village monitoring fostered critical self-analysis among villagers

*Formal impact evaluations.* During 2001 a series of formal impact studies was undertaken.<sup>5</sup> Although 'participatory methods' were adopted in the field, these were essentially 'external' studies (the topics were set by the project and the evaluators were external consultants). However, by fully involving communities in evaluations, can we always expect to obtain the right answers? Communities sometimes become wise to evaluators, seeing an opportunity to gain more from a project. Box 4 illustrates the need for probing to ensure valid answers. Interestingly, many of the findings of these more conventional and rigorous studies closely mirrored the results of the more rapid and informal QPA work. For example, the formal studies indicated a 30–40 per cent increase in irrigated area, compared with 34 per cent by QPA.

A positive spin-off was the introduction of new ideas by the consultants: a need for improvements in grass species selection and management was one example that was followed by specialist training of staff by the consultant.

## Conclusions

The Doon Valley project demonstrated that the degree and nature of the 'P' in PMAE can vary. However, each of the methods employed yielded benefits to the project and to the communities.

Enabling project staff to undertake PMAE work outside their own areas encouraged experience sharing and

learning within the team. However, the greatest lasting impact probably derived from the inter-village monitoring, in which communities used their own criteria and their own evaluators. The raising of an awareness of their common interests in environmental conservation directly led to federations of villages, with apex bodies to support and monitor the member communities.

### Box 4. The need for probing

The evaluator asked a group of farmers: 'How many chaff cutters did the project provide? How much did you contribute and how are they working?'

'Two', replied the farmers. 'We contributed Rs500 for each, but one is of poor quality.'

'Let me see the poor quality one,' requested the evaluator.

The chaff cutter was duly produced. It appeared to be satisfactory, but the evaluator cunningly pulled out his wallet, selected Rs500 and said: 'OK, I will buy it to use on my farm.'

Not wishing to lose their chaff cutter, for which they had contributed part of the cost, the farmers remonstrated: 'No, no, the quality is not *that* bad!'

Without such probing, a very different answer would have been recorded.

Krishnan Kumar  
(personal communication)

Participatory monitoring and evaluation tools and techniques were developed carefully, focusing on qualitative changes in the thought process and the attitudinal behaviour of the communities and the implementing agency. The inter-village monitoring yielded insights into how communities behaved. This helped in evolving and operationalizing the takeover of responsibilities by the communities when the project withdrew.

Participatory monitoring and evaluation had a direct and positive bearing on the institutional commitment of the communities. However, the ultimate proof of the sustainability of project activities will require a post-project PMAE study. This should focus on the processes introduced by the project to manage the watersheds and the evolution of community institutions to sustain them.

## About the authors

Keith Virgo is a freelance rural development consultant, who was formerly Technical Assistance Team Leader on the Doon Valley Project with Atkins International Ltd. He continues as a consultant on a DFID-funded community development project in Western India (consultancy@keithvirgo.com).

Jyotsna Sitling (IFS) is with the Forest Department, Government of Uttaranchal. She was previously a Deputy Project Director on Doon Valley Project and is now Director of the Nanda Devi Biosphere Reserve, Uttaranchal, India (jsitling@yahoo.com).

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