

# **Participatory Monitoring and Evaluation**

Readings and Resources for  
Community-Based Natural  
Resource Management  
Researchers

Volume 8

Compiled by Ronnie Vernooy

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For further information about this document, please contact IDRC  
at the following address:

CBNRM, Programs Branch, IDRC, P.O. Box 8500, Ottawa, Ontario,  
Canada K1G 3H9

ARCHIV  
VERNOO  
no. 114513

## A. The CBNRM Social Science Resource Kit

***What is the CBNRM Social Science Resource Kit?*** This kit is a reference tool to assist researchers funded through IDRC's Community Based Natural Resource Management (CBNRM) program in Asia to apply concepts, analytical approaches and research methods from the social sciences in their research.

***What is the Format of the Kit?*** The kit is being delivered as a set of **resource books**, each dealing with a different key issue area related to CBNRM research. The topics/issue areas covered include: Gender; Community-Based Natural Resource Management; Participatory Research; Indigenous Knowledge; Institutional Analysis; Common Property; Stakeholder Analysis; Participatory Monitoring and Evaluation; and Resource Tenure. Depending on feedback received from these materials, other topics or issues may be considered for coverage in future.

***What is in the Resource Books?*** The resource books contain photocopies of selected readings excerpted from books, academic journals, field reports and training manuals. Depending on the subject, the readings include conceptual and methodological issues, research tools, and illustrative case studies. Each source book also includes an annotated bibliography, a list of references, and information on electronic (internet) resources. Instructions on how to use the Centre's literature search and document delivery services (free to IDRC-funded institutions) are also provided.

Readers will find that some of the material in each resource book is contradictory. The intent of the Kit is to expose researchers to a range of academic perspectives, rather than to choose only one view. This means that readers of this material will have to think about the different arguments presented and choose for themselves an interpretation of these concepts and methods which is sensible for their own research project. Readers should also note that the views expressed in the readings are those of the author(s) and do not necessarily represent those of IDRC.

***Why Has the Resource Kit Been Prepared?*** The impetus for developing the kit stems from specific requests from IDRC research recipients for tools and resources to assist them in doing research for community-based natural resource management. For many of these researchers CBNRM is a new concept requiring analytical tools and research methods that are quite different to those they had received through formal or other training. Researchers wanting to learn these new concepts and methods have been constrained by a lack of access to well-stocked libraries, relevant databases and internet sites.

The kit is also part of an effort by the CBNRM Program at IDRC to promote approaches to research that are participatory, action-oriented, multidisciplinary and grounded in local experience and local knowledge.

**Who Should Use the Kit?** If your research deals with Community-Based Natural Resource Management and is sponsored by IDRC, you should refer to the information in each volume to help you to undertake your research. IDRC-supported researchers will find that the concepts, tools and methods covered in these reference books will be used repeatedly in research reports, workshops, meetings, correspondence, and in evaluation of your work. You will also find it helpful to understand and apply these concepts if you submit future research proposals. The Kit will also be of wider interest and we hope that it can serve as a useful reference collection for researchers who otherwise would have difficulty getting access to this material.

**How Were Readings Selected for the Resource Kit?** The readings were selected from existing publications based on literature searches and consultations with academics and practitioners in the respective fields. From these sources the materials have been further selected for:

- ▶ readability/clarity of the writing
- ▶ suitability for an audience with limited English language skills
- ▶ suitability to the CBNRM project contexts
- ▶ emphasis on definition of terms and detailed explanation of concepts

IDRC-supported CBNRM researchers are working in over 11 countries in Asia representing a wide range of cultural and educational backgrounds. Many researchers do not read English as a first language and a majority have not had formal training in the Social Sciences. For these reasons an effort has been made to include materials that will be instructive and accessible both for newcomers to the topic and for those with a background in the subject area.

**How Might the Resource Kit be Used?** These resource books are only a starting point for researchers looking for information on a specific topic. The readings are meant to stimulate research questions and further inquiry. The research tools provided are intended as catalysts for adaptation and innovation of new site-specific tools, methods and analytical frameworks. The bibliographies will assist each project and researcher to pursue more targeted information beyond what is provided here.

Some specific actions you might take within your research team and/or institution to make more effective use of this material:

- ▶ identify specific topics which are most relevant to your research and assign

responsibility to specific members of the team to review these materials. Take turns briefing other team members on what you have learned from each Kit volume.

- ▶ questions? Ask external project advisors or IDRC program staff if you have questions arising from your review of this material.
- ▶ organize training sessions using these reference materials together with local resource persons, designated team members, or other experts.
- ▶ translate the best articles for broader circulation.
- ▶ request reference materials or literature searches from the IDRC library.
- ▶ read some of the books in the bibliography to deepen your knowledge and learn other cases and examples. Books and articles which you have read and which are relevant to your own research can be cited, if appropriate, in your research proposals or reports.
- ▶ inform IDRC of any changes to your projects that have come about as a result of this material.
- ▶ discuss the contents of the readings within your research team and identify what adaptations you could make for the conditions of your project.



## **B. Readings on Participatory Monitoring and Evaluation and CBNRM**

*This section includes eight photocopied readings covering conceptual and methodological issues related to participatory monitoring and evaluation with special attention to community-based natural resource management. A brief introduction and summary of the readings is provided below followed by the reference information for each reading. The readings themselves are numbered and marked with corresponding tabs for convenience.*

### **I. Introduction**

As a companion volume to the CBNRM Social Science Resource Kit, this book will focus on participatory monitoring and evaluation, a relatively new field of research and development theory and practice. Participatory monitoring and evaluation (PM&E) covers a number of approaches including auto- or self-evaluation, beneficiary assessment, participatory impact monitoring, participatory assessment monitoring and evaluation. All these approaches have in common the active and meaningful involvement of one or more “stakeholders” in the design, implementation, analysis and critical review of monitoring and evaluation activities - moving beyond roles traditionally assigned to researchers or to “external” evaluators contracted by donors to look at project or program achievements.

Participatory monitoring and evaluation builds upon the insights, approaches and tools used in participatory (action) research, but also borrows from “traditional” social sciences approaches and “conventional” monitoring and evaluation theory and practice. PM&E has a special interest in looking at participation itself, seen both as a means to an end (the process of participation) and as an end in itself (enhanced participation in terms of number of people and/or quality of involvement, or more broadly defined as empowerment). Insights from the literature on the social and political nature of knowledge, and from gender and stakeholder analysis therefore become relevant as well.

There is a rapidly growing volume of literature about PM&E, in particular so-called “grey” materials, as more and more people and organizations (non-government and government alike) become interested in actively involving stakeholders, other than project or program staff, in the regular review of progress and results. Reading materials can be found in annotated bibliographies by Sheelagh Stewart et al (1995, IDS; section on PM&E by Sam McPherson) and by Estrella and Gaventa (1998) or can

be accessed through the Internet, compiled by research centres and networks, such as ELDIS/IDS, IIED, PARnet, MandE (see Section F of this book for details).

## II. An Overview of the Readings

The readings, references and resources that appear here deal with conceptual and methodological aspects of participatory monitoring and evaluation relating in particular to natural resource management practices and processes. The goal has been to include easily accessible materials directly relevant to field-oriented research.

### 1. Concepts and approaches

The first reading, by Irene Guijt, Mae Arevalo and Kiko Saladores, ***“Tracking change together,”*** (from a special number of the PLA Notes documenting some of the results of an international workshop held in 1997 in the Philippines on the subject, see also IIRR, 1999, in Section D of this book) provides a to-the-point introduction to the basic ideas behind participatory monitoring and evaluation or tracking the project development process together (for a more in-depth introduction, see Abbot and Guijt, 1998, in section D). The article also addresses a number of emerging issues that require further attention: questions related to the kind of participation that projects make use of, to the use of tools and indicators, the issue of institutionalization, and documentation of practical experiences.

This is followed by Karen McAllister’s paper on ***“Understanding participation: monitoring and evaluating process, outputs and outcomes.”*** This paper examines the challenges and proposes an approach for monitoring and evaluating participatory research, with a special focus on community-based natural resource management projects (the paper was written as part of an IDRC internship for the Centre’s Community-Based Natural Resource Management-Asia program initiative). The paper proposes PM&E as a tool for adaptive learning and project management, and pays special attention to integrating social theory into participatory methods - addressing questions related to participation such as power, knowledge, gender and representation. The paper is accompanied by a PM&E guide for researchers (see McAllister and Vernooy, 1999, in Section C); both documents can be found at and downloaded from the Internet: [www.idrc.ca/cbnrm/documents/doc\\_index\\_e.cfm](http://www.idrc.ca/cbnrm/documents/doc_index_e.cfm)

In the third reading (two combined readings), the focus will be on Asia. In ***“Participatory monitoring and evaluation. The Asian experience. & The Asian experience. Supplementary Report,”*** Ricardo C. Armonia and Dindo M. Campilan

report on the review of field experiences in fifteen countries of the Asian region including Australia. The review is part of a global effort to assess the status, identify best practices and determine gaps in the use of PM&E across sectors and for various research and development goals (see also Guijt, Arevalo and Saladores, 1998, above). The report categorizes twelve PM&E experiences (for each category, one or more projects or case studies are synthesized).

## 2. Tools

The following two readings are taken from the Tools and Training series developed by the International Union for the Conservation of Nature, ***“An approach to assessing progress towards sustainability”*** (materials prepared by the IUCN/IDRC International Assessment Team and pilot country teams in Colombia, India and Zimbabwe).

Diana Lee-Smith’s ***“Community-based indicators”*** presents a technique for developing indicators that allow communities to assess their own strategies for sustainability. The technique can be used together with the ***“Barometer of sustainability.”*** The idea behind and use of the barometer are explained in a booklet written by Robert Prescott-Allen. For a further elaboration of the use of the barometer, see also the recently published paper “The system assessment method illustrated by the wellbeing of nations” by the same author. The paper can be found at the IUCN website: <http://www.iucn.org/themes/eval/english/samwon.pdf>.

Another example of a simple tool is provided in the sixth reading entitled ***“Tips for trainers: Introducing the “H-form” - a method for monitoring and evaluation.”*** This tool can be used easily by local people, literate and non-literate alike. It is a good example of the “simple tools: direct results” principle underlying much of the PM&E approaches and methodologies.



### 3. Case-studies

Dindo M. Campilan's ***"Making participatory monitoring and evaluation (PM&E) work: thirteen vignettes from the field,"*** gives concrete examples from the field. The paper, part of a book entitled *Self-assessment: participatory dimensions of project monitoring and evaluation* (published by UPWARD), argues that there are no shortcuts to effective PM&E. General guidelines emerging from the study include: PM&E requires careful planning, is a costly process, and will only be successful when stakeholders perceive the exercise as relevant and as having a direct benefit to them.

The eighth and final reading, Raj Kumar Rai's article on ***"Monitoring and evaluating in the Nepal-UK community forestry project,"*** is a case study of the use of PM&E in a project context. The paper presents the use of four participatory monitoring tools based on pictures that allow for greater ease of understanding among less literate forest users group members. The author concludes that developing a PM&E process is an important strategy for making forest users more aware of their situation, and for encouraging forest users' groups to adopt a learning-oriented approach.

## References

*A copy of the full-text of each of the following articles is included in this section. To find a reading, flip to the corresponding tab number.*

### Concepts and Analytical Frameworks

1. Guijt, Irene, Mae Arevalo, Kiko Saladores. 1998. **Tracking change together**. PLA Notes 31, February. London: IIED. pp. 28-36.
2. McAllister, Karen. 1999. **Understanding participation: monitoring and evaluating process, outputs and outcomes**. Ottawa: The International Development Research Centre. Reprinted with permission from the author.
3. Armonia, Ricardo C. and Dindo M. Campilan. 1997. **Participatory monitoring and evaluation. The Asian experience. & The Asian Experience. Supplementary Report**. Los Baños, Laguna, Philippines: UPWARD. Reprinted with permission from the authors.

### PME Tools

4. Lee-Smith, Diana. 1997. **Community-based indicators**. IUCN. An approach to assessing progress towards sustainability - tools and training series. Prepared by the IUCN/IDRC International Assessment Team and pilot country teams in Colombia, India and Zimbabwe. Gland, Switzerland and Cambridge, UK: IUCN.
5. Prescott-Allen, Robert. 1997. **Barometer of sustainability**. IUCN. An approach to assessing progress towards sustainability - tools and training series. Prepared by the IUCN/IDRC International Assessment Team and pilot country teams in Colombia, India and Zimbabwe. Gland, Switzerland and Cambridge, UK: IUCN.
6. PLA Notes 34. 1999. **Tips for trainers: Introducing the "H-form" - a method for monitoring and evaluation**. February, London: IIED. pp. 84-87.

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### **Case Studies**

7. Campilan, Dindo M. 1997. **Making participatory monitoring and evaluation (PM&E) work: thirteen vignettes from the field.** UPWARD. *Self-assessment: participatory dimensions of project monitoring and evaluation.* Los Baños, Laguna: UPWARD. Reprinted with permission from the author.

8. Raj Kumar Rai. 1998. **Monitoring and evaluating in the Nepal-UK community forestry project.** In: PLA Notes 31, February. London: IIED. pp. 37-43.

# Participatory Monitoring and Evaluation

## Tracking change together

Irene Guijt, Mae Arevalo and Kiko Saladores

### • Introduction

Monitoring progress and evaluating impacts have long been considered important to ensure that money is well spent and that objectives are met. Besides this conventional focus on being accountable to funding agencies, organisations are increasingly using monitoring and evaluation for internal learning and to improve their work. They see that, for maximum benefits, learning needs to happen collectively with diverse groups and people. Many of these organisations already work with participatory appraisal and planning, making it a logical step for them to also make their monitoring and evaluation processes more participatory (Estrella and Gaventa, 1997).

Much is already being claimed of participatory monitoring and evaluation (PM&E): it is 'empowering', 'cost-effective', 'more accurate', 'more relevant', etc. However, too little is known about PM&E to confirm these claims (Abbot and Guijt, 1998) and it is clear that many challenges are appearing. How do we make monitoring and evaluation (M&E) more participatory - and maintain high levels of involvement? How does participation of diverse groups influence the selection of what we monitor or evaluate? What methods are feasible in which contexts? How do we use PM&E in hierarchical organisations and in conflict situations?

Despite such questions, many fascinating experiences exist that use innovative methods with enormously diverse groups of people to obtain very worthwhile results. A recent

international workshop on PM&E in the Philippines brought together dozens of inspiring examples from NGOs, government agencies, donors, community-based organisations, and research institutions. This issue of *PLA Notes* shares six experiences from the workshop, representing a range of purposes, organisational contexts, approaches, and methods. Our overview draws on the discussions at the workshop and other literature, and aims to share key innovations, issues, and challenges.

### What is PM&E?

As with other areas of participatory work, PM&E has a huge range of interpretations. Quite surprisingly, even the difference between monitoring and evaluation remains unclear. Participants at the Philippines workshop were keen to reach a consensus on definitions but had to settle for more loose descriptions. *Monitoring* was associated with words such as: 'observing change'; 'knowing where we are now'; 'a kilometre check'; and 'regular, on-going assessment of activities and trends'. By comparison *evaluation* was described in terms of: 'valuing'; 'understanding'; 'periodic performance review'; 'reflection process to look back and foresee' and 'assessment of strategic issues, changes, achievements, and of impact (efficiency of programmes)'. In most contexts, both processes are linked and, as long as they are defined clearly by the organisation, there is no problem in having varying definitions throughout the world.

A key part of understanding PM&E depends on how 'participation' is interpreted. This also has many different interpretations as each process, with its unique purpose and context, will involve different groups of people to varying degrees. Who participates and to what extent depends partly on the level of monitoring and evaluation. PM&E is not only related to community-based or 'farmer-driven' processes. In some cases, including junior staff in designing a monitoring form is making a process previously dominated by senior management a more participatory one.

For some, 'participatory' means involving *all* relevant groups in designing the entire M&E approach (Torres, this issue). It can mean having villagers help refine methods, as Rai discusses within his forestry work in Nepal, or define the main evaluation/monitoring objectives, as Bandre describes happened in the evaluation of a World Neighbors programme. In other examples, villagers participate by collecting data and helping to analyse the information. Despite the possible diversity, in many cases participation still means doing M&E with participatory methods within a standard project cycle, which remains extractive. There are far fewer cases of PM&E, in which all parts of the process are opened up to greater participation.

That PM&E can have many different purposes is also clear. Some use it as a research tool, for example, with farmers monitoring their own experiments and sharing the data with researchers. Others use it more as a project management activity, to assess how development objectives are being met (Rai, this issue), or for learning and organisational change (Symes and Jasser, this issue). Others again see it as a strategy for community empowerment (Torres and Bandre, this issue). In Australia, over 200 community groups are involved in participatory monitoring of birds, water, soil, etc., and use the information to advocate for better environmental regulation (Alexandra et al, 1995). Whether organisational self-assessment, citizen monitoring of government programmes, villagers monitoring externally driven projects, or resource users monitoring the state of their own environment, most experiences

combine different purposes. Nevertheless, PM&E to date appears to have met the information needs of organisations and institutions far more than those of communities. And most of the documented experiences are initiated by organisations, although many examples of indigenous monitoring exist (Abbot and Guijt 1998).

Given all this diversity, it is tempting to want to define the 'non-negotiable' core of PM&E. Estrella and Gaventa (1997) limit themselves to four core principles: participation, learning, negotiation, and flexibility. Being more specific is difficult due to the great variation of circumstances in which PM&E is used. For example, how much community members want to be involved, or get the chance to be involved, will vary between more and less politically free countries and more or less hierarchical organisations (see Box 1). If we knew what the heart of PM&E was, it would help to identify best practice and set standards. However, having no common definitions as yet and given that each situation is unique, the non-negotiable principles of PM&E are likely to be left general.

### • Innovations galore

Participatory monitoring and evaluation is a methodological frontier, so it is not surprising that the workshop revealed many innovative experiences. The contributors to this issue show the exciting potential of PM&E in many contexts. Rai discusses its use in joint forest management, Ara describes PM&E within a disaster relief programme in Bangladesh, while Symes and Jasser share their experience of how it can help rebuild Palestinian civil society after conflict. Torres describes its use for assessing municipal level development projects in Ecuador and Bandre explains his experience with a district-wide NGO programme evaluation in Burkina Faso. Specific topics have been examined, such as assessing the impact of leadership training programmes (Abes this issue). Innovations have been also been made in the purpose and methods of PM&E.

BOX 1

**WHAT INFLUENCES PEOPLE'S PARTICIPATION IN MONITORING AND EVALUATION?**

- perceived benefits (and partial or short-term costs) of PM&E
- relevance of PM&E to the priorities of participating groups
- quick and relevant feedback of findings
- flexibility of the PM&E process to deal with diverse and changing information needs
- meeting expectations that arise from PM&E, such as acting on any recommendations that are made
- degree of maturity, capabilities, leadership, and identity of the groups involved, including their openness to sharing power
- local political history, as this influences society's openness to stakeholders' initiatives
- whether short term needs of participants are dealt with, while considering the longer term information needs of PM&E (especially in natural resource management)
- incentives to make the PM&E possible (e.g. pens, books, etc.)

**New Purposes**

Besides fulfilling the conventional functions of monitoring and evaluation for project impact assessment and management/planning, more innovative use of PM&E includes managing and resolving conflicts. Specific innovations include using PM&E:

- to help ensure that project and programme impacts influence and reorient policy (see Torres, this issue);
- to strengthen self-development initiatives in villages (Bandre, this issue);
- for organisational strengthening and learning (Symes and Jasser; Rai, this issue);
- to provide public accountability of local and national government programmes to communities (Torres, this issue);
- to encourage institutional reform towards more participatory structures (Symes and Jasser, this issue);
- to encourage funding agencies to re-assess their objectives and attitudes by understanding and negotiating stakeholders' perspectives through PM&E (Torres; Bandre, this issue);
- in the government sector (Rai this issue), as it has been mainly focused on the NGO sector to date;
- to build theories and check/adapt our understanding of society and development (Abes this issue).

**New Methods**

Monitoring and evaluation by definition compares 'before and after' or 'with and without-project' situations. Therefore, to be able to make a meaningful comparison over time, a baseline of information needs to exist which describes the situation before any project or programme starts. This information is often collected in appraisal and planning stages (see Box 2).

To be able to make comparisons, existing appraisal or planning methods, which often simply describe one moment in time, need to be adapted or new methods need to be created. For example, imagine doing a transect walk to help assess what resources exist. For it to be useful to monitor changes in the amount or quality of resources, the transect diagram that is made should be able to store information from repeated transect walks over a six month period and therefore should be recorded on quite a large piece of paper. Alternatively, if each walk is to be recorded on a different sheet of paper, then these should be similar enough to make comparisons easy.

Problems arise when different kinds of information are collected during each walk, for example, if one focuses on the different types of pests that might be found while the next one looks at the extent of soil erosion. This is why most monitoring systems decide

ahead of time what information, or 'indicators' will be observed or measured each time. In some cases, new methods need to be developed (see Box 3) for the different tasks of PM&E. Monitoring and evaluation consists of many different tasks: data must be collected, registered, compiled, analysed and then shared again with those who are to use it. While the methods for collection may be similar to those used in appraisal and

planning, as the transect example shows, much more thought has to go into finding the appropriate methods for each of these tasks (see Box 3). And when a monitoring and evaluation process becomes more participatory this usually means discussing and negotiating until agreement is reached, thus often leading to new methods!

#### BOX 2

##### APPRAISALS TO FIND THE BASELINE FOR COMPARISON

The Aga Khan Rural Support Programme (AKRSP) is an Indian NGO that support local village institutions (VIs) to use their natural resources in a sustainable and equitable manner. AKRSP helps these VIs to carry out their own appraisals and plan their development priorities. As part of the pre-project appraisal, local people prepare detailed maps of their village which incorporates their analysis about the available resources, how these are used, ownership, problems and constraints. These detailed maps represent an inventory of resource-related issues and are used as the basis for planning village projects. All the proposed activities are depicted on the maps, and include: soil and water conservation, minor irrigation, forest plantation and protection, etc. These maps are kept in the villages and are displayed in a convenient location that is accessible for all members of the VI. During meetings and project reviews, these maps are used to monitor the project activities and resolve problems.

*Source: Kaul Shah, 1995.*

#### BOX 3

##### ADAPTING METHODS THROUGH PARTICIPATION

In central Brazil, farmers, NGO staff, farmers union representatives, and university academics are working on more sustainable forms of agriculture. They had chosen 'the percentage of vegetation cover' as one indicator for monitoring an agroforestry activity, and were identifying which method to use. Quite quickly they agreed on using a wooden frame to estimate visually the surface area covered by vegetation. But problems arose when deciding how that information should be recorded for easy comparison. The farmers rejected several forms suggested by the academics as too complicated. Finally, they all agreed on the use of a wooden ruler, on which the farmer would scratch a mark to indicate the estimated percentage of vegetation cover in terms of a certain segment of the ruler. Each farmer would get the same length stick twice a year, one for each time the vegetation cover would be monitored. To compile and analyse the information, the farmers involved in agroforestry would bring their marked rulers to a meeting, register the findings on paper, and discuss the findings and their significance for their agroforestry plots. By using a new stick for each measurement and recording the marks, they would be able to easily keep track of changes in vegetation cover.

*Source: Guijt and Netto 1997, in Abbot and Guijt 1998.*

In other cases, non-participatory monitoring and evaluation methodologies already exist or are imposed by funding agencies but may need to be adapted to become more relevant for local information needs and learning. A good example is Logframe Analysis (LFA) which is used by many funding agencies who require the organisations they fund to use it but has been found inappropriate and too rigid for village use (see Symes and Jasser, this issue). LFA is slowly being adapted for use by communities for both planning and monitoring (Sewagudde et al, 1997). To do this, the stages are simplified, words are changed, and participatory methods are incorporated. Other methodological innovations include:

- merging different approaches, including social auditing; computer-based Geographic Information Systems (Torres, this issue); and psychological assessments (Abes, this issue);
- new applications of existing appraisal methods, for example wealth ranking for before and after project situations (Bandre, this issue); visualisation techniques for planning and review (Ara, this issue);
- entirely new methods, for example the Barometer of Sustainability used with villagers in India as part of an IUCN/IDRC approach for assessing progress towards sustainability (Chatterjee, 1997);
- methodologies not based on pre-determined indicators but instead on open-ended questions (see Box 4);
- methods that consciously seek the unexpected (see Box 5), for example, impact flow diagrams that allow all kinds of impacts to be identified;
- building on culturally valid (not just culturally sensitive) frameworks, ways of monitoring and data collection (Abes this issue).

#### BOX 4

##### MONITORING WITHOUT INDICATORS?

A particularly innovative example has been developed within the Christian Commission for Development in Bangladesh (Davies, 1995). Each credit group funded by CCDB report, on a monthly basis, the single most significant change that occurred amongst the group members related to: people's well-being, sustainability of people's institutions, and people's participation, and one other open-ended change, if they wish. The report asks for the 'facts' (what, when, where, with whom) and an explanation of why that change is the most significant one of all the changes that have occurred. This last aspect ensures a process of reflection and learning by the group members, an aspect that is missing from most M&E systems that seek numeric data without any interpretation of the numbers. So instead of pre-determined questions, CCDB's monitoring aims to find significant examples related to its long-term development objectives.

#### BOX 5

##### UNEXPECTED SUCCESSES!

Villagers in the drought prone areas of Gujarat have, with AKRSP's support, constructed percolation tanks to recharge the water level in the wells. Unfortunately, the area experienced three consecutive drought years just as the first percolation tanks were finished in the late 1980s. Using the pre-determined indicators, the village men concluded that the project had no impact at all: water levels in wells had not risen, cropping patterns had not changed and crop productivity had not increased. However, the women concluded that the project had been a lifeline, as the people living in the areas with percolation tanks had not run short of drinking water and had suffered no cattle mortality even in the worst drought conditions. While people from neighbouring villages had to migrate out in search of water, they were able to stay put and to bathe and wash their clothes regularly - a luxury at that time.

Sources: Kaul Shah, 1995



## • Issues emerging

There is great diversity of PM&E experiences, and the current rate of innovations will only add to that diversity. Nevertheless, four common themes stand out as needing attention: participation, methodologies, institutionalisation and scaling-up, and documentation.

### Participation

Some questions related to participation have been mentioned but there are many others that remain unresolved. How do we decide who gets involved - and on what basis are people invited to join PM&E processes? What degree of involvement is expected - and what is realistic? How can decision-making power be shared - and negotiated? Under what conditions can PM&E help achieve expectations of empowerment? What are gender needs and implications of PM&E, and how do we build them into the process?

Participatory M&E is a social, cultural and political process. As more and different stakeholder groups co-operate to keep track of change together, they will need to make compromises on whose indicators count more, what methods are feasible and considered valid, who is involved in which way, etc.. One particularly important question is that of who interprets the information and uses the findings (Bandre, this issue). If PM&E is used as a strategy for empowering marginalised groups and people, revealing problems, gaps, and errors will not necessarily be viewed kindly by those with more power. It is inevitable that not all the different perspectives will merge smoothly or can even be reconciled.

Furthermore, seeking greater participation in M&E is essentially a strategy for making decision-making a more democratic process. Therefore PM&E is a social process of bringing people together in new ways, a cultural process of coming to understand different views, and a political process of sharing decisions. As greater stakeholder

involvement in M&E brings together those with more and less power, it also requires a look at the ethics of coping with unpredictable outcomes that do not necessarily please the stakeholder group(s) with power over others. What preconditions for PM&E can help it achieve expectations of empowerment?

### Methodologies

Innovations with methods, sequences, and combinations of methodologies are also forcing new questions. For example, what is needed to combine the need for participation, flexibility and a learning agenda with scientific rigour? When do we use more conventional forms of monitoring and evaluation, and more participatory forms - and how can we combine them? In the absence of set standards and definitions, how can we identify examples of best practice from which to learn? How do we guarantee not falling into the trap of developing an overly complex approach that demands too much time and gathers irrelevant information?

Many methodological questions relate to the use of indicators. The literature on monitoring and evaluation emphasises the importance of selecting precise indicators carefully as it is easy to identify too many, and choose ambiguous or irrelevant ones. However, the growing experiences with participatory M&E, which involve more and different groups of people, are also stressing the importance of ensuring that indicators meet the different information requirements of those involved. Furthermore, indicators should ideally look at short and longer term changes; local and broader scale changes; the general development process and concrete initiatives; quantitative and qualitative information; and tangible and intangible impacts (Torres; Abes this issue).

With so many information needs, selecting indicators becomes a difficult task. How do we guide this process? Rai (this issue) offers one example of how forestry management indicators were determined by collectively looking at the objectives of joint forest management, and Abes (this issue) discusses a similar approach. Who should/can be

involved and for whom is the information? If one group decides on what should be collected, will other groups also find that relevant or credible evidence of change? Torres describes that bringing the different perspectives on what should be monitored and evaluated together is an essential process that helps build consensus about the vision for development. However, flexibility about the methods is required because development visions change, information needs shift, and therefore indicators will also change.

### **Institutionalisation**

Many of the more complex challenges of PM&E arise when organisations decide to adopt the principles and practices and find that this has widespread repercussions. As mentioned above, the interest in PM&E is growing as organisations are realising that they need to learn more about internal processes and external impacts if they want to perform better (Bandre; Symes and Jasser, this issue).

Yet opening up a development programme or project to comments from a wider group of people can be threatening and provoke resistance to change, and may well only be

possible under certain conditions (see Box 6). How can flexible and context-specific PM&E processes be integrated with rigid and standardised project cycles? And how can it be replicated? How do we reconcile learning-driven PM&E with M&E that is dominated by upward-accountability and 'bean-counters' (especially economists and accountants)? What strategies can we use to overcome organisational resistance to letting go of controlling the process? What are the real costs of PM&E - and can this investment of time and money be sustained? How can we build capacity when this is new for everyone? How do we deal with frequent changes in complex institutional linkages?

Transferring responsibilities (Rai, this issue) and creating new understanding that arises from different people using a wider range of indicators can provoke an entire restructuring of some organisations. Such changes are only possible if time is allocated for reflection within organisations and between partners. Also critical is the importance of linking monitoring and evaluation into the whole project or programme cycle, so that new plans are built on findings from M&E (Bandre; Torres, this issue).

#### **BOX 6**

##### **FACTORS THAT HELP PARTICIPATORY MONITORING AND EVALUATION**

Participatory M&E is easier if the context....

- accepts evaluation as an internal need and responsibility, and not threatening
- accepts learning through experience - or 'failing forward' (Chambers, 1997)
- understands the need for partnerships between sectors and disciplines, especially openness towards involving social sciences
- works in decentralised institutions
- is open to using qualitative indicators
- includes funding agencies willing to experiment, and 'champions' (or advocates) for PM&E in the right places and levels
- includes those with some skills in conflict resolution
- understands participation as a democratic, not extractive, process
- includes high-level people who have the political will to see PM&E as an empowerment process
- includes a process of carefully defining who 'the community' is, to avoid missing key people
- has established community awareness of the PM&E process
- is set within supportive legal/constitutional frameworks (so not in politically repressive situations)
- includes people's organisations who trust and have confidence in people's potential
- has access to positive examples and skilled facilitators
- includes a local community co-ordinator or other liaison person/institution
- allows enough time to develop the PM&E process
- ensures prompt feedback/use of PM&E findings

Unfortunately, many working with PM&E have been hindered by non-participatory aspects of their organisations or contexts (Symes and Jasser, this issue). Clearly, wide-reaching participatory processes are more likely in less hierarchical organisations/cultures. Other institutional issues to consider include how donor policies, such as their insistence on cost-effectiveness within social development projects/programmes, can hinder PM&E; and how imposing PM&E can be counter-productive. In countries with policies of participatory planning or decentralisation (for example Bolivia and Uganda), PM&E may be more acceptable.

Participatory M&E can only spread with trained people and trainers. Yet there are few able to take on this new task. Capacities need to be built at different levels, to raise general awareness and train skills. But skills have to be developed not only in the use of PM&E methods but the process in general. Many of the PM&E experiences so far have been initiated by external organisations and individuals. Unless skills and interest take root locally, sustainable PM&E is out of the question. As information needs will continually change, and even partners will be changing, capacity building also means that the different stakeholder groups need to be able to adapt PM&E over time.

Rai and Torres (this issue) describe how, in both Nepal and Ecuador, encouraging continual adaptation is crucial to enable people who have been drawn into monitoring and evaluation to make it their own. Capacities are needed to help organisations deal with changes (Symes and Jasser, this issue); to motivate users to update and innovate (Rai, this issue); to understand concepts, principles, methods and working relationships (Bandre, Abes this issue). Capacity building is about sustaining processes, which means clarity about what 'sustainable PM&E' means. Is it the indicators, the methods, the feedback process, the capacity to implement, or the ability to continue evolving the system that is sustained? Each requires a different focus of capacity building.

## Documentation

The current lack of documentation is a key obstacle to more innovative and wider use of all that PM&E appears to offer. Who should do this documentation - and who will benefit from it? Why is there such little documentation of PM&E processes - and most in a project context? In what form should information be shared - visual, written, through drama?

Some of these gaps will be filled by several initiatives related to the Philippines workshop. The workshop proceedings will be available by the end of February from IIRR<sup>1</sup>. These will include a section on Priority Action Plans which describe concrete steps to be taken in these specific areas, and identify the lead people/organisations. A book on PM&E will be published this year (to be announced in the *PLA Notes*), and a Resource Guide on PM&E Methods is being planned. Various training initiatives are in the pipeline, as are several research projects that look at methodological and institutional 'best practice' and how to merge or adapt other methodologies (included in the workshop proceedings).

### • Moving forward

Now that many agencies, organisations, and individuals are settling into participatory forms of appraisal and planning, all eyes seem to be looking towards participatory monitoring and evaluation as the next area of methodological innovation. But amidst the growing number of exciting experiences, many fundamental questions and challenges have appeared. We need to monitor and evaluate these PM&E processes as they mature to learn more. So far we know that the image of PM&E as a neat toolbox of indicators and methods, a simple calendar, and clear tasks hides what is a dynamic and political process. As contexts change, so does the process of participatory monitoring and

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<sup>1</sup> Contact Mae S. Arevalo/Angie Ibus, PME Workshop Secretariat, IIRR, Silang, Cavite, Philippines. Fax: +63-46-414 2420.

evaluation. New stakeholder groups emerge and some disappear, objectives change and therefore indicators change, methods continually evolve, and the timing of monitoring is always being re-negotiated.

At the workshop, one person commented: 'PM&E is a journey, not a destination. It is a process, not an activity.' We hope that this issue of the *PLA Notes* is one source of information to inspire that journey.

- **Irene Guijt**, c/o IIED, Email: sustag@iied.org, **Mae Arevalo and Kiko Saladores**, IIRR, Dr. YC James Yen Center, Biga, Silang, Cavite, The Philippines. Email: iirr@phil.gn.apc.org

#### NOTES

The workshop was hosted and organised by the International Institute for Rural Reconstruction (IIRR), Philippines. The International Steering Committee comprised: Angie Ibus, Julian Gonsalves, Marisse Espineli and Mae Arevalo (IIRR, The Philippines); John Gaventa, Marisol Estrella and Jutta Blauert (Institute for Development Studies, UK); Dindo Campilan (UPWARD, The Philippines); Reme 'Pong' Clemente (KAISAHAN, The Philippines); Roger Ricafort (Oxfam Hong Kong); Deb Johnson (Sikiliza International, Uganda); and Irene Guijt (IIED, UK).

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# **Understanding Participation:**

Monitoring and evaluating  
process, outputs and outcomes

By Karen McAllister

for the  
International Development Research Centre

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For further information about this document, please contact IDRC  
at the following address:

CBNRM, Programs Branch, IDRC, P.O. Box 8500, Ottawa, Ontario,  
Canada K1G 3H9



# 1 Introduction

This paper examines the challenges and proposes an approach for monitoring and evaluating participatory research for community-based natural resource management projects<sup>1</sup>. The paper is intended to outline some of the key issues and constraints facing participatory research, and to provide guidance to researchers, programme and project managers interested in monitoring and evaluating participatory research projects. The focus is on using monitoring and evaluation as a tool for adaptive learning and project improvement, for integrating social theory into participatory methods, and for understanding the links between participatory processes and outcomes. The importance of using participatory monitoring and evaluation methods for bringing in the perspectives of local people whose lives are being influenced by the research is also explored.

The first part of the paper provides a background for understanding participatory research in community-based natural resource management projects. Participatory research and the various interpretations of “participation” in research - from consultative to collegiate - are described, and the complexities of applying and interpreting participatory research in community-based natural resource projects are explored. These complexities include the influence of social identity, divergent interests, local norms and institutions and power dynamics on the process and outcomes of the research.

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<sup>1</sup> This report is based on work conducted during an internship at the International Development Research Centre (IDRC), for two natural resource programmes (Community-Based Natural Resource Management (CBNRM) programme which works in South East Asia, and MINGA: Alternative Approaches to Natural Resource Management in Latin America and the Caribbean). IDRC is a Canadian donor agency which funds development-focussed research projects and research institutions in the South. The general goal of the Centre is to help strengthen local research capacity for dealing with community and regional development issues. IDRC has been a partner in support of participatory research approaches in its projects since the mid-1980s. The report relies on a combination of literature review, consultation with programme officers, project researchers and the IDRC evaluation unit, visits to projects in the Philippines as well as past field experience using qualitative research methods. The author wishes to acknowledge the significant contributions of Ronnie Vernoooy and Stephen Tyler of IDRC; however, the views expressed in this paper are the sole responsibility of the author and do not necessarily represent the opinions of IDRC.



Sections 5 and 6 describe the rationale and present a framework for monitoring and evaluating participatory research within the context of donor institutions which have the dual objectives of supporting quality and relevant applied development research while at the same time strengthening institutional and individual research capacity. In this case, a balance must be struck between “academically ideal” research, available resources, researcher capacity and skills, and community needs. This influences evaluation criteria and expectations of participatory research projects. Section 7 describes key considerations for developing an appropriate and learning-based approach to monitoring and evaluating participatory research projects. This draws from a number of different evaluation strategies and recognises that different groups (researchers, donor agency, community members) have different monitoring and evaluation needs, as well as different perceptions of positive and negative research outcomes. Section 8 presents options for integrating monitoring and evaluation into the different stages of the project cycle (pre-project, in-project and interim or post-project).

The final sections of the paper present the issues and questions to consider in monitoring and evaluating the process and outcomes of participatory research for natural resource management. This is based on characteristics which indicate validity and quality of the participatory research process and methods, as well as the potential of the methods used to contribute to reaching the general goals of community-based natural resource management (sustainability, equity, local empowerment, poverty alleviation and so on). The ideas are geared for both the programme level and the project level, to be used by researchers during the project to help inform the research project, as well as to provide guidance for interim or post project assessments.

## **2 Participatory research**

“Participatory research” is broadly understood, and includes a plethora of tools and methodological approaches, including such commonly used methods as Participatory Rural Appraisal (PRA), Participatory Action Research (PAR), Rapid Rural Appraisal (RRA), and

Farmer Participatory Research. Rooted in ideological and radical social movements which mobilized local people to challenge existing power regimes, participatory research has become increasingly popularised as a means of capturing local knowledge and perspectives and for involving local people in research and development activities which affect them (Selener 1997; Freedman 1997:774-775).

The term “participatory research” is loosely used to describe various types and levels of local involvement in and control of the research process. These different types of participatory research have been characterised in various ways. Biggs and Farrington (1991) differentiate farmer participatory research as contractual (farmers lending land to researchers), consultative (researchers consult farmers and diagnose their problems), collaborative (researchers and farmers are partners in the research) and collegiate (researchers encourage existing farmer experimental activities). Cornwall (1996:96) characterises different approaches to community participation as: cooption (token participation, the community has no real input or power); compliance (research agenda is decided by outsiders, the community is assigned tasks); consultation (local opinion is sought, but outsiders analyse situation and decide actions); cooperation (local people work together with researchers to determine priorities, but the process is directed by outsiders); co-learning (local people and outsiders share knowledge and work together to form action plans); and collective action (local people set their own agenda and carry it out in absence of external initiators). (Pretty 1994:41; Selener 1997; Cornwall 1996:96; Biggs and Farrington 1991:56-7). The various approaches to participatory research can be further differentiated according to the following criteria:

1. The **“goals” or rationale** for encouraging participation in research differs between projects. The rationale for choosing a participatory research approach may be **functional or empowering**, or a combination of these. “Functional” participatory research encourages the involvement of local people in order to improve the effectiveness of the research and enhance its usefulness for the community. An example of this is the involvement of farmers in research to develop improved farming technologies, with the purpose of increasing the appropriateness and enhancing the adoption of these technologies. The goal of “empowering” participation is to “empower” marginalised people and communities by strengthening collective and individual capacity and decision-making power within wider society (Ashby 1996:16-17). Advocates of

participatory research as a means for local empowerment argue that gaining “power” or “ownership” over the research process is a step towards gaining power in society (Selener 1997).

2. Participation of local people can occur at **different stages in the project** and for different purposes (problem identification and prioritisation, data gathering, monitoring, analysis, evaluation, etc.).

3. The **level of “control” or “ownership”** which local people have over the research process will differ between projects. The amount of local control over the process can be assessed by considering 1. Who makes decisions? (researchers or local people, and which local people or groups) 2. Who implements the activities? 3. Who analyses the information? and 4. Who is the research ultimately for? (Who will use the results of the research and how?).

4. The **sector** (agriculture, fisheries, health, etc.) may influence the appropriateness of different participatory research approaches.

5. The **“scale” of participatory activities and stakeholder involvement** will differ between projects, depending on the **scale** or size of the resource system being considered (community lands, watershed level, household farm level, etc.) and the levels of management involved. This will influence the nature of the participatory research approach in the project. Natural resource management projects often require participatory processes for “collective” decision-making and negotiation (for example, decisions about communal forests), as well as for individual decision-making (such as farmer experimentation with different cropping patterns or farming techniques). For natural resource issues which require strategies for collective decision making, it is important to consider what “scales” of stakeholders need to be involved in order to be effective (who currently uses the resource, who has decision-making power or holds legislative authority over the resource, who needs to be consulted in order that decisions are respected, who does the research need to influence in order to have an impact, and so on). This may require involving a broad range of groups beyond the community level (NGOs, government officials, private sector companies, other communities, etc.) as well as different groups within the community (landless, women and men, different occupations, etc.). Different scales of participation will require different participatory approaches (e.g. focus groups or mapping exercises at the community level, versus multi-stakeholder round tables with representatives from different stakeholder groups) and sometimes require segregation of the different interest or stakeholder groups in participatory/ consultative processes.

6. The **level of disaggregation and representation** of different stakeholder groups (by gender, ethnicity, socio-economic class, etc.) required for the research will vary between projects, depending on how different groups will be influenced by the research and on the social and power relations between these groups. Disaggregation of the process and results may be accomplished by holding separate focus groups or mapping exercises for women and men, individual interviews as well as group exercises, analysis of household dynamics and decision-making powers, and so on. Segregation between different groups in the research process may be indicative that the researchers understand the influence of social interactions on project results.

There is not one correct approach to participatory research, nor a blueprint to follow. The appropriate scale and level of representation of different interest groups, the methods chosen, and the extent of local participation in and control over the research process will depend on the project goals and scope of the research as well as on the rationale for using a participatory approach. If “empowerment” is a goal, it is important to strengthen local institutional and individual capacities by involving local people throughout the research process; in problem identification and definition, collection and analysis of information, planning of possible solutions, and in mobilising local action for change.

One important cross-cutting indicator of “good practice” in participatory research is that the participatory component of the project is integrally linked with other aspects of the research, and that the outcomes of community participation are fed into project design to influence subsequent activities and strategy. Although

this may seem obvious, in some projects, the participatory component remains detached from other parts of the project. This is particularly true for technically-oriented projects, in which it is sometimes assumed that PRA is sufficient to fulfill the social-

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*“There is currently a tendency to idealise the usefulness of PRA, but under some circumstances it is more appropriate to use and recognise that we are using, more extractive methods, to avoid raising expectations or being caught up in detail, to obtain an overview of the issues, and to draw on a range of sources.” (Whiteside 1997)*

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science requirement (Goebel 1998:278). Such an assumption fails to recognise the limitations of “quick and dirty” participatory methods and the potential for these to misrepresent or simplify complex social realities. In addition, the concept of participation has been used to “get local people to do what researchers or project leaders want”, rather than as a means for involving local people in project design and strategy (Goebel 1998:279). Another concern is that participatory research becomes “tool” or “approach”-driven, with more emphasis placed on the application of different methods and approaches (PRA, PAR, multi-stakeholder analysis, etc.) than on the problems that the research is trying to address, and how these approaches can be best used to address them. Because participatory research is interpreted very broadly, for evaluation purposes it is necessary to “categorise” or “differentiate” its use in a project in order to gain a meaningful understanding of how a particular participatory approach contributes to the results of the research (Found 1997:117).

### **3 Participatory research for community-based natural resource management: searching for adequate stakeholder involvement**

*“...natural resource management in the age of sustainability is not characterised so much by problems for which solutions must be found, but rather by issues that need to be resolved and that will inevitably require one or more of the parties to change their views”.* (Allen 1997:634)

It is increasingly recognised that interdisciplinary and participatory research approaches are essential to address the complex nature of natural resource management issues, to involve local communities in the process, and to promote sustainable and equitable natural resource management systems. Natural resource management issues present special contextual challenges for participatory research. At the community level, natural resources are governed by complex, overlapping and sometimes conflicting social entitlements and traditional norms (private versus common property rights, tree versus land tenure, differential security of tenure and use rights, etc.). Social identities, relationships and roles negotiated along lines of gender, kinship, ethnicity, socio-economic status, age, occupation, etc., both shape and are shaped by access to and use of natural resources. Local level resource entitlements are often further complicated by incompatibility with regulations and management practices at higher levels of governance. To be effective for natural resource management, participatory research approaches often require collaboration between different levels of governance and involvement of many stakeholders.

Different stakeholders - within the community and outside - have different values, perceptions and objectives concerning natural resource management issues, depending on individual context (how the individual experiences the social and natural environment) and social-cultural identity. This has implications for participatory research. Representation and meaning of “community” and “community interests” for natural resource management are *“produced in the context of struggles over resources, which form part of the “practical political economy” through which different parties defend interests and advance claims”* (Li 1996:508). Underlying power differences between these different actors shape interaction and negotiation between them (both within the community and between the community and outside groups) and this can influence whose “interests” are represented. Although participatory processes can

provide an opportunity for less powerful groups to contest existing power relations and resource rights, they equally provide a forum for more powerful or politically aware groups to further legitimatise *status quo* wealth and power relations or to assert preferential rights over resources in the name of “community interests” (Scoones and Thompson 1994:21). This is especially true for common property or open access resources, for which resource entitlements may be open to interpretation. Participatory research is essentially a political process. Power and social dynamics underlie all participatory activities, particularly group activities, and influence whose perspectives are articulated, especially when there is conflict between interests of groups of disparate power or social status.

Participatory research methods for natural resource management need to identify the range of stakeholders, illuminate their unique perspectives and involve them in problem-solving and decision-making about natural resource management issues which affect them (Allen 1997:634). This approach is rooted in non-positivist and constructivist paradigms, which 1. recognise the existence, value and legitimacy of different kinds of knowledge, particularly “popular”, “local” and “indigenous” knowledge; 2. recognise that information and knowledge is not value free, and the selective choice of information or knowledge empowers some people and disempowers others; and 3. recognise that knowledge and information is constructed by context, that there is not one “explanation” or “theory” for a given body of facts, and that the choice of theory is dependent on values (Pretty 1994; Scoones and Thompson 1994:22; Guba and Lincoln 1985:26-43). Participatory methods combined with multi-stakeholder approaches can be applied to construct a common understanding among different stakeholders of disparate power and negotiate a common conceptual framework through which to address problems. A fundamental issue for monitoring and evaluating participatory research for natural resource management is to assess whether important stakeholders have been identified and whether or not they have participated and how.

The question of “adequate” stakeholder representation depends on the nature of the research questions, who the users of the resource are and which stakeholders will be affected, as well as the nature of property entitlements for the resources being considered. It is likely that participation of different interest groups is especially important for common property issues

because of the risk that certain marginal groups will be excluded from access to important livelihood resources if their interests are not adequately represented in the research. Not all stakeholders, community groups or individuals will want or need to have the same level of participation in the research, but they should at least be consulted or they may resent the research, withdraw from the process or actively undermine it. As a general rule, stakeholders who need to be represented in some capacity include: 1. individuals and groups who can influence project outcome because of the power they hold, their ability to influence opinion, the useful knowledge or skills they possess (including leaders within the community, government officials, or other groups); 2. individuals or groups who will be directly influenced by the research (including less powerful groups who may not be able to participate actively, but whose perspectives need to be considered); and 3. individuals or groups who are willing or able to play a leadership role in natural resource management, social and environmental monitoring, problem solving and conflict management.

Effective and equitable common property management requires institutions for collective decision-making and which can ensure local compliance to regulations for resource use. Institutions are “regularised patterns of behaviour” which endure over time, based on underlying rules or social norms (Leach, Mearns, and Scoones 1997:11). Institutions do not always take the shape of organisational forms, and can be formal or informal (e.g. cooperatives versus kinship or friendship networks). They include such social arrangements as marriage, economic systems, patron-client relations, labour exchange, credit or loan systems, etc. Institutions exist at multiple and overlapping scales (household, community, state), and are often interdependent. They are dynamic and change over time as peoples’ behaviour evolves according to social, political or ecological changes. It is often combinations of institutions which shape environmental change.

Resource management draws upon multiple institutions, and different people support claims to resources or environmental goods based on several different and sometimes overlapping institutions. Institutions which are not obviously or exclusively centred on natural resource use, such as kinship or marriage, also influence peoples’ livelihood roles and access to resources. In cases where institutions for community-based natural resource management exist in an organisational form, relations of power and authority often underlie these. Such

organisations frequently exclude the interests of subordinate or marginal groups, acting in favour of a particular representation of “community” interests. In order to represent the diversity of interests within a community, community organisations need to increase representation of marginal groups who may stand to lose from the process, as well as encourage participation of individuals or groups who have organisational skills, authority and legitimacy in the eyes of the community.

In participatory research for community-based natural resource management projects, there is often a focus on building, transforming or strengthening community organisations or institutions<sup>2</sup>. This requires identifying existing local institutions and organisations and analysing how these relate to natural resource management. Institutional assessment should be based on the ethical philosophy of community-based natural resource management, i.e. are existing local institutions compatible with the goals of local participation, democratic decision making, equity, poverty alleviation, and resource sustainability/conservation. If not, it may be necessary to either construct new or transform existing institutional arrangements. Support of institutions must confront issues of conflict and power, as well as uncertainty. For meeting goals of equity and improving the conditions of marginal groups, it will be important to explicitly support institutions which strategically improve the access and rights of marginal groups to resources (Leach, Mearns, and Scoones 1997). Social institutions are dynamic and evolve according to changing social and natural influences, and many are interdependent, so alterations in one are likely to cause changes in others. Therefore, application of participatory research for building or strengthening institutions requires a learning process approach which encourages critical reflection linked with action.

Social and natural environments are constantly evolving. In order for local people to sustainably manage their natural resources, they must understand how their actions affect the ecosystem, and must develop skills to monitor and analyse the ecological and social results of their management decisions and be able to adapt their practices accordingly. Therefore,

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<sup>2</sup>Institution building is the process of developing new institutions. Institutional strengthening describes the process of building on existing institutional arrangements and giving these new legitimacy.



participatory research projects must encourage initiation of locally based participatory monitoring and evaluation processes which are accessible and relevant to local people, and which encourage local people to identify indicators of change and sustainability which can be easily measured and which have a sufficient degree of accuracy.

Monitoring and evaluating the participatory research process can strengthen researcher understanding and awareness of the social dimensions of the community and the underlying power relations and struggles over resource rights which may affect genuine participation and “manipulate” the reality which is represented. It can also assist researchers in assessing the process of institutional transformation. Information from systematic monitoring and reflection during the research can help researchers guide the process and adapt the methods to better enable articulation of marginal interests, recognise when group activities need to be disaggregated by gender or social group, and progress towards more equitable research results. This type of continual assessment of the research process is particularly important when participatory research attempts to represent the views of marginal groups and women, which may be submerged by the “interests of the community” (Li 1996:505).

#### **4 The influence of context on participatory research**

Many factors influence the outcomes of using participatory research methods to contribute to sustainable and equitable community-based natural resource management. Some of these factors are project-related (*project variables*). These include research questions, project design and management, time frames, priorities and needs of the donor and research institution, human and financial resources, participatory methods used and context in which these are applied, choice of which stakeholders to involve, the attitudes, values and abilities of the researchers, and so on. Other variables lie outside of the scope of the project (*externalities or context variables*), and form the immediate and larger setting in which the project is placed. Such contextual variables include the political context, natural environment, culture, social and economic situation, and so on. Pomeroy (1996) makes a distinction between three levels of externalities:

**1. Supra-community level:** Government legislation, international, regional and local market forces, security of land rights for indigenous groups, modes of governance, level of decentralisation of decision making, etc.;

**2. Community-level:** Intra-community power and patronage dynamics, diversity of different groups and interests in the community (ethnic, socio-economic, occupational, age) and relationships between these groups, gender relations, resource management institutions and norms, culture, local land tenure, etc.; and

**3. Individual or household level:** Social identity based on gender, ethnicity, class, economic status or age, workload and livelihood responsibilities, access to and control over productive resources, decision-making power within the household, livelihood roles, etc.

These variables can either constrain or enable local participation in research by affecting the ability or willingness of an individual or social group to genuinely and honestly contribute to the research process.

Certain contextual variables can be addressed during the research if researchers are explicitly aware of these and monitor and assess them during the research process. The resulting information can be used to adapt and improve research design and methods by building on enabling factors or by minimizing constraints and risks. The following section briefly outlines some project-related and community-level variables important for participatory research which can be monitored during the project.

#### **4.1 Issues relating to the researchers and field workers**

Participatory research is bound by values, and interaction between the researcher and the “participants” shapes the results of the research. Researchers themselves can be seen as variables which influence participatory processes and outcomes, not only by the questions they raise and methods they choose, but also by their attitudes and personalities. Evidence suggests that the type of information gained from participatory research is very much dependent on the skills and level of understanding of the facilitators (Mayoux 1995:245).

Interaction between the researcher and community is defined by underlying power differences, based on formal education versus popular knowledge, urban versus rural background, differences in social and economic status, gender roles, etc. Furthermore, in most cultures, researchers are conditioned to see themselves as experts and may view their role as “advisors” and “teachers” when working with communities. Although participatory processes provide an opportunity for reversal of researcher - community roles, devolving authority over knowledge may be a difficult adjustment for some researchers. This may be especially true in cultures with defined or rigid social hierarchies. Researcher values and understanding of community heterogeneity, social and gender relations will affect how they perceive the community, how they understand participatory activities and underlying power dynamics, and how well they interpret and attempt to represent different community interests. Researchers may intentionally or unintentionally manipulate the results and process of participatory research by favouring certain perspectives, such as by focussing attention on more articulate individuals or organised groups. In addition, researchers’ academic needs for results which will stand up to peer review and support publications may dissuade them from allowing community members to direct the research and define their own objectives. Combined, these “researcher” variables will affect the nature and outcomes of the research process, perceptions of who “owns the research”, who in the community is positively or negatively influenced by the research, the sustainability of the outcomes, and so on.

#### **4.2 Issues relating to community perception of the research**

Local people’s perceptions of the research process will influence their willingness to participate. Research activities may be perceived as both foreign and highly formal (Mosse 1994:505), especially when more powerful stakeholders are present. Local people may be reluctant to express their interests, may give “correct” or “expected” responses, or may present needs which they feel fit the agenda of the researchers. Their responses are often based on perceptions of what they can gain or lose by providing certain information, as well as suspicions about how the results will be used (Mosse 1994:504).

Past community experience with research and development projects, as well as perceptions of potential benefits can influence community motivation to participate in new research activities and can bias local people's responses. The increasing popularity of participatory approaches and the accessibility of PRA tools to researchers has sometimes led to indiscriminate use of these methods. Furthermore, isolating research from action can have negative effect on local people's perception of research.

Communities will be suspicious if they have been involved in many participatory processes with no obvious results ("participation overload" or local burn-out), and there is no reason to expect people will want to participate in exercises which will not offer them a practical benefit, even if the ultimate "goal" is in their strategic interests (Goyder 1998:7, Found 1997:118). The opportunity cost of participation for local people is sometimes undervalued by researchers, especially when it is assumed that participation is in the people's best interests. Participation of marginal groups and women may itself add to the work burden or decrease leisure time of these groups

(Goyder et al. 1998:10; Mayoux 1995:246). The value of local participation to the research and to the local people needs to be critically assessed before assuming that a participatory approach is appropriate, and before deciding on the appropriate level of local involvement in the research.

**Box 1: Case example of local burnout from participatory research activities.**

Local people in an upland community in the Philippines have expressed dissatisfaction with participatory research activities. The community has been a popular site for participatory research activities, however local people do not perceive that they have benefited concretely from their contribution to this research. This past experience is influencing a current research project in the area which is aimed at improving local input into new ancestral land rights legislation. The project researchers are having difficulty motivating people to participate, and many people are unwilling to be interviewed. One local lamented "why don't they just write a book about us and get it over with". Researchers seeking historical information are immediately directed to the elder men, who have been repeatedly been asked the same questions by different researchers. The frustration of these elders is mounting as they deal with more and more outside researchers who subsequently leave the community with the information. In addition, local people fear that information on resource use will be used as a basis for tax collection, and there is deep suspicion and resentment of the government process for "granting" certificates for land which the community already claims ownership.

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*"A major lesson from Tumkur has been that to raise community expectations without prior attention to these concerns is to invite frustration and mistrust. A key element in building rapport and credibility must therefore be clear evidence that an intervening agency has a stake in the community's future and is committed to a presence beyond the demands of government or donor-driven projects. Yet even within such a commitment, a visible end to a process, with tangible outputs, often proved essential to sustaining interest and enthusiasm. The need for projects that could success in bringing communities together in a tangible change, such as vermiculture effort, has been strikingly underlined in Tumkur". (Ashoke Chatterjee 1997:12)*

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### 4.3 Issues relating to research questions, design, methods and tools

**Time and resource constraints** imposed by the project, research institution or funding agency can limit the effectiveness of participatory research as an empowering process, and place constraints on the amount of local representation and involvement which is feasible. In addition, **methodologies for encouraging community participation** may unintentionally overlook the interests of certain groups in the community and may construct the information and priorities which are presented and the decisions which are made (Mosse 1994). Power and social relations underlie and influence all participatory processes and their outcomes. Although group participatory exercises can provide an opportunity for researchers to observe how people interact and study power and social relations, group exercises can also obscure social complexity and legitimise dominant views as community consensus (Goebel 1998:279). Bias of results may occur because of lack of participation of certain groups or inability for them to articulate their perspectives because of the immediate context of the research activity (e.g. because of underlying social and power dynamics in group activities). Certain groups or individuals (especially women and marginal groups) may be unable (or unwilling) to participate in group activities because of livelihood and time constraints, lack of information, powerlessness, feelings that the meetings do not concern them or that their views will be of little value. Cultural, social and religious norms may define who attends meetings and makes decisions, while fear and shyness may inhibit participation in group activities. Willingness to participate will also be affected by disinterest in the research process or distrust of how the research results will be used (Mayoux 1995:246-7; Mosse 1994).

Researchers using participatory methods are sometimes relaxed about sampling, relying on the opinions of village leaders, key informants or existing local organisations to determine who should participate in the research and to identify important issues (Freedman 1997:776). Although it is usually necessary to involve such groups, it is naive to assume that they represent the interests of the whole community. Local leaders may use the process as a political platform and may advocate in their own best interests which may conflict with those of other groups.

Although participatory methods may make it easier for local people to express their interests and ideas, there is little in the methodology which helps in interpretation of this information (why people do and say what they do) (Goebel 1998:279). Research projects would often benefit from a deeper level of social analysis which may be neglected if researchers rely solely on participatory methods. Furthermore, tools which encourage local participation may create positive bias for information that can be easily gathered by these methods or which can be visually depicted (Mosse 1994:517). Information gained from participatory research may also be misrepresented in documentation and summarisation, and important minority perspectives may be lost even when special effort has been made to ensure representation of these groups. In addition, information from participatory research may not have the specificity or perspective to meet the needs of policy makers and government officials, nor be credible to decision-makers. This can limit research influence on higher levels of decision-making.

## **5 Rationale for monitoring and evaluating participatory research**

The main clients interested in monitoring and evaluating participatory research are donors, researchers and sometimes the community. These different groups tend to have distinct information and evaluation requirements. Three main reasons for evaluating participatory research include:

- 1. Project management:** To systematically learn from and adapt the research approach as the project proceeds, according to what has been successful or not-successful, and according to enabling and risk influences such as social and power dynamics which affect the research process and results;
- 2. Conceptual learning:** To identify lessons of general applicability and to improve understanding of how different participatory research approaches and methods influence the outcomes of natural resource management projects. To identify what approaches work and don't work under different conditions, and what external and methodological factors influence this.

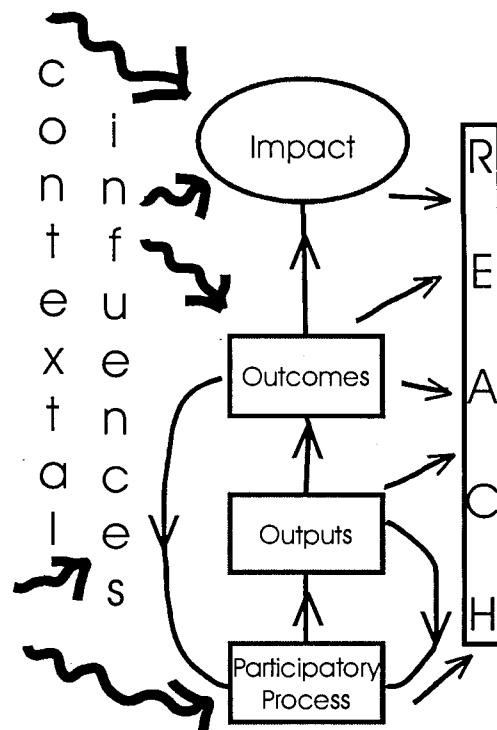
**3. Accountability:** To justify the research strategy and expenses to funding agencies through credibly illustrating the link between participatory research methods and project outcomes, so that researchers can be accountable to donor agencies, and for programme accountability to funders (government, tax payers, etc.).

Two overall goals of participatory research can be considered in monitoring and evaluation. These include 1. participation as a product, for which the act of participation itself is an objective and an indicator of success, and 2. participation as a process to meet research objectives and goals (Cummings 1997:26; Rocheleau and Slocum 1995:18-19). For evaluation purposes, participatory research generates products of the following kinds:

1. The **participatory process, methods and tools** chosen or developed for the research. Who was involved, how, and at what stage of the project shape the ultimate outcomes and reach of the research project. Participatory research approaches developed during the project can be considered both as an objective/output of the project, as well as a functional means for meeting other project objectives.

2. **Outputs** describe the concrete and tangible consequences of participatory activities. These include information and product outputs (e.g. information from participatory baseline analysis or community

monitoring, new agricultural practices or technologies developed with farmers, new community resource management approaches, etc.). Outputs also include tangibles such as number of people trained, number of farmers involved in on-farm experiments, number of reports or publications produced from the research, etc. “Participation” itself can be considered an output.



**3. Outcomes (short term impacts or effects)** describe the intermediate impacts which can be attributed, at least in part, to participatory research. Outcomes result both from meeting research objectives as well as from the research process itself. They can be negative or positive, expected or unexpected, and encompass both “functional” effects of participatory research (e.g. greater adoption and diffusion of new farming practices) or intangible “empowering” effects (e.g. improved community confidence or self-esteem, improved local ability to resolve conflict or solve problems).

**4. Impacts** describe overall changes in the community (negative or positive) and may include overall social and development goals. Desired impacts of participatory research for natural resource management include sustainability of livelihoods and natural resources, empowerment of communities, decreased poverty, improved equity, and so on. Development impacts are influenced by many factors external to the project and are often observable only in the long term. Consequently, assessing the impact of a participatory research project is extremely difficult. For evaluation purposes, it is more realistic to consider outcomes as “intermediate” signs of impact.

**5. Reach:** The concept of **reach** cross-cuts all of the products of participatory research. Reach describes the scope of who is influenced by the research combined with who “responds” or acts because of this influence. Participatory research is assumed to influence reach by involving marginal groups and communities throughout the research process rather than treating them as passive “beneficiaries” of the research results. Participatory methods are anticipated to improve equity and appropriateness of results, the distribution of research costs and benefits, and the persistence of behavioural change at the community level. For the purposes of IDRC which has a mandate of strengthening research capacity in the South, an important consideration for reach is the spread of capacity and ideas at the level of researchers and research institutions.

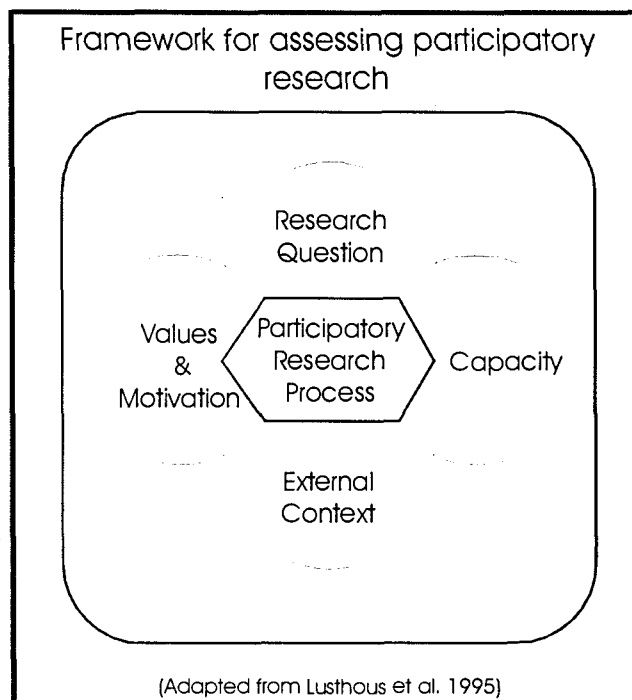
Indicators can be defined for the different products and stages of participatory research. In practice, differentiating between process, output, outcome and reach of participatory research can be fuzzy and artificial since these are often “sequential” and “time-dependent”. Therefore, it does not always make sense to differentiate between these in evaluation.



## 6 Framework for monitoring and evaluating participatory research

Evaluation of participatory research for natural resource management projects must be situated within parameters which influence the appropriateness and feasibility of different participatory approaches. These parameters determine realistic expectations from different participatory research projects. These parameters include the nature of the research question, the initial “capacity” of local people and researchers involved, the values and motivations for using a participatory research approach, and external contextual factors which enable or

constrain participation. Questions which can be considered when framing an evaluation include:



1. **Research Question and Goals:** Is the participatory approach appropriate for the research question?
  - a. What are the *goals and overall objectives* of the research process? Functional, empowering or transformative, improved farm production, improved decision-making for common resources, etc.
    - Is participatory research the best approach for meeting the research goals and objectives?
    - Who will benefit from community participation in the research?
  - b. What is the *sector of the research*? Fisheries, forestry, farming
  - Does the research problem address resource decisions which require individual decision-making and compliance, or collective decision-making and compliance?
  - c. What are the *dimensions* of the research? Economic, social, ecological, political, etc.

- d. What is the appropriate *scale and scope of participation*? Local, regional, national.
- Who needs to be involved (what stakeholders) and are they included in the process?
- At what stage do these groups need to be involved?

**External Context:**

- a. What are the social, cultural, political, environmental, economic and institutional variables which are likely to enable or constrain different approaches and methods of participatory research?
  - b. What contextual variables will affect the research? Will these restrict the type of participatory approach which is feasible? What are the risks and enabling factors?
  - *Community-level:* power and social relations, nature of resource entitlements, cultural norms, community heterogeneity, conflicting resource use, household dynamics etc.
  - *Larger political and cultural context*
  - *Research institution and donor context:* project time lines, expectations for certain types research results, etc.
3. **Values and Motivation:** What are the motivating factors and underlying values for engaging in a participatory research approach?
- *Of researchers and research institutions:* Commitment to a participatory research approach, commitment to allowing the community to direct the process, attitudes and values regarding local knowledge and local people, focus on empowering or functional goals of participatory research, culture, etc.
  - *Of the community and subgroups, and possibly other stakeholders:* Motivation to participate in process, awareness of problems and desire to address them, culture, past experience with participatory research or other projects, expectations of benefit, values towards collective action, values of hierarchy and respect, values of equity, conservation, differing interests in negotiating access to resources or power, etc.
  - *Of the donor institution:* acceptance of fluid research processes, openness to alternative forms of accountability, time-frame flexibility, etc.
4. **Capacity:** What are the existing skills and experience of the researchers and research organisations with participatory research? What is the existing capacity of the community (institutional and individual) to deal with local natural resource problems and to work collectively?

- ***Of researchers and institutions:*** Past experience with participatory methods, training, skills and experience with community facilitation, understanding of social and gender dimensions of research, adaptability and flexibility, etc.
- ***Capacity of the community:*** Existing level of education and skills, level of organisation, traditional forms of natural resource management, approaches for managing conflict and making collective decisions, history of collective action, etc.

The above parameters help establish realistic expectations for participatory research processes and results. Aspects of the research process which can be considered for evaluation within this context include:

- ***Relevance and effectiveness of participatory tools and methods:*** Stage at which these are used, adaptability and progress of the research process according to the context and according to various emerging realities, adaptation of methods when necessary to enable representation of different perspectives, etc.
- ***Scope for social transformation:*** Community ownership of research process, learning and capacity building from the process, community involvement in identifying research priorities, in defining solutions, in action, etc.
- ***“Quality” of participation:*** Identification and representation of important stakeholders, “scale” of participation, etc.
- ***Trustworthiness and validity of the research findings:*** Are the researchers taking measures to ensure the validity of the research findings?

## 7 **Considerations in developing an approach for evaluating participatory research**

Approaches for monitoring and evaluation of participatory research must move beyond post-project assessment of whether or not research objectives have been met. In order to learn from different participatory research approaches it is important to understand how the participatory methods used contributed to the research results. This requires evaluating the research process and methods as well as the intermediate and final results - i.e. combining process and outcome approaches to evaluation. Ideally, monitoring and evaluation should be built into the research strategy from the beginning, and the information applied to improving the research process as the project proceeds.

Certain characteristics of participatory research define the appropriateness of different approaches to evaluation. These are outlined as follows:

**1. Evaluate for the unexpected as well as the predictable:** Conventional monitoring systems often only inform on results which are expected or predictable, which are related to the overall development goals of the research, or which have been pre-defined by the evaluation team. This ignores the majority of possible outcomes (Goyder et al. 1998:4). Monitoring and evaluation of participatory research must be open to recognising unexpected outcomes as well as to considering negative, unplanned indicators, and not be based only on predetermined indicators of progress.

**2. Evaluate process as well as outcomes:** Participatory research is by nature experimental, and requires that the methods and objectives initially outlined in the proposal are continually redefined and adjusted iteratively in response to contextual influences and input from participants. Therefore, evaluation based on whether or not the expected activities and results initially outlined in the proposal were achieved is not the best approach. It is more useful to consider how well the research process was adapted in order to move toward meeting the ultimate outcome objectives, and how the research has progressed towards meeting these goals. At some point in the project clear objectives will be set, and relevant indicators for measuring progress towards these can then be determined at this time. Objectives should be stated in such a way that the results can be measured.

**3. Combine qualitative and quantitative approaches:** The most important and interesting outcomes of participatory research tend to be intangible and social in nature, and are best measured qualitatively. However, many evaluations tend to focus on outcomes which are quantitatively measurable. Although qualitative information is also important, exclusive focus on this type of information is unlikely to provide a useful analysis of participatory research projects. Qualitative analysis is important for explaining why changes have occurred, while quantitative analysis is useful in establishing relevance of changes. Quantitative and qualitative indicators can be used together to validate each other.

**4. Addressing the issue of causality:** There is an inherent assumption in research design that participatory research activities, outputs and outcomes are causally linked. However it is impossible to validate a causal relationship between these because of the number of contextual influences. A central challenge for evaluation is determining which changes in the project site were caused by factors outside of the project's control and which can be attributed to the project, as well as what the effects of the research have been on the area outside of the project site or on non-participants (the "reach" of the results).

Attempts at establishing causality have used "quasi-experimental" evaluation designs for comparing research versus non-research situations, using a community similar to the research site as a control group (Pomeroy 1996; Olsen et al. 1997). Although imperfect, this approach may be acceptable when assessing biological or physical changes. However, it is ethically questionable to involve a "control" community in time-consuming activities to evaluate social changes when there is no mandate to consider that community's interests. Furthermore, this approach places significant demands on human and financial resources. An alternative approach which uses "non-participants" or "non-beneficiaries" in the research site as a control group ignores the fundamental evaluation question of "why" these people did not participate, and whether or not the research had an influence on non-participants. A more feasible and appropriate approach to "quasi-experimental" evaluation is to establish credible relationships between the participatory activities, outputs and outcomes, through monitoring and evaluating the process and defining simple indicators to measure progress.

**5. Recognising different perspectives:** Different individuals or stakeholder groups (within and outside the community) will have different interests in the project, and will interpret and experience the research process and outcomes differently. These different groups will have distinct perceptions of what the project outcomes were and which were most important, and may have different criteria and indicators for positive or negative changes resulting from the project. This may depend on their level of involvement in the research process, the extent to which they have been directly affected by the project, and their individual expectations, interests and values.

For participatory research projects addressing natural resource management issues, it will often be necessary to understand outcome from multiple perspectives, some of which may conflict. It is therefore important to establish **whose perspectives** are needed in evaluation. This will depend on the nature of the natural resource management project and the goals of the evaluation. For example, if the goal of the evaluation is to consider improvements in farming technologies from farmer participatory research, it may not be relevant to ask non-participants. However, if the goal of the evaluation is to understand “reach”, “diffusion” and uptake of new technologies beyond the participants, obviously a wider group of people needs to be consulted. Equally, if the purpose of the evaluation is to understand social change and progress towards social and gender equity, empowerment or poverty alleviation, for representation in decision-making, in community natural resource management structures, etc., it is important to ask “who” has been empowered, “who” exactly has benefited from research aimed at poverty reduction, “who” is more involved in local decision-making, and so on, and “how” have marginal groups and women been affected or reached. In this case it will be important to identify these different interest groups and understand their perspectives on how they have participated, how they have been influenced and what the project outcomes were. It will often be useful to disaggregate this information according to social group.

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*“To assess or measure impact using one set of indicators across a particular community and without disaggregating data to refer to categories or even involving communities to explain underlying issues in some detail, is definitely to risk the possibility of painting an absolutely wrong picture” (Goyder et al. 1998:6).*

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The process of getting a comprehensive understanding of the outcomes of a participatory research project may call for involving various stakeholders in the community in negotiating the terms of reference and indicators for the monitoring or evaluation process. Understanding outcome from the perspective of different groups requires an open-ended, qualitative approach which does not limit evaluation to pre-defined indicators.

**6. Considering outcome at different scales:** Outputs and outcomes of participatory research can be considered for different scales of stakeholders in the research process; for researchers and research institutions (improved research capacity, better understanding of participatory

processes), for community and groups within the community (more equitable decision-making processes, improved management structures for natural resource management, improved livelihoods, etc.) and for policy makers (changed attitudes and behaviours, increased openness to community involvement in decision-making). Depending on the goals of the project and the evaluation, it may be necessary to focus how different scales of stakeholder perceived and were influenced by the project.

**7. Problems with validity of standardised indicators:** From a programme perspective, it is sometimes useful to compare the effectiveness of different participatory research approaches by comparing across projects. However, defining standardised indicators for comparison across projects is difficult since standard indicators often have little meaning in the local context or measure different changes than intended. A better approach is deciding on broader questions for which locally defined indicators and locally relevant criteria might provide information.

An appropriate approach for monitoring and evaluating participatory research would draw from a number of evaluation approaches, including:

**1. “Process evaluation”** assesses the process of reaching the final results (how something happens) rather than basing evaluation on whether defined objectives were reached (Patton 1990:94). This approach also encourages monitoring of intermediate indicators of progress, and therefore can serve to guide the research as it proceeds as well as facilitate understanding of the linkage between research process and results. Evaluating the process encourages assessing the research on criteria such as how well the researchers were able to adapt the research approach and goals to the context, whether the community participated and had a role in shaping the process and design of the research, whether there has been positive move towards desired outcomes, and so on. This moves beyond assessing the attainment of pre-defined objectives which ignores the most illuminating evaluation questions for participatory research projects.

**2. “Participatory monitoring and evaluation” or “self-evaluation”** encourages using evaluation as a learning tool and allows perspectives of different stakeholders in the community to be articulated. It also provides information to feed into the research process, enabling researchers in partnership with the community to renegotiate and adapt goals and methods during the project according to emerging issues. This approach is discussed in greater detail in section 8.2.

**3. “Responsive and naturalistic evaluation”** encourages the collection of qualitative responses from different stakeholders, community groups and individuals who have been influenced by the project. This “constructivist” approach to evaluation recognises that “truth” and “fact” are subjective and allows different perspectives to emerge and conflicting interests to be articulated (Marsden, Oakley and Pratt 1994:31; Dugan 1996; Fetterman 1996). The boundaries of the evaluation are set by the constructions and interactions of its stakeholders (Guba and Lincoln 1989:42).

**4. Logical framework analysis (LFA):** A simple form of Logical Framework Analysis (LFA) can provide a matrix for making explicit assumed causal relations between participatory research activities, outputs, outcomes and impact goals (Cummings 1997:588-590; Olsen et al. 1997:6). This can be used both as a project planning tool and as the basis for a preliminary evaluation plan, outlining relevant questions, indicators and methods for measuring degrees of progress, as well as designating who will undertake the monitoring activities. LFAs can be tentatively developed by researchers during preparation of the project proposal, and adapted and fine-tuned with monitoring information as the project progresses.

Although LFA matrices provide a useful framework within which evaluation and project management approaches can be developed, these require specific objectives and strategies to be defined at the beginning of the project when the least is known, and often without input from the community. This creates the risk that log frames become a “strait jacket” and an impediment to the adaptive learning which is necessary for effective participatory research (Olsen et al. 1997:10). It is best that LFA is used as a planning tool to guide research design and is adjusted



as the research progresses, rather than as a strict framework for which participatory research projects are accountable.

## **8 Monitoring and evaluation within the project cycle**

Participatory research can be monitored and evaluated at different stages of the project cycle (pre-project, in-project and post-project), and different stakeholders may be involved in each stage.

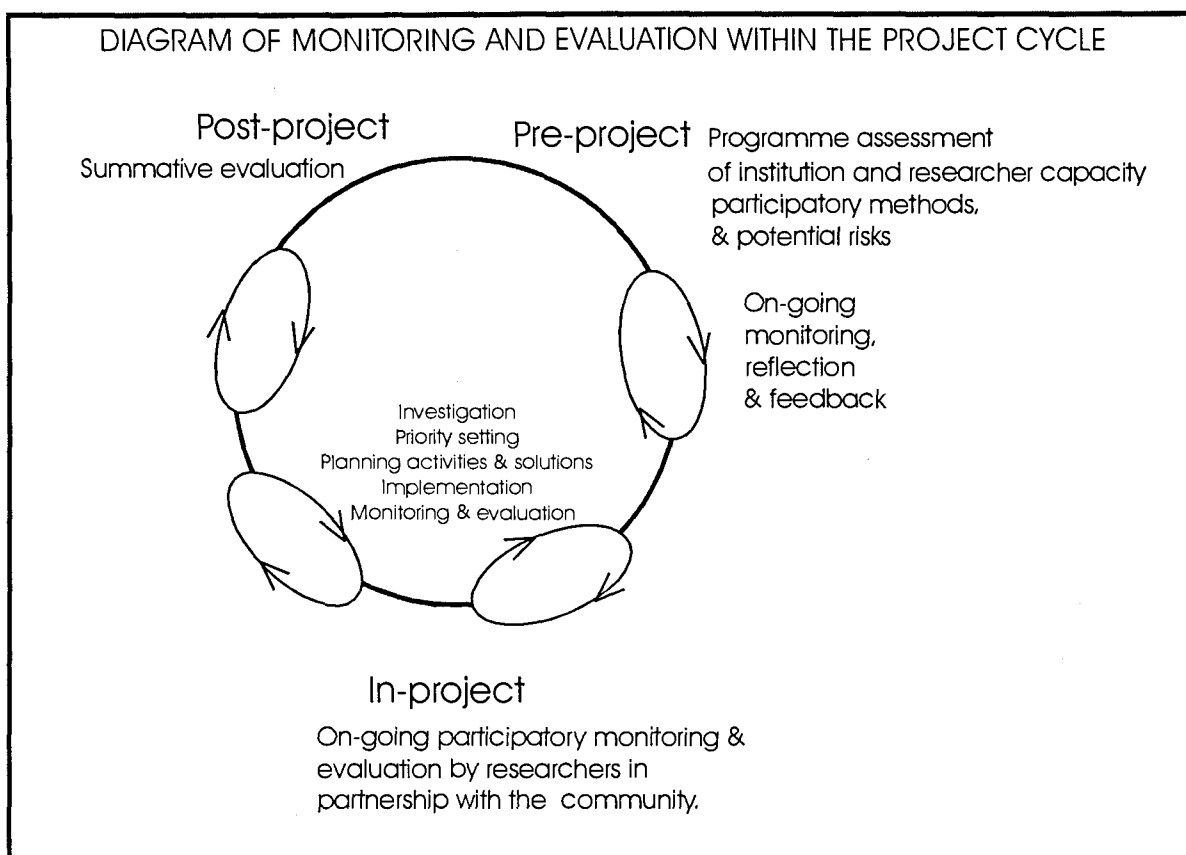
### **8.1 Pre-project phase (proposal development stage):**

Donor agencies can assess the participatory research approach at the stage of proposal development. The appropriateness and feasibility of the proposed methodology can be roughly anticipated by examining the context (environmental, social, political, etc.), existing capacity of the researchers and research institution, and the goals of the project.

The main factors for donors to consider when assessing participatory research proposals include:

**1. Capacity and motivation of researchers and research institutions:** Assessment of the existing capacity and experience of the research team and institution for undertaking participatory research, as well as their motivation for using a participatory approach, is important to establish training needs and to judge the feasibility of the research strategy presented in the proposal. Questions which can be considered include:

1. What past experience have the researchers and institutions had with participatory research projects?
2. Does the research team include a qualitative social scientist (anthropologist, rural sociologist, etc.)? Does the research team include female researchers?



3. Have the researchers had training or experience with social or gender analysis, participatory research tools (PAR, PRA, semi-structured interviewing, etc.), evaluation, group facilitation, etc.? What type of training/experience?
4. Is the structure and management of the research institution accepting of participatory approaches?
5. Is the participatory research approach outlined in the proposal realistic for the research team to apply effectively, given their capacity and experience, and the support of the research institution?

## **2. The appropriateness and quality of the participatory research process and methods:**

The appropriateness and feasibility of the proposed methodology can be assessed for its relevance to the stated research objectives and the likelihood that key stakeholders or community groups will be identified and their perspectives addressed. General methodological questions which can be considered at the project development stage include:

1. How do the researchers understand “community”, “gender” and “participation” in the project proposal? Is there evidence that researchers understand the multitude of different interests and possible conflicts which may arise from the research, or is there an assumption of community cohesiveness? Is this understanding evident in the design of the methodology, or only through the use of the “appropriate” terminology?
2. What is the value of a participatory approach for the research, and is this the best approach? How will the research, and importantly the community or stakeholders benefit from participation? Is there an obvious connection and relationship between the participatory research activities with other parts of the research strategy? What types, level and scales of participation will be most effective or feasible to address the research questions, and does the research methodology support these? Is the proposed methodology “tool-driven” or flexible to focus on reaching project goals?
3. Is there an attempt to identify the stakeholders or resource user groups who are likely to be influenced by the project? Which stakeholders/community groups need to be involved, and are these included in the research process? How has this been decided? What scale(s) of stakeholders need to be involved in order for the project to have the desired outcome?
4. Is the process intended to strengthen local institutional and individual capacity and decision-making ability? If so, does the methodology encourage devolving control of the research process to the community?
5. As part of the baseline analysis, is there an intention to assess the micro-political context? To analyse local institutions? (for equity in decision-making and representativeness of different interests) To analyse social, power and gender relations in the local community? How are these relations likely to influence the research methods? Does the methodology outline how the researchers will deal with this? (e.g. through disaggregation of methods). If there is intention to involve stakeholders of different scales (community representatives, government, etc.), how will power differences be handled?
6. Does the project strategy include a mechanism for feedback of information from participation? Is there flexibility in the methodology to adapt methods if they are not effective in allowing representation and participation of certain groups, or according to intermediate results? Is there a systematic process for communication between different researchers, local participants, etc. to share and reflect on research results and plan research direction? (E.g regular meetings).

**3. The social, political and environmental context and associated risks:** Although participatory research can result in significant benefits for local people and marginalised groups, there are inherent risks associated with the approach. Two types of risks can be considered:

1. risk that the research will fail to meet its goals, and
2. risk that the research, in meeting the objectives or through the research process, will unintentionally cause harm to the community or to specific groups within the community.

For example, a project designed to encourage sustainable and equitable community-based management of communal forest lands may fail to meet its objectives if key community leaders are not identified and included in the research, since the community may not recognise the research process as being legitimate or the community leaders may actively undermine the research. At the same time, these leaders may manipulate the participatory research process for their personal benefit, and marginal groups or women may lose access to important resources because they weren't able to genuinely articulate their interests during the participatory activities. Such social risks need to be carefully anticipated during proposal development and monitored throughout the project.

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**Box 2: Unanticipated consequences**

One project in India provides an example of how participation in research can have unanticipated negative consequences. The project required that women were involved in the process. One woman was elected to participate as a "chairperson" on a local committee, specifically because of her sex and low caste. Because of her new role and increased social status, people would no longer employ her for the menial tasks which had previously sustain her. Her new position was at the cost of her livelihood.(Ashoke Chatterjee 1997:16)

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The potential enabling factors and social risks of participatory research or from involving or not involving specific stakeholder groups can be anticipated before the project begins, and can be ranked (high, low, likely, unlikely, on a comparative scale between 1-5, etc.) (Sawadogo and Dunlop 1997:601). Recognition and tracking of these will also help to establish what changes can be attributed to the research and what is beyond the scope of project influence. It also helps anticipate the relative importance of representation of different groups and disaggregation of research methods. The costs, skill and time required for having greater social differentiation and representation in the research process must be balanced against the livelihood risks to certain groups if they are not adequately represented.

Questions which can be considered for pre-proposal risk assessment are outlined as follows.

1. Is there a risk that not involving certain stakeholders will provoke them to obstruct the research process?
2. Are there security and livelihood risks to local participants if they become involved in an empowering process of which the ruling group may not approve and how will the project handle this? (because of national politics and governance, community leadership, local patronage relations which place certain groups in subordinate positions, etc.)
3. Are there political or security risks to researchers or project staff if the participatory process is perceived as a threat to the political or local establishment?
4. Is there potential for the research approach to further disempower certain groups in the process of enhancing the resource rights and livelihood security of the “community”? This consideration is especially important if the project deals with common property resources, and when there are conflicting uses, needs and interests in the resources. *“Who stands to benefit from the approach and how, and who may be further disadvantaged? Who is enabled or constrained? Whose economic circumstances or security of tenure is at stake”* (Li 1996:505 ).
5. What are the potential risks to the community resulting from inappropriate use of participatory research methods by inexperienced researchers? Some examples of such risk could include:
  - a. Exacerbating or initiating conflict in the community by making power relations explicit or by unintentionally directing benefits of the research to specific individuals or social groups;
  - b. Further marginalising certain social groups by not understanding how the research and participatory process might affect them negatively or by not recognising them as important stakeholders to include in the process;
  - c. Inadvertently aiding elite members of the community in increasing their power, access and rights over resources by further legitimising their claims through “participatory” activities such as boundary and resource mapping or tree-planting which may effectively lead to land privatisation.
6. How will the research strategy deal with creating community expectations for concrete development interventions which are likely to arise from local participation in the research? When participatory research is not linked with concrete interventions, even if researchers are transparent with the limitations of their work, community groups may still anticipate practical benefits. It is important to have a mechanism within the research strategy to meet certain practical needs early on in the process.

## 8.2 In-project phase

During the project, “on-going” and formative monitoring and evaluation can be integrated into the research strategy as part of an iterative and reflective process. Information from systematic monitoring of the process, methods and intermediate results (outputs and outcomes) can be fed into the research to influence its direction and design. This “adaptive management” approach enables researchers to track research progress by detecting incremental signs of outcome and impact. It also enables them to assess which groups are participating and being influenced by the research, and to identify and confront undesirable results or constraining factors (Robinson et al. 1997:806, Margoluis and Salafsky 1998).

For participatory research, it is appropriate to couple an adaptive management approach with participatory monitoring and evaluation (PM&E) methods<sup>3</sup> in order to capture community perspectives on research results and to involve the community in directing research design. In the context of a research project, participatory monitoring and evaluation methods can be used:

1. As a research tool (e.g. farmers monitoring changes from their own experimentation and sharing the data with researchers);
2. For project management (e.g. for researchers to track the process and intermediate results and adapt research design accordingly, or for learning and organisational change); and
3. For facilitating local empowerment and strengthening community capacity to sustainably manage natural resources by helping local people develop systematic methods for tracking the results of their management decisions and activities (Guijt, Arevalo and Saladores 1998:28).

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<sup>3</sup> Participatory monitoring and evaluation describes an approach for involving local people in monitoring and evaluating changes in the natural and social environment which affect them directly. Local people informally assess changes in their environment and monitor and analyse benefits from changing farming practices, exploring new livelihood options, and so on, as part of their daily lives. Formal participatory monitoring and evaluation processes are most often initiated by outsiders in order to capture a community perspective of the progress or impacts of a research or development project. Like other participatory research approaches, participatory monitoring and evaluation is used broadly to describe very different levels of community participation and control over the process. Participation in evaluation spans a gradient from complete community-controlled monitoring of environmental change, to researchers consulting communities on impacts of interventions, to the “participation” of field workers and researchers in evaluation (as opposed to external evaluations by funding agencies), with little focus on community involvement (Woodhill and Robins 1998; Davis-Case 1990; Rugh 1986; Marsden, Oakley and Pratt 1994; ).

The results of participatory monitoring and evaluation can complement external evaluations. However, involvement of local people in monitoring and evaluation can be a time and resource consuming process. Furthermore, the process does not necessarily benefit them directly nor contribute to empowerment, and has an opportunity cost in terms of local people's time which should not be undervalued (Goyder 1998:6). The benefits and drawbacks of encouraging participatory monitoring and evaluation in a research project are outlined in Box 3.

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**Box 3: Potential benefits and drawbacks of participatory monitoring and evaluation:****Potential Benefits:**

1. Researchers and communities benefit directly from the lessons of the evaluation, unlike external evaluations from which the learning tends to be retained with the institution sponsoring the evaluation, and in which the information needs are often different from those of the project researchers and community.
2. Information from regular monitoring and evaluation is defined by the needs of the community and researchers and used to help direct the project or, if defined by the community for its own purposes, to track environmental and social change and help in community decision-making;
3. Researchers and the community have "ownership" over the results, and are more likely to internalise the lessons learned than if these were presented to them by an external evaluator;
4. Participatory monitoring and evaluation integrated into project research strategy will help strengthen the capacity of researchers and communities in evaluation, as well as in conducting participatory research; and
5. Monitoring and assessing the participatory research process should encourage researchers to be more reflective about the research strategy and methods, and hopefully more alert to how these methods enable or don't enable representation of different stakeholders, and to the social dynamics and relations of power which influence the outcomes of these processes.

**Potential drawbacks:**

1. PM&E can require significant time commitment both on part of the researchers and community
  2. Programmes may question the objectivity of the results of participatory evaluations conducted by researchers, and may challenge their validity for accountability purposes;
  3. By devolving responsibility of evaluation to researchers and the community, there is a risk that the information gathered will not meet the information needs or level of accuracy required by the programme or other users (policy makers, etc).
  4. The results of participatory evaluation may not be credible or meet needs of governments and policy makers who may also be interested in the outcomes of the research; and
  5. Indicators and questions from PM&E will differ between projects if they are defined in a participatory way, which may make it difficult to compare outputs and outcomes of different participatory approaches between projects.
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In addition to on-going participatory monitoring and evaluation facilitated by researchers, external evaluations during the project provide important outside feedback on how the research can be improved. This may also involve participatory monitoring and evaluation methods to gain community and special group perspectives. Participatory evaluation exercises facilitated by an

external evaluator in on-going projects can combine “external” evaluation with training of researchers in evaluation tools and PM&E, and can act as an entry point for encouraging more systematic monitoring in the research.

### **8.3 Post-project evaluation**

External, post-project evaluations are useful to establish conceptual and practical lessons from different case studies of projects which have used participatory research approaches. Post-project reflection on what methods and approaches worked well or less well in different situations provides important insights for future research design. It may sometimes be useful to evaluate a project which has already been finished for several years (3-5 years later). This can provide knowledge about the longer-term results of the research, such as the persistence of resource-use changes initiated by the project, the sustainability of new resource management institutions, (Are the environmental conditions better? Are people still applying the techniques?), or the continued use and adaptation of farming practices developed in the project. Evaluation several years after project activities have ended may be particularly beneficial for participatory natural resource management projects because of the lengthy time period for certain benefits to be observable. At the same time, it becomes increasingly difficult to attribute such outcomes to the research as time passes.

## **9 Monitoring and evaluating participatory processes and methods**

Monitoring and evaluating participatory methods and processes during the research is important in order to:

- 1. Encourage critical observation and analysis of participatory tools and methods,** including analysis of who is participating and how. This will contribute to our understanding of the relationship between participatory methods and representation of different interest groups with the ultimate outcomes and reach of the research.
- 2. Encourage observation of signs of intermediate outcome and reach,** and improve understanding of the process of generating outcomes such as capacity building.
- 3. Provide systematic information for improving project performance and strategy;** and



- 4. Strengthen the competency of the researchers** using participatory methods by:
- 1) increasing their critical understanding of the limitations and benefits of the tools and methods;
  - 2) nurturing explicit observation and awareness of the power and social relations which underlie participatory processes and influence whose perspectives are presented; and
  - 3) improving awareness of how the participatory methods and context in which they are used construct the resulting information and actions.

Monitoring the participatory process and methods during the research should decrease the chance that the research becomes tool driven and encourage critical understanding of the usefulness of the tools for meeting different research objectives. This will improve researchers' ability to choose and adapt appropriate participatory research methods, encourage participation of special groups in the community, and adapt to or take advantage of enabling or constraining influences. It also helps make the results chain set in motion by participatory methods and activities more explicit.

The main process issues which need to be monitored and evaluated include the appropriateness of the participatory approach to the goals of the research, the "quality" of participation, how well the researchers have been able to apply and adapt the methods, the trustworthiness of the research process and results, and the effectiveness of the methods and tools for enabling participation, representation, community capacity building and ownership of the process, and for progressing towards the desired research results. Another aspect of the process which may be important to monitor is the "empowering" or "transformative" potential.

### **9.1 Appropriateness of the participatory approach**

The appropriateness of the participatory research approach to the context and goals of the research is associated with the ethics of the approach (Who will the research benefit and how? What are the local expectations from the research and are these realistic? How are researchers dealing with the issue of raised expectations?), the motivation for local participation, and the flexibility of the approach to be adapted to the local context and respond to community input. Guiding questions to assess this in monitoring and evaluation include:

### **1. Transparency of the research process:**

- a. Have the researchers clearly explained the limitations and scope of the participatory research activities to the local people?
- b. Are local people aware of these limitations or do they have unrealistic expectations?
- c. Are local people aware of and understand the overall goals of the research?

### **2. Motivation for participation:**

- a. Are local people participating? In what way (consultative, active in experimentation, active in defining research priorities, etc.)?
- b. Why are people motivated to participate? Is participation voluntary or compliant? Is participation based on getting people to do what the researchers want or genuinely focussed on establishing local needs and priorities?
- c. Do local people perceive that they are benefiting from their participation in the research?
- d. How is the research process benefiting from community participation?

### **3. Relevance of the methods and approaches to the local context:**

- a. Is the participatory methodology “tool” driven or focussed on answering research questions and meeting overall project goals?
- b. Are the methods and tools effective for encouraging participation and representation? For strengthening local capacity? For enabling community-ownership of the process? For progressing towards the objectives and goals of research?
- c. Are field workers making use of existing information sources such as field notes, informal observations, etc., rather than relying on participatory tools to gather information which is already documented elsewhere?

### **4. Adaptability of the research approach:**

- a. Is there a process for feedback of information from participatory processes into the research design?
- b. Is there a systematic mechanism for occasional interaction between researchers and local people to reflect on the research process and intermediate results?
- c. Are the “results” from community participation informing the research design?
- d. Are the research goals and methods being redefined and adapted as the research proceeds?

## **9.2 Ability and attitudes of researchers**

The abilities and attitudes of the researchers are likely to evolve and change over the course of the project because of increasing experience working with local people. It is anticipated that

participatory research and working with local people will lead to increasing researchers' respect of local knowledge.

### 1. Attitudes of researchers:

- a. Do the researchers respect and use local knowledge?
- b. Have the researchers' attitudes to local participation and respect for local knowledge changed since the start of the project?
- c. Do the researchers seek local views to include in the research and to inform the research process?
- d. Are the researchers seeking input from marginal groups? From women?

### 2. Abilities of the researchers to adapt the process:

- a. Are the researchers modifying the process and methods to meet research needs and in response to community input, or are they following the exact methodologies presented in participatory research tools manuals?
- b. Are researchers analysing social/gender relations underlying participatory methods, and modifying them accordingly?

## 9.3 Representation, stakeholder involvement and the effectiveness of participatory methods and tools

Representative and "genuine" participation of different community groups can be monitored and documented by researchers. Indicators of representation must be more revealing than quantitative information such as "how many people" or "who" attends meetings, although these are also important. Monitoring should also apply "participant observation" to record selective and relevant qualitative information such as who speaks (does one person or group dominate discussions and what is their social status, do women participate actively in discussion), descriptions of the social dynamics of the event (especially conflicts or major arguments) and descriptions of how decisions are made, whose views are most valued or listened to, how conflicts are managed and whose interests have been served. Whose views hold more weight? What position do they hold in the village? (Goebel 1998:284). Group participatory events provide researchers with an opportunity to observe and critically assess social and gender interactions

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*"In gender segregated groups, men's groups tended to be very argumentative, even to the point of nearly capsizing the exercise - each man wanted his own view on the chart. Women tended to be much more agreeable about a common view. Is this because women share similar views? Or is it because the rules of interaction for men and women are different? (Goebel 1998:284).*

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between individuals and groups, and so provide information on the nature of social and power dynamics in the community (Goebel 1998:284).

Although the importance of segregating different interest groups in participatory research is becoming increasingly accepted, social and power relations may be based on many things - clan, wealth, age, gender, knowledge, occupation, witchcraft, etc. Researchers may not always know enough about the community to know what these different interests are, how people divide differently around different issues, and what form local power relations take. One method for establishing the basis of difference in the community without pre-defining criteria and groups is presented in Box 4. In addition, critical analysis of group exercises will help identify different power and interest groups, and provide researchers with important insight about when such groups should be segregated.

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**Box 4: Method for identifying different stakeholders or user groups by using a “contrast” or “maximum” variation sampling procedure:**

One method for defining local groupings around a resource-use issue and to ensure that important groups are identified is to ask each individual being interviewed to identify another user who they think will have the most different perceptions about resource issues than their own. The process of interviewing and identifying new respondents with contrasting views and interests is repeated until several main themes of resource use emerge and are repeated. These themes each represent a stakeholder group. After groupings are established, members of the same stakeholder group can be brought together to discuss whether or not the researchers have accurately documented their views.

The different views collected are the basis for subsequent negotiation, decision-making, and action planning between the stakeholder groups. This approach enables researchers to identify groups with conflicting or different values without asking direct questions which may be socially unacceptable to answer. (For example, the image a community may want to portray to outsiders may be that of “homogeneity” and “agreement”, which in fact may mask underlying disagreements or conflicts about resource use). (Ravnborg 1996:194).

This method for identifying different views can also be applied to evaluation, in order to obtain different perspectives on project outcomes.

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Semi-structured interviews with different groups or individuals (including locals who have a stake in the research but who are NOT participating or who have stopped participating) can provide important perspectives on why people choose to participate or not participate, and whether or not they feel adequately represented in the research process. World Neighbours has used participatory ranking methods with local people to score the level of participation of

different social groups in each research activity and when different research tools are used (Bandre 1998:47).

In addition to field observations of the researchers, the effectiveness of different research methods can be evaluated by local participants. Local people can provide important feedback about which tools they find understandable, with which they feel comfortable expressing their perspectives, and so on. Participatory methods such as preference ranking can encourage local input on preferred tools, and can provide important insights for adapting these methods to make them more effective or for use in other areas. Such assessment can be disaggregated by social group in order to consider different perspectives (Goyder et al. 1998:18).

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**Box 5: Branching tree method for assessing group differentiation in the research process:**

One method for assessing the extent to which researchers have identified different stakeholder groups and encouraged their participation and representation in different research activities uses a pictorial “branching tree” analogy. The “tree” is the research activity or question, the “tree branches” represent the stakeholders and groups of people who have been identified and involved, while the “sub-branches” represent subsequent divisions (ethnic groups, gender, etc.) or “sub-sets of these groups (e.g., women with land and women without land). (Goyder et al. 1998:8).

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Guiding questions for assessing the “quality” of participation and representation include:

**1. Stakeholder identification, power and social analysis:**

- a. Have important stakeholders and community “interest” groups been identified?
- b. How were stakeholder groups identified? Were they “pre-defined” or did the groupings emerge from the research process?
- c. Has there been an effort to understand and deal with power and social dynamics and assess how these affect relationships between different stakeholders or groups?
- d. Has there been an attempt to understand the link between livelihood activity, resource use and entitlement, and the social relationships between different community groups and stakeholders, and to understand how this influences their interests in the research?

**2. Level of representation and disaggregation appropriate for the research:**

- a. Have different interest groups at least been consulted?
- b. Are those who wish to participate able to participate?
- c. Are important views being articulated (including those of marginal groups and women, where necessary)?
- d. Are the methods being disaggregated when necessary to ensure that all groups

affected by the research (including less powerful people) are able to express their perspectives?

- e. When appropriate, are perspectives of different stakeholders differentiated in decision-making, in conflict management, in needs assessment and planning, etc.?

### **3. Scale of participation and representation appropriate to the research:**

- a. Is the “scale” of participation appropriate to the research question and the resource management issues being addressed?
- b. Is there participation of relevant stakeholders (NGOs, companies, government, community, etc.) at different levels of governance when this is appropriate?
- c. Are all stakeholders who use the resource represented in some way in the participatory process? (At least consulted?)
- d. Is there a process for managing conflicting interests between different scales of stakeholders in such a way that negotiation is not biased in favour of the interests of more powerful groups?

#### **9.4 Scope of the participatory research process for social transformation, empowerment, and persistence of social change:**

Participatory research is thought to catalyse social change by increasing local awareness of problems and issues, mobilising local people to develop their own options and plans for dealing with problems, and strengthening local capacity to act on these plans. The short term goal of mobilising local people to solve immediate practical problems is intended to lead to longer term shifts in power relations in favour of less powerful groups (Selener 1997). In most natural resource management projects which use participatory methods, social transformation, in the form of improving local capacity and institutional norms for managing and using resources productively and sustainably, is an important research goal. When considering the “transformative” potential of the research it is also important to consider how the research has contributed to shifting power dynamics within the community, as well as between the community and outside groups.

Theories of social change and local empowerment highlight certain stages and criteria which are considered essential for this process to occur. Empowerment must be clearly defined if progress towards this is to be assessed and if indicators of empowerment are to be developed. Indicators of empowerment encompass personal as well as socio-economic and political changes, and can be established for groups or communities or at the level of the individual. Participatory

research processes can be evaluated on whether or not they meet the criteria thought to be important for encouraging social change and contributing to local empowerment. These criteria include:

**1. Strengthening local awareness of issues and options.**

- a. Has the research process increased local awareness of issues?
- b. Have the research process and methods mobilised or facilitated local people to develop local options for improving their situation?
- c. Are local people better able to make informed decisions about natural resource management?

**2. Participation of local people in decision-making, planning and “action” to address problems.**

- a. Is the participatory process facilitating local involvement in decision-making and action to address problems?
- b. Is there an improvement in their ability to make collective decisions and to “equitably” resolve conflicts between different groups in the community?
- c. Do local people have increased ability to act collectively in community interests?
- d. Do they have increased understanding of the different needs in the community?

**3. Perceptions of “ownership” of the process.**

- a. What is the local perception of who the research is for and of the purpose of the research?
- b. Who controls the research questions and agenda? To what extent are the issues and questions defined by the researchers? By the community?
- c. Are local people involved in identifying and defining research priorities and plans? In data collection and analysis? In defining solutions and action plans? In monitoring the results of their activities or experiments and in defining their own indicators and criteria for success?

**4. Strengthening existing individual and organisational capacities:**

- a. Has the research identified and made explicit existing individual and community-level capacities? (existing resource management institutions, decision-making and negotiation processes, conflict management skills, etc.)
- b. Is the research process strengthening these individual or group capacities and organisational skills?
- c. Is the research process contributing to individual and community awareness of local problems and strengthening their ability to deal with them effectively?
- d. Is the research process strengthening community capacity and motivation to continue activities such as resource management, or is community motivation dependent on mobilisation by the researchers?

## **5. Creating linkages between stakeholder groups:**

- a. Have the researchers identified existing linkages (e.g. between local government and community), and areas where linkages need to be made in order to effectively address the research problem?
- b. If appropriate to the research question, have the researchers been able to encourage participation of stakeholders at different levels of governance and created linkages between these stakeholders?
- c. Have forums or networks been established for negotiation or information sharing between these different groups, or between groups of similar interests (e.g. farmers)?

## **6. Empowerment and social transformation:**

- a. Have local people been changed by the process?
- b. Do local people have an increased awareness of their own situations?
- c. Do local people have an increased awareness and appreciation of the realities and interests of other groups or stakeholders?
- d. To what extent did the investigation prompt action?

## **9.5 Trustworthiness and validity of research findings**

Participatory research has been criticised for lack of rigour and accuracy, for being subjective and for bias in favour of specific local groups or individuals (Pretty 1995:178). Researchers are sometimes called upon to justify the approach and establish credibility of the results. Can we be confident about the “truth” of the findings? Can we apply these findings to other contexts or other groups of people? Are the findings reliable (would the results be the same if the research was repeated?) How can we be certain that the biases, motivations and perspectives of the investigators did not construct the results? (Pretty 1995:178). Reliability of the research is implied if certain measures were included in the research process, and this can be considered when evaluating participatory research. Indicators of reliability include:

1. Lengthy or intense contact between the researchers and local people, in order to build trust and better understand the research context and local social dynamics and institutions.
2. Triangulation of process and results by using different methods for the same data, or by having different researchers involved in collecting the same information.
3. Cross-checking the results of participatory research with local participants in order to ensure validity, and involvement of local people in analysis of results to ensure that the views represented are really those of the local people.



4. Peer or external review of results and research process.
5. Reports which include contextual descriptions and quotations from local people, in order to capture the complex social reality and include multiple local perspectives and experiences.
6. Documentation of the research process, and keeping of daily diaries reflecting on the research process.

## 10 Monitoring and evaluating outputs, outcomes and reach

Many outcomes of participatory research for natural resource management are diffuse and long-term, and notoriously difficult to measure and to attribute to a particular research project or activity. However, there are certain outputs and outcomes which commonly evolve from such projects. A non-exhaustive list is outlined as follows. In order to consider the contribution of the participatory approach to these outcomes, it is most interesting to consider their “intangible qualities” in addition to their existence (for example, for community organisations developed as an output, to consider qualitative features such as how representative they are, how are decisions made, etc.). Evaluation of the “nature” of these outcomes rather than their “existence” alone requires a qualitative approach such as semi-structured interviews on key issues with various groups in the community. Furthermore, because different individuals and community groups will have different perceptions of what the outcomes of the research were and which were important, it will often be important to obtain multiple perspectives.

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**Box 6: Method for disaggregating impact and output:** PRA methods such as social mapping and well-being ranking exercises can be used to identify stakeholders and understand differences in well-being as part of baseline analysis. Ranking of well-being can help identify the marginal groups in the community and establish local criteria for what makes them vulnerable. Disaggregated baseline analysis or semi-structured interviews targeted at different social groups at intervals during the project can help determine differentiated impact as the project proceeds.

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### Possible Tangible Outcomes:

#### 1. Baseline information on community situation should include:

- a. **Livelihood analysis:** investigation of community differentiation, how these different

groups interact with the environment through livelihood roles or access to resources, and capabilities of different groups.

**b. Ecosystem analysis:** assessment of the dynamics of ecosystem transformation, micro-environments and how human action is contributing to environmental change,

**c. Institutional analysis:** assessment of formal and informal behaviours and institutions which govern human interaction with the ecosystem and with each other.

Questions which may illustrate qualities of these outputs which will reflect on the participatory process include:

- a. Whose knowledge and perspectives have been documented?
- b. What was the research context in which the knowledge was generated? (Were groups disaggregated when there were conflicting interests or power differences? Was this information collected from a variety of stakeholders or community groups?)

**2. Community identification, prioritisation and analysis of problems, and plans for how to address these.**

- a. Who in the community was involved?
- b. What was the research context in which the knowledge was generated?
- c. How were issues prioritised and plans made - whose perspectives do they represent and how was this negotiated?
- d. How were conflicting interests managed?

**3. New technologies or production systems developed in partnership with local people and researchers (agro-forestry, soil-conservation, farming systems, etc.)**

- a. Are these based on priorities identified by local people and were local people involved in the development or experimentation process?
- b. Have local people adapted the experimental approach in other aspects of their livelihood (evidence of improved capacity)?
- c. Has the innovation been taken up by other people who did not participate in the study (evidence of reach)?
- d. Have people been teaching each other?

**4. Community-level institutions or organisations adapted or created:**

- a. Were existing local institutions and organisations identified and assessed for whose interests they represent? For compatibility with sustainable resource use? For democracy in decision-making?
- b. Did the researchers build upon institutions which strengthen the strategic interests of subordinate people?
- c. Who is actively involved in the relevant organisations and how did these people participate in the research?

- d. Is there an active leadership? Whose interests are represented by the organisation or leaders? Are the interests of less powerful groups represented? (through active involvement or through spokes-people acting on their behalf).
- e. Are the organisations and leaders accountable to the community? Do they represent important stakeholders? Are they legitimate in the eyes of the community? What is the motivation for involvement?
- f. How are conflicts resolved? How are decisions made?

#### **5. Community-based management systems:**

- a. Are local people able to systematically monitor the ecological results of their activities and adapt activities which are not sustainable?
- b. Are they able to enforce sustainable practices? Do they have the authority to ensure compliance? Is there equity in representation?
- c. Is there an effective or improved forum or mechanism for conflict resolution concerning use of common resources?
- d. Are methods for decision-making improved or more representative of various interests?
- e. Are less-powerful voices included in decisions?
- f. Is there strength in the leadership?
- g. Is there a system of accountability, and to whom is the system accountable?

#### **Possible Transformative Outcomes:**

##### **1. Capacity building at the community level:**

- a. Is there increased awareness of issues and problems?
- b. Are local people better able to make informed decisions about natural resource management?
- c. Are they able to formally monitor environmental and social change (Have they been trained in participatory monitoring and evaluation methods?)
- d. Is there an improvement in their ability to make collective decisions and to “equitably” resolve conflicts between different groups in the community?
- e. Do they have an increased understanding of different needs in the community?
- f. Do they have the institutional and individual capacity to effectively adapt their management processes for farm or common resources according to changing external and internal pressures?
- g. Have their organisations been strengthened?
- h. Is there an increased ability of local people to act collectively in community interests and to access external support for community needs?

## **Outcomes at Scale of Researchers and Research Institutions:**

### **1. Capacity building at the researcher level:**

- a. Are researchers more conscious of social relations and how this affects the research?
- b. Are they better able to adapt participatory tools and approaches to fit the context and the information needs of the research and the people?
- c. Are they better able to facilitate participatory processes to enable different perspectives to be articulated?

## **11 Conclusion**

The many contextual variables which influence participatory research processes make monitoring and evaluating participatory research multi-dimensional and complex. The diversity of natural resource management research projects which apply participatory research methods, as well as the differences in understanding of what “participation” in research implies makes it difficult to compare successes and failures between projects or to generalise about successful participatory research approaches. Furthermore, because the different groups involved in participatory research projects have different indicators and criteria for project success, it is important to understand whose perspectives are needed in order to inform on specific issues or outcomes, and to seek these views in evaluation.

Evaluation approaches for participatory research need to assess the research process as well as project outcomes. They must be flexible to encourage awareness of unanticipated changes and understanding of different perspectives of results, should be locally relevant, and must consider negative, unplanned indicators. A useful way to monitor and evaluate participatory research is to integrate this into the project cycle from the project design stage. Ideally, such an approach will benefit both donors, the community and researchers by improving overall research outcomes and generating greater understanding of the applicability and benefits of different participatory approaches in different contexts. Because participatory research approaches cannot be standardised between projects and need to be adaptable and responsive to the local context, evaluation of the research process is essential for evaluating participatory research. Furthermore,

this approach will systematise researcher learning from monitoring the methods and intermediate outcomes, helping them to improve research strategy, ensure representation of important stakeholders, incorporate community perspectives into the research and improve progress towards desired research goals.

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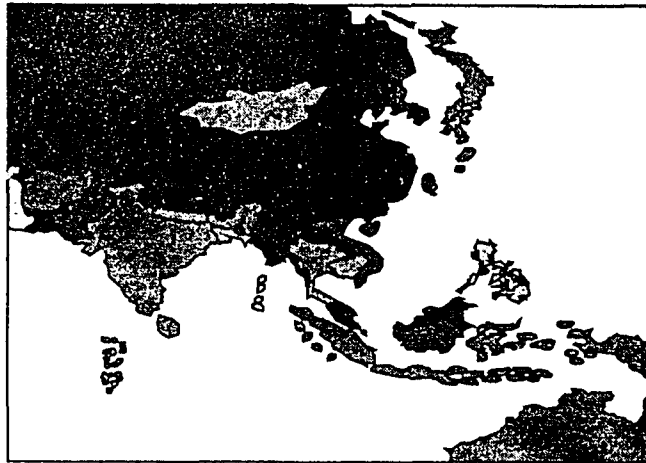
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# PARTICIPATORY MONITORING AND EVALUATION



THE ASIAN EXPERIENCE

Users' Perspectives with Agricultural Research and Development (UPWARD)  
Los Banos, Laguna, Philippines  
July 1997

**PARTICIPATORY MONITORING AND EVALUATION**  
***THE ASIAN EXPERIENCE***

**Ricardo C. Armonia**  
**and**  
**Dindo M. Campilan**

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## FOREWORD

This document reports the outcomes of an initial attempt to review field experiences in participatory monitoring and evaluation (PM&E) in the Asian region. This is seen as a first step towards stimulating efforts for more systematic and comprehensive review of regional experiences. Its overriding objective is to encourage wider sharing and learning among PM&E practitioners in the region and throughout the world.

The Review was spearheaded by the Users' Perspectives With Agricultural Research and Development (UPWARD) in cooperation with the International Institute of Rural Reconstruction (IIRR). UPWARD is an Asian network of agricultural research and development specialists sponsored by the International Potato Center (CIP). It is dedicated to the promotion of user participation in technology development and application, particularly for rootcrop agriculture and food systems. Meanwhile, IIRR is a global development NGO seeking to promote the philosophy and practice of rural reconstruction towards alleviating rural poverty especially in the world's developing regions.

The Institute of Development Studies (IDS) and the International Institute of Environment and Development (IIED) provided the necessary financial support and expertise in the conduct of the review. Various institutions and individuals also willingly extended assistance to the review team in identifying sources and locating information contained in this document.

The following deserves special acknowledgment: Tonnette Agua, Cherry Bagalanon, Lorna Belulia, Raul Boncodin and Mirandi de los Reyes from UPWARD and Nenette Cruz, Angie Ibus and Julian Gonsalves from IIRR for their technical, logistical and inspirational support; and to all those who took time to provide the Review Team with the needed information -- Esther Velazco of Cooperation Committee for Cambodia, Baukje Vrieswijk of the Wageningen Agricultural University, Gil Saguiguit Jr and Willie Libunao of SEARCA, Muhamad Djazuli and Minantyorini of RIFCB-Indonesia, Cristi Nozawa of Haribon/NORDECO, Fran Bowen of Rural Reconstruction Nepal, Bardolf Paul of Helvetas-Vietnam, Dhel Tiongzon-Brouwers of MASAI, Jeremy Inocian of Ramon Aboitiz Foundation, Sylvie Desilles of CARE Bangladesh, John Coonrod of The Hunger Project, Karabi Bhattacharyya and Ritu Sharma of BASICS/AED, Gary Nederveld of CWRC, Keith Etherington of Christian Outreach Cambodia, Corrine Canlas of SNV-Philippines and Douglas Horton of ISNAR.



## EXECUTIVE SUMMARY

The Review sought to explore the range of field experiences on participatory monitoring and evaluation (PM&E) in Asia. It is part of a global effort to assess status, identify best practices and determine gaps in the application of PM&E across sectors and for various research and development goals.

It was carried out in April and May 1997 using various data collection methods including a survey by e-mail/fax, library research, interviews and internet search. This synthesis report presents the highlights of PM&E experiences -- including practices, tools, lessons learned and future challenges -- covering 15 countries in the Asian region (including Australia). A supplementary report is separately produced containing additional detailed information of the experiences cited in this main report.

The original concepts and terminologies used by institutions, programs and/or groups have been maintained and used as a basis for determining patterns and trends. This compilation of "raw data" will therefore allow readers to subject the report to further examination and analysis, as well as to a comparative review with experiences in other regions. On the whole, PM&E experiences in Asia can be categorized according to the following labels:

1. Monitoring and evaluation in research
2. Participatory rural appraisal/participatory learning
3. Rapid assessment procedures
4. Participatory evaluation
5. Participatory monitoring/participatory monitoring and evaluation
6. Beneficiary assessment/stakeholder evaluation/informal evaluation
7. Self-evaluation
8. Process documentation research/process evaluation
9. Community resource balance sheet approach
10. Development of M&E indicators
11. Building organizational structures and systems for PM&E
12. Development of support materials and services for PM&E

These experiences cover the following sectors: agriculture, public service/government, health, enterprise/livelihood, environment and community development. The experiences were generally in a project context and in support to either research, outreach and training goals. There were two major ways in which PM&E was used: as a tool in project planning and implementation, and as an integral part of the entire project cycle or institutional system. In general, PM&E activities were carried out jointly by team members from within and outside the project or institution. In many cases, the external member acted as facilitator-trainer (aside from providing a sense of objectivity into the process) to the internal members so that the latter (as "insiders") can later on carry out PM&E on their own

The major issues confronting PM&E in the region include:

- a. PM&E concepts: Difficulties in translating PM&E concepts and principles into action because of the involvement of multiple constituencies having different purposes and perceptions of PM&E.
- b. Participants in PM&E: Identifying who should participate, and also reviewing the role of donor and decision makers.
- c. Choice and use of PM&E tools: Although PM&E offers much flexibility and a wide range of tools to adapt, there is a recognized lack of quality in the use of these tools which affect the perceived reliability and validity of outcomes.
- d. Enhancing objectivity in PM&E: While conventional M&E methodologies are trying to put more subjectivity into their analysis, some field practitioners recognize the need to put more objectivity into PM&E if it is to influence policy.
- e. Documenting PM&E: There appears to be a lot more experiences than those covered in this Review but these were hardly documented, particularly those carried out by village-level groups and less formal institutions.
- f. Institutionalizing PM&E: While efforts to popularize PM&E among projects has faced little resistance, there is little attention to sustain its practice once introduced and the necessary system installed, especially after project termination. There is still some doubts as to the actual readiness of organizations to share control over projects/programs with beneficiaries as called for in PM&E.



## TABLE OF CONTENTS

FOREWORD	i
EXECUTIVE SUMMARY	ii
INTRODUCTION	1
Background	
Focus of the PM&E review	
METHODOLOGY	3
Overview	
Information collection methods and sources	
Data consolidation and synthesis	
Limitations and general reflections	
RESULTS AND DISCUSSION	7
Introduction	
Categories of PM&E experiences	
General discussion	
Converging concepts, practices and experiences	
ISSUES FOR FURTHER DISCUSSION AND ACTION	18
PM&E concepts	
Participants in PM&E	
Choice and use of PM&E tools	
Enhancing objectivity of PM&E	
Documentation of PM&E	
Institutionalization of PM&E	
REFERENCES	22
ANNEX	29
Directory of contacts	



# **INTRODUCTION**

## **Background**

As projects, groups and institutions put greater emphasis on empowering people and communities for sustained development impact, global attention to participatory monitoring and evaluation (PM&E) concepts and practices has likewise increased. In spite of this increased interest, there remains inadequate effort given to the systematic documentation and review of field experiences. This is becoming a major factor that limits opportunities for learning and sharing among PM&E practitioners.

Recognizing the need to reexamine these experiences and identify examples of best practice, an international workshop on PM&E is being jointly organized by the International Development Studies (IDS), International Institute for the Environment and Development (IIED), International Institute of Rural Reconstruction (IIRR), Users' Perspectives with Agricultural Research and Development (UPWARD), World Neighbors and the International Development Research Centre (IDRC).

As a preliminary activity to provide input to the workshop, which is set to take place in November 1997, an inter-regional review has been conducted to assess and compare the state of participatory monitoring and evaluation in different parts of the world. The PM&E reviews cover Asia, Africa, and Latin America together with a literature review to look through the materials at the collections available from IDS and IIED. This document reports the outcomes of the regional review for Asia, undertaken by UPWARD in collaboration with IIRR.

## **Focus of the PM&E Review**

The Review seeks to answer the following sets of questions indicated in the Terms of Reference:

1. How is PM&E being used? For what kinds of projects? In what contexts? By whom?
2. What are the best examples and case studies of PM&E in the region? Are they documented in any way?
3. What are the innovations, techniques, methods which have been developed?
4. Who have been participants in the projects? What have been their roles? How have collaborations been developed or conflicts resolved among differing participants/groups?

5. What have been the impacts/successes/outcomes of using PM&E?
6. What gaps exists in the knowledge and documentation about the good PM&E practices? What areas need more research, innovation or training?

# METHODOLOGY

## Overview

The Asian PM&E Review was conducted by a team consisting of a postdoctoral fellow and a project researcher, with the support of two program associates and other staff at the UPWARD coordinating office. Technical staff from IIRR likewise provided guidance particularly in the planning stage.

The Review consisted of the following major tasks:

1. General planning of Review activities including the identification of information collection methods and sources;
2. Information collection, consolidation and synthesis; and
3. Report writing.

## Information Collection Methods and Sources

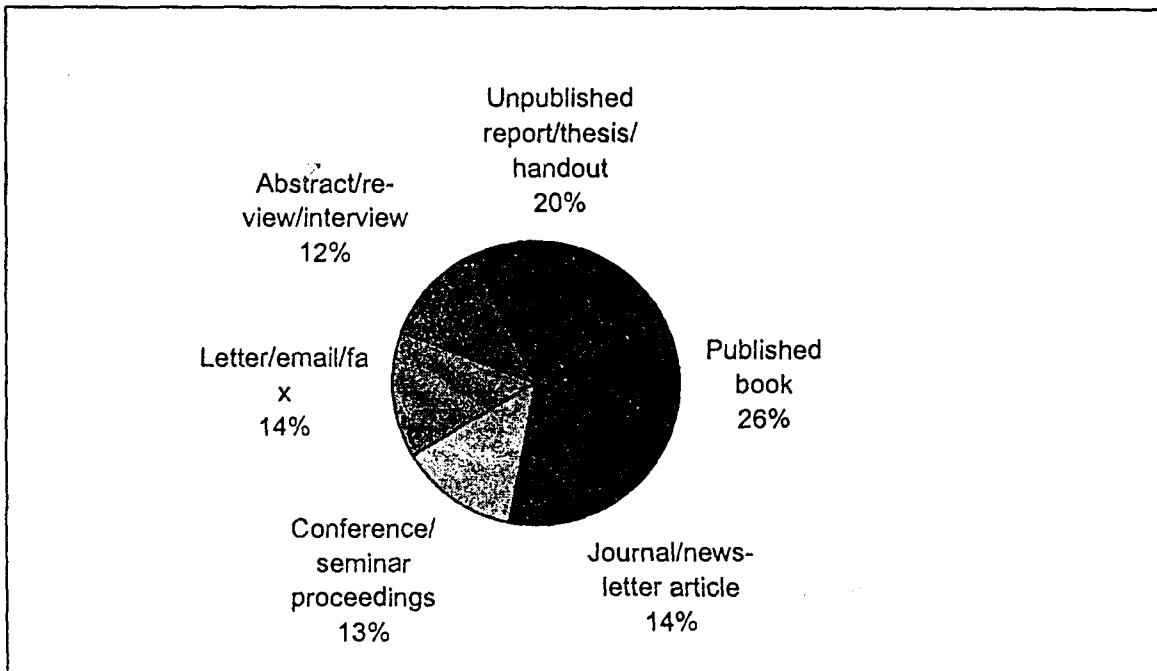
The following methods for sourcing out relevant information were used:

1. *Survey by e-mail and fax.* The respondents were identified through directories and the mailing lists of UPWARD and IIRR, and by checking IIRR correspondences in the past two years to update some of the addresses.
2. *Library research.* This included accessing both published and unpublished documents from IIRR, UPWARD, Institute of Philippine Culture/Ateneo de Manila University, Philippine Social Science Center, Center for Policy Development Studies and Southeast Asian Regional Center for Agriculture (SEARCA) in the University of the Philippines-Los Banos, the Management Advancement Systems Association, Inc. (MASAI), and some personal collections of the Review Team members.
3. *Interviews with key practitioners.* These were done, on a very limited basis, to complement the e-mail/fax surveys and library research tasks.
4. *Internet search.* Getting information from the internet was done in two ways: (a) through visits to the internet addresses provided by e-mail survey respondents, and (b) through use of the internet search engine by subject matter category (i.e. on participatory monitoring/evaluation).

## Data Consolidation and Synthesis

Information collected were compiled and categorized while maintaining, as much as possible, the same labels used by the sources reporting the experience. A total of 93 documents/sources were collected, from which the findings of the Review were primarily drawn. These included both published and unpublished sources, while special effort was made to retrieve fugitive materials, e.g. informal reports and communications (Figure 1).

*Figure 1. Types of documents collected and reviewed.*



The compiled information were reviewed primarily to assess the range of experiences while identifying emerging patterns and relationships. Experiences were categorized in four principal ways, according to:

1. Country of origin;
2. Sectoral context;
3. Terminologies/concepts/principles used; and,
4. Stages of the project cycle in which PM&E was used.

The Terms of Reference for this PM&E Review suggested examining the experiences according to these four categories:

- a) participatory monitoring of projects, focusing on the different stages of the project cycle;
- b) self-evaluation, which often occurs in an organizational context;

- c) community monitoring or beneficiary assessment, which involves residents of a community assessing the work and impact of programs that affect their lives and
- d) community monitoring of the wider environment, through participatory development of indicators used to measure success or change in the community over time.

Although the experiences reviewed here somehow reflected elements of the above four categories, this typology was not used here because most of the experiences were in a project context and thus could fall under the first category. Even the organizational, the community and the wider environment contexts of the experiences reviewed were embedded in a project setting -- that is they operated according to the project cycle stages.

The team avoided limiting the categories into which particular experiences would fall, e.g. according to the four categories suggested above. Instead, most of the "labels" used in the documents reviewed were retained, resulting in the generation of 12 categories. This was done to minimize a possible misrepresentation of the experiences - that is, equating one experience as the same with another, when they are not. Narrowing down the categories could be better accomplished during the actual workshop where there will be more perspectives that could be inputted in grouping the experiences to a few main categories.

### **Report Writing**

Given the volume of information generated, the team found difficulty compressing them into a 25-page report as stipulated in the Terms of Reference. Consequently, it was decided that a two-part report would be produced. The main report (this document) presents the highlights and major findings of the Review. Meanwhile, the supplementary report gives readers access to more detailed information cited in the main report.

### **Limitations and General Reflections**

There are four points to keep in mind while this document is being read or subjected to further analysis. These are:

1. Preparation for and actual data collection, consolidation and report writing were limited to a two-month period. This was in consideration of the available resources and the time constraints of the Review Team members.
2. Materials already available in the IDS/IIED collection were purposely excluded particularly those covered in earlier state-of-the art reviews undertaken.

3. Given the limited time and resources, the Review did not aim to be exhaustive, that is inventorizing all relevant PM&E experiences in the region. It only sought to explore the diversity of experiences and/or practices existing throughout Asia and thus only representative cases were cited. In simply aiming to examine the range/variety of experiences, the team is fully aware that contributions of certain key institutions and individuals may not have been cited here.
4. The Review is meant to cover the entire Asian region which is relatively broad both geographically and in terms of potential PM&E experiences. Due to limitations already cited above, only 15 countries were actually covered with the addition of Australia.

The Review relied heavily on existing documents and personal communications. This proved to be a constraint since while the team was informed that certain experiences existed, in many cases documentation was limited if not available. If these were documented, they were either only cited as part of the overall project report, or these focus primarily on PM&E results rather than processes.

Many people acknowledged the Review Team's requests for information but said that they would need more time to write up their experiences or that they had more important things to do than reflect on their PM&E experience. This in a way indicated the importance that some people and institutions attach to PM&E. On the other hand, there were those who admitted it was their first time to hear about PM&E, but they thought their experiences were similar to what we were looking for and so they shared them with the Team anyway.

Contacting key informants on PM&E experiences was difficult and time-consuming because of the lack of any relevant directory; instead contacts and their addresses were obtained from other related lists, e.g. PRA networks. While the team had access to advanced communications, e.g. email, fax and phone, most of the prospective informants did not. This reaffirms first, the need to establish a directory of PM&E practitioners to foster networking and experience sharing; and second, that many of the field-based practitioners in developing countries lack access to communication facilities and this serves as a major obstacle to information exchange.



## RESULTS AND DISCUSSION

### Introduction

The experiences cited in this report covers 15 countries in Asia, stretching from the southeast to the northwestern part of the region. These countries are: Bangladesh, Cambodia, China, India, Indonesia, Korea, Lao People's Democratic Republic, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam. The geographic scope was expanded to include Australia since it was not included in any of the other regional reviews.

Country experiences were grouped according to the sectoral focus of the projects and institutions of which these were part. These included: agriculture, public service/government, health, enterprise/livelihood, environment and community development (Figure 2). The most common experiences were related to agriculture, health and community development while the Philippines and India were the most frequently cited countries (Table 1). The majority of individuals and institutions reporting these experiences were from the non-government/private rather than government sectors. Furthermore, the experiences could be classified according to the nature of intervention that these projects and institutions were involved in. PM&E was used in support of three main types of intervention -- research, outreach and training. It was not uncommon though to find one project or institution involved in two or three of these at the same time.

*Table 1. PM&E experiences by country and sector.*

Country	Agric	Public S Govt	Health	Enterprise Livelihood	Env	Comm Dev
Australia		X	X			
Bangladesh			X	X		X
Cambodia						X
China	X		X		X	
India	X		X		X	X
Indonesia	X		X			
Korea		X				
Lao PDR			X			
Malaysia		X				
Nepal			X		X	X
Pakistan			X			X
Philippines	X	X		X	X	X
Sri Lanka	X				X	X
Thailand	X				X	
Vietnam	X				X	

Of the PM&E experiences reviewed, those pertaining to agricultural research and development were most common. PM&E was applied both as a project management tool and as an integral part of the research project cycle. Agricultural research institutions used PM&E in research planning and implementation. Research projects used PM&E as part of technology development, adaptation and application activities.

The public service/government context referred primarily to the social welfare services extended by governments and to some extent this overlaps with the health and the environmental conservation contexts. The experiences reviewed in this report also dealt with urban/peri-urban settings in relation to assessing performance and improving delivery of social services.

The health context covered projects mostly in the area of water and sanitation as carried out mostly by development non-governmental organizations (NGOs), both local and international.

Enterprise development and livelihood projects which used PM&E dealt with credit and financing schemes to support small entrepreneurs in their livelihood activities. PM&E was used to monitor how financial resources were used and to evaluate economic impact on household beneficiaries.

The environmental conservation context included experiences in forestry, agriculture and fisheries in three agro-ecosystems - upland, lowland and coastal. Many of the experiences came from the upland and coastal ecosystems because of the prevalence of agro-forestry projects and the emergence of the coastal resource management initiatives (partly due to the recognized marginalization of the groups in these two ecosystems in past development efforts). PM&E was used in these projects particularly for technical/biophysical monitoring, such as in assessing the status of natural resources.

The community development context covered a combination of the other contexts just described plus projects in community organizing, indigenous knowledge and gender. These projects usually had an integrated development approach and emphasized participation of local people in the development process. PM&E was used for instance to assess gender sensitivity of projects or the extent to which participatory methods have been operationalized.


### **Categories of PM&E Experiences**

Table 2 presents a summary of the consolidation information. PM&E experiences appeared to fall under 12 categories based on similarities of concepts, approaches and methods used.

*Figure 2. Geographic scope and sectoral contexts of PM&E experiences reviewed.*





CATEGORY	DESCRIPTION	COUNTRY	INSTITUTIONS/ GROUPS/PROJECTS	SECTOR/ DISCIPLINE
	<p>weeks by taking in senior researchers already familiar with the project site (particularly the socio-cultural dimensions)</p> <ul style="list-style-type: none"> <li>• Popularly used in assessing health projects and generally adapts the same methodology as PRA/PL but with researchers leading the evaluation process.</li> <li>• Often conducted as an end-of-project evaluation/impact assessment for subsequent planning purposes (management/decision makers are therefore the primary users of RAP results).</li> </ul>	<p>Nepal</p> <p>Bangladesh Nepal, Korea,  Pakistan, Philippines, Thailand</p>	<p>of Diponegoro/ Bogor Agricultural University</p> <p>Govt of Nepal with FINNIDA</p> <p>UNICEF</p>	<p>Health</p> <p>Health</p>
4) Participatory evaluation	<ul style="list-style-type: none"> <li>• Conducted at specific points in project cycle, particularly as a mid- or as an end-of-project evaluation usually by "outsiders" or external groups but using highly consultative methods to reflect the insiders' views; also conducted by research/evaluation unit staff (or by staff not directly involved in the project) of proponent organization having an evaluation/research unit separate from project implementation staff.</li> <li>• Outsiders facilitate the process and write up the evaluation report (with insiders taken in as members of the evaluation team).</li> <li>• Generally adapts PRA/PL methodology where stakeholders generate, analyze and use information to plan for future action (collective problem-solving process).</li> </ul>	<p>Bangladesh</p> <p>Cambodia</p> <p>India</p> <p>Nepal</p> <p>Philippines</p>	<p>Ag Extension &amp; Rural Devt, Univ of Reading, UK</p> <p>Christian Outreach</p> <p>Society for Participatory Research in Asia (PRIA)</p> <p>World Neighbors</p> <p>Intl Inst of Rural Reconstruction (IIRR)</p>	<p>Agriculture</p> <p>Com devt</p> <p>Com devt</p> <p>Agriculture, com devt</p> <p>Com devt</p>

CATEGORY	DESCRIPTION	COUNTRY	INSTITUTIONS/ GROUPS/PROJECTS	SECTOR/ DISCIPLINE
5) Participatory monitoring/participatory monitoring and evaluation (PM/PM&E)	<ul style="list-style-type: none"> <li>Activities run throughout the project cycle and not just during the project evaluation stage; monitoring and evaluation activities are done for the whole project and/or within each specific stage of the project (e.g. the planning stage may itself be subject to a complete M&amp;E for purposes of improving the organization's planning system/capacities).</li> <li>The monitor/evaluator is a participant in the project (De Raedt 1995) and where "monitoring and evaluation tend to merge into a continuous process of review and adjustment" (PROWESS 1990:6).</li> </ul>	<p>Bangladesh</p> <p>Cambodia</p> <p>India</p> <p>Nepal</p> <p>Philippines</p>	<p>CARE</p> <p>Christian Outreach</p> <p>Aga Khan Rural Support Programme (AKRSP)</p> <p>Rural Reconstruction Nepal</p> <p>IIRR, UPWARD, ICLARM, Ramon Aboitiz Fdn</p>	<p>Com devt</p> <p>Com devt</p> <p>Com devt</p> <p>Com devt</p> <p>Com devt, agriculture, fisheries, IK</p>
6) Beneficiary assessment/stakeholder evaluation /informal evaluation	<ul style="list-style-type: none"> <li>Project beneficiaries/stakeholders take the lead in assessing project performance/program accountability with the assistance of project/program staff using some of the PRA tools.</li> <li>Done prior to a formal evaluation of the project/program (i.e. input to formal evaluations and subsequent planning activities).</li> </ul>	<p>India</p> <p>Sri Lanka</p>	<p>AKRSP</p> <p>ITDG-Colombo</p>	<p>Com devt</p> <p>Agriculture</p>
7) Self-evaluation	<ul style="list-style-type: none"> <li>Project stakeholders assess their own performance (internal evaluation/reflection process).</li> <li>Closely related to #4 (participatory evaluation).</li> <li>PM&amp;E may be conducted at two levels of stakeholders – among local communities and among intervening agencies</li> </ul>	<p>Australia</p> <p>Bangladesh</p> <p>India</p> <p>Nepal</p> <p>Philippines</p>	<p>Action Research Issues Association, Inc</p> <p>Enfants du Mond</p> <p>MYRADA, Sweden Devt Cooperation</p> <p>UNICEF</p> <p>Natl Irrigation Authority, SANREM</p>	<p>Com devt, health</p> <p>Com devt</p> <p>Agriculture, com devt</p> <p>Health</p> <p>Agriculture</p>

CATEGORY	DESCRIPTION	COUNTRY	INSTITUTIONS/ GROUPS/PROJECTS	SECTOR/ DISCIPLINE
8) Process documentation research (PDR)/process evaluation	<ul style="list-style-type: none"> <li>Carried out by an outsider (to the project) throughout the project duration.</li> <li>"... a tool to help development organizations learn from their own experience... to provide feedback to persons engaged in the management of an institutional learning process" by giving insights on the "why" rather than precise measurements of the "what" (Korten 1989: 13 &amp; 15).</li> <li>Encourages local people's participatory when PDR results are presented to them for feedback/validation</li> </ul>	India  Nepal  Philippines	PRIA  Health Department (Nepal govt)  Inst of Philippine Culture, PhilIDHRRRA, IIRR	Com devt  Health  Com devt
9) Community resource balance sheet (CRBS) approach	<ul style="list-style-type: none"> <li>Forms part of the growing field of environmental and natural resource accounting, but emphasizes community participation.</li> <li>Outsiders introduce the tool for insiders to use/integrate in their development initiatives.</li> <li>Commonly used to support environmental conservation initiatives</li> </ul>	Philippines	UP College Baguio, Jaime V. Ongpin Foundation	Com devt, environment
10) Development of M&E indicators	<ul style="list-style-type: none"> <li>Emphasizes participatory approach not only in implementing M&amp;E but as early as the stage of identifying indicators.</li> <li>Indicators/criteria guide the monitoring/evaluation process in terms of collecting and tracking information.</li> <li>Researchers often facilitate the process of identifying/evolving relevant indicators in varying degrees of consultation with project stakeholders and/or the larger community.</li> </ul>	Australia  Bangladesh  Cambodia  India/ Bangladesh  Philippines	Action Research Issues Assn, Inc  BRAC  Christian Outreach  ActionAid/UK, ODA  ANGOC, IIRR, PCARRD, SEARCA, UPLB	Com devt, health  Com devt  Com devt, livelihood  Com devt  Agriculture

CATEGORY	DESCRIPTION	COUNTRY	INSTITUTIONS/ GROUPS/PROJECTS	SECTOR/ DISCIPLINE
11) Building organizational structures and systems for PM&E	<ul style="list-style-type: none"> <li>Experiences along this topic have been included because of the frequent reference to the need for organized groups for institutionalizing PM&amp;E.</li> <li>Information access seen as important to be able to meaningfully sustain PM&amp;E processes.</li> </ul>	Australia	Telecentres (M Stevens c/o Community Devt Society-Australia)	Com devt
		Malaysia	Trade Unions (Salih et al 1986)	Com devt
		Philippines	Forestry Mgt Bureau	Forestry
		Republic of Korea	Neighborhood Assns (See Soo-Young Park et al 1986)	Com devt
12) Development of support mechanisms and materials	<ul style="list-style-type: none"> <li>Activities focusing on development of handbooks/guides/training materials, and how these may be used in more creative ways (e.g. in relation to item #11 on organizational structures and information systems).</li> <li>Other activities falling in this category are (1) the organizational development (OD) services and institutional assessments provided by consulting/training institutions like the Asian Institute of Management (AIM) and the Management Advancement Systems Association, Inc. (MASAI); (2) the curriculum development activities undertaken by the Social Forestry Support Project of Helvetas Vietnam and the Regional Community Forestry Training Center (RECOFTC) based in Thailand; and (3) various PM&amp;E trainings/workshops/seminars.</li> </ul>	Australia	Action Research Issues Assn, Inc	Com devt
		Indonesia	Academy for Educational Development	Health
		Laos PDR	Health Care Planning Workbook, World Bank	Health
		Malaysia	ActionAid	Com devt
		Philippines	Asian Inst of Mgt, Ateneo de Manila Univ, MASAI, DENR, IIRR, UPWARD	Agroforestry, livelihood, com devt
		Thailand	Regional Community Forestry Training Center (RECOFTC), FAO-Bangkok	Forestry
		Vietnam	Helvetas	Forestry



## General Discussion

From the consolidated information in Table 2, the following patterns, trends and general observations can be made:

1. It is difficult to talk about “typical” PM&E practices in Asia given the diversity of experiences in terms of concepts, methods and applications. In fact, “PM&E” is just one of the many labels used in referring to the practice of involving a larger group of actors in the assessment of projects and institutions. There appears to be some conceptual problem in both terminologies and the meanings attached to them. For example, the distinction between monitoring and evaluation remains unclear. Also, interpretation of “participation” varies widely and there is no accepted minimum standard when M&E qualifies as participatory.
2. There is a predominance of reported (documented) experiences in South/Southeast Asia particularly from India, Nepal, Bangladesh and the Philippines. These are countries where local NGOs/POs are in their advanced stages of development and where participatory methods to community development (e.g. RRA and PRA) are widely practiced and actively being promoted. Such organized groups (along with relevant and operational information systems) are seen as key to introducing and sustaining the PM&E process.
3. In as much as most interventions are embedded in a “project setting”, much of the PM&E tools were introduced or evolved by outsiders but at the same time expecting that use of these tools would be sustained by insiders when the project phases out. Local capacity building for PM&E is, therefore, often built into the broader project cycle.
4. Except perhaps for livelihood/enterprise initiatives (e.g. the Grameen Bank in Bangladesh where organized groups facilitate credit and savings monitoring; see Madeley 1991), there is a greater emphasis on the use of M&E to track/monitor learning and learning processes rather than an emphasis to measure and judge performance to introduce control.
5. With the emphasis on participation and learning processes, much of the PM&E experiences started off with using qualitative and semi-structured methodologies. However, there is an emerging recognition for the need to build into current participatory methodologies some of the quantitative tools to provide for better triangulation of information and greater acceptability of the results when endorsed as inputs to policy. This includes paying greater attention to establishing baseline data to more systematically monitor progress and facilitate ante and post evaluation procedures. As such, PRA methods, CRBS, the use of picture codes (by Christian Outreach - Cambodia) and other forms of modified surveys are more and more being looked at as means to establishing databases that can capture the complexities of human and ecological interactions and relationships.

6. The desire to install PM&E systems is strong from the project management side but there is hardly any mention of why local people would want to install and maintain PM&E as conceived by projects. Therefore, while project proponents (intervening organizations) and beneficiaries evolve PM&E systems together, it is primarily for sustaining/expanding successful project interventions. While this is not entirely wrong, there is a need for projects to prepare local people in managing PM&E beyond the project life.
7. Participation is often used in the context of project beneficiaries participating in the projects. The information reviewed seem to de-emphasize participation of project staff by emphasizing on their facilitating role. Stakeholder participation is thus becoming popular among development practitioners including their work in the aspect of monitoring and evaluation.

### **Converging Concepts, Practices and Experiences**

After having earlier highlighted differences in PM&E experiences, this section looks at similarities and complementarities across the categories and examine their convergence towards common models and approaches.

#### ***Emerging Models***

Overall, the reported experiences may be grouped according to either of these two “models”: (a) PM&E as input to project planning and management; and (b) PM&E as integrated to the project cycle. In the former, PM&E is brought into the project at specific moments in the project cycle. The process is completed within that defined “box” or stage of the project cycle. Examples relating to this model are the rapid assessment procedures (RAP) and the participatory evaluation experiences reported here.

In the second model, the monitoring and evaluation process runs parallel to the whole project cycle either as one of the project components or as a separate and independent activity when greater objectivity is sought. Project experiences in PRA/participatory learning, and in monitoring and evaluation in research, are examples where M&E is a project component running parallel to the whole project cycle (these being the project processes themselves). As to experiences where M&E runs parallel to but independent of the project, process documentation research is one example. It should nevertheless be noted that not all of these experiences are integrated into the whole project cycle. Many process documentation activities, for example, starts when projects have been identified. Likewise, many PRA/PL experiences limit themselves to the project identification and/or evaluation stages.



## ISSUES FOR FURTHER DISCUSSION AND ACTION

PM&E is generally perceived as qualitative and less structured. While recognized for its strengths in bringing about the human and social dimensions of research and development processes, it is also this characteristic which hinders their entry into the mainstream of PM& practice where objectivity and systematic rigor are ingrained. This concluding section looks into such predicament based on identified gaps from the reported experiences reviewed. These gaps are listed here as issues falling under six categories for further thinking and action. These relate to concepts, participants to PM&E, choice and use of tools, provisions for objectivity, documenting PM&E results and experiences, and institutionalizing PM&E.

### PM&E Concepts

Different people and institutions have different definitions and interpretations of PM&E -- in the same way that there is no one operational definition of "participation". For example, in Rajakutty (1991) participation in participatory assessment, monitoring and evaluation is seen as limited to mostly the direct and indirect program beneficiaries as opposed to "stakeholder-based evaluation".

Given the differences, at least two difficulties are encountered: (a) difficulties in translating PM&E concepts and principles into action, and (b) managing multiple constituencies with different purposes and perceptions of the evaluation. The challenge is to evolve a process to meet the needs of these multiple groups/individuals (beyond informational needs) with a stake in the outcomes of PM&E.

One such response to meet the challenge is the holding of PM&E workshops like those recently conducted by UPWARD and Action Aid. Likewise, CARE Bangladesh has initiated workshops to introduce PM&E and adapt it to its projects. Also, PRA/PL training activities are means to introducing PM&E like those conducted by MYRADA. In these MYRADA training activities participants learn about PRA concepts and tools by applying them in assessing MYRADA project sites as part of the training exercises.

There is also large overlaps between PM&E and other methodologies of field inquiry such as with PRA and participatory action research (PAR). How PM&E is viewed in relation to these other methodologies highly depends on the orientation of the individual, project or institution. This is evident in the way PM&E is presented and discussed in the various documents reviewed. Somehow, efforts to clarify these conceptual and methodological confusions are in order.

## **Participants in PM&E**

The target participants in participatory M&E are conceived to be the local people directly involved in project interventions. However, it is increasingly seen that participation of other stakeholders are critical as well. These include other local groups indirectly affected by the project and other formal agencies collaborating with the lead implementing agency. In other words, participatory approach is now taken to mean the participation of a greater number of actors, including but not limited to the local people directly involved in a project.

This expanded configuration of PM&E participants also has consequences for power relations among them, and the influence which donors and the implementing agency traditionally held over the PM&E process. What is critical then is the extent to which they would willingly share this privileged status with other participants, especially with local people. In general, there is decreasing participation by local people as the project progresses from the planning stage to implementation and to monitoring and evaluation.

## **Choice and Use of PM&E Tools**

The common criticism against PM&E is its perceived lack of quality control and misuse of method. This suggests the need to identify and train more practitioners in the proper selection and use of PM&E tools, in understanding group dynamics which underpin these tools, and in acquiring general facilitation skills. Of major importance is the choice of PM&E tools that would ensure balance between scientific rigor and practical utility, upholding of ethical standards, and capacitating the users in articulating their views and sharing control over the PM&E process.

Moreover, PM&E suggests a participatory approach not only in the use of certain tools but in their prior selection as well. Aside from the need to gain familiarity with a wide range of tools, PM&E practitioners should also exercise flexibility and sensitivity to preferences and capacities of local people. For instance, it is commonly reported in the documents reviewed that farmers find written forms of recordkeeping as too cumbersome, complicated and inappropriate.

PM&E is also often erroneously associated exclusively with crude, indigenous methods and tools. In view of the increased access to new information technology even by local communities, it is anticipated that these supposed "low technologies" will have to accommodate the introduction of advanced means of information collection, processing and reporting (e.g. email, internet, fax and other telecommunications).

## **Enhancing Objectivity of PM&E**

The validity and reliability of PM&E results are still put to question by those who consider the process to be lacking in objectivity. The experiences revealed the following ways by which this criticism was addressed: (a) taking into consideration sampling theory especially in determining which portion of the population to interview and whose knowledge and opinions need to be reflected; (b) establishing benchmark/baseline information and the development of key PM&E indicators; and c) PM&E results have to be supplemented with special/sectoral studies when used for planning purposes.

Triangulation was a most often cited technique by cross-checking qualitative with quantitative data, and by using multiple sources of data. It is noted for instance that cost/benefit analysis is not a strong aspect in NGO evaluation activities. Finally, experiences have shown that the more “grounded” indicators often cannot be “mass standardized” for application in many different situations.

## **Documenting PM&E**

Deliberate effort to document PM&E experiences is a rare characteristic of the projects and institutions included in the review. Either these experiences have to be sifted from general project reports which may have mentioned them in passing, or there are field notes and “raw data” waiting to be consolidated and written up. Meanwhile, results of informal evaluations carried out by village institutions are, as could be expected, documented informally, that is in ways and forms that could only be understood and used by local communities. These may therefore be inaccessible to outsiders and worse, not considered “formal” enough to be acceptable to M&E professionals.

Even within the formal sector, many would wonder whether PM&E results are actually being put to use. To enhance utilization, it is not only a question of collecting the right information, but also repackaging them into user-friendly forms. Since PM&E results are used differently by different stakeholders, the number of user groups could mean the same number of ways that repackaging of PM&E results have to be done.

## **Institutionalizing PM&E**

The majority of experiences in PM&E, even how successful, are embedded in project which are bounded in space and time. A major concern then is what happens to PM&E once the project terminates or has to be relocated elsewhere. There are few cases illustrating how institutionalization of PM&E is carried out. One issue raised against PM&E is whether it can be sustained beyond the project life, fully taken over

by local people and/or built into the standard operating procedures of formal institutions.

There is however some reported difficulty in carrying out participatory evaluations in bureaucratic organizations, especially where there is an atmosphere of tension and mistrust. Tension may occur with the change in power relationships (e.g. between the support organization/project holder and the project implementors/beneficiaries) resulting from the participation of village institutions in evaluation activities. PM&E requires changes in management style (in organizational values, principles and ways of doing things) to which an organization may not be ready for.

Capacity building is a necessary element in institutionalization. There is a need to train and retrain staff on PM&E practices and concepts. Finally, PM&E is a costly endeavor, and its institutionalization entails added costs to all those involved. It remains to be seen whether stakeholders recognize the cost-effectiveness of PM&E and therefore willingly invest resources in it.





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## **Annex DIRECTORY OF CONTACTS**

### **Academy for Educational Development (AED)**

Karabi Bhattacharyya/Ritu Sharma  
1875 Connecticut Ave., NW  
Suite 900, Washington DC 20009-1202  
E-mail: kbhattac@basics.org  
rsharma@smtp.aed.org

### **Biodiversity Conservation Network (BCN)**

Diane Russell  
151 B. Gonzales St.  
Loyola Heights, Quezon City 1108 Philippines  
Tel: (63 2) 9245905  
Fax: (63 2) 9245928

### **Bread for the World**

John Mark Cajiua  
Diliman, Quezon City  
Email: CTI\_phil@mozcom.com

### **CARE Bangladesh**

Sylvie Desilles  
E-mail: anrcare@bangla.net

### **Center for Policy Development Studies**

The Librarian  
University of the Philippines - Los Banos  
College, Laguna, Philippines

### **Christian Reformed World Relief Committee (CRWRC)**

Gary Nederveld  
International Programs  
2850 Kalamazoo Avenue, SE  
Grand Rapids, MI 49560, USA  
E-mail: nederveld@crcna.org  
medendow@crcnet.mhs.compuserve.com

### **Christian Outreach**

Keith Etherington  
House 41, Street 476, Phnom Penh, Cambodia  
P.O. box 423, Phnom Penh, Cambodia

Tel/fax: (855) 23364445  
E-mail: cor@pactok.peg.apc.org

**Cooperation Committee for Cambodia**

Esther Velazco  
PO Box 885  
Phnom Penh, Cambodia  
Fax: (855 23) 428825  
E-mail: gad@pactok.peg.apc.org

**Haribon/NORDECO, Philippines**

Cristi Nozawa  
E-mail: cnozawa@phil.gn.apc.org

**Helvetas-Vietnam**

Bardolf Paul  
Social Forestry Support Project  
Xuan Mai, Vietnam  
Fax: (84 34) 84005  
Email: hanoi!sfsp@netnam.org.vn@postbox.anu.edu.au

**International Institute of Rural Reconstruction**

Julian Gonsalves  
Silang, Cavite, Philippines  
Tel: (63 46) 4142418  
Fax: (63 46) 4142420  
Email: iirr@phil.gn.apc.org

**Institute of Philippine Culture**

The Librarian  
Ateneo de Manila University  
Loyola Heights, Quezon City, Philippines

**International Service for National Agricultural Research (ISNAR)**

Douglas Horton  
PO Box 9975  
2509 AL The Hague, The Netherlands  
Tel: (31 70) 3496191  
Fax: (31 70) 3496100  
Email: D.Horton@cgnet.com

**Management Advancement Systems Association, Inc. (MASAI)**

Dhel Tionzon-Brouwers  
Executive Director

#2 Maaralin St., Diliman  
Quezon City, Philippines

**Oxfam-Hongkong**  
Wylie Liu  
China Field Office, Yunnan  
Fax: 871 415 0599

**Oxfam-UKI, Philippines**  
Bootz Medina  
E-mail: oxfam-uki@phil.gn.apc.org

Philippine Partnership for the Development of Human Resources  
in Rural Areas (PhilDHRRA)  
Marlene Ramirez  
59 C. Salvador St.  
Loyola Heights, Quezon City 1108 Philippines  
Tel/fax: (63 2) 987538  
Email: PhilDHRRA@phil.gn.apc.org

**Philippine Social Science Center (PSSC)**  
The Librarian  
PSSC Building, Commonwealth Avenue  
Diliman, Quezon City, Philippines

**Ramon Aboitiz Foundation, Inc.**  
Jermey Inocian  
Eduardo Aboitiz Development Studies Center  
35 Lopez Jaena Street, Cebu City, Philippines  
Fax: (63 32) 253 2380  
E-mail: rafi@mozcom.com

**Research Institute for Food Crop Biotechnology (RIFCB)**  
Muhamad Djazuli/Minatyorini  
Bogor 16111 Indonesia  
Fax: (62 251) 338820  
E-mail: Borif@indo.net.id

**Rural Reconstruction Nepal**  
Fran Bowen/Arjun Karki  
E-mail: rrn@rrnpc.mos.com.np

**SNV Philippine Field Office**

Corrine Canlas  
Manila Philippines

**Southeast Asia Regional Center for Agriculture (SEARCA)**

Gil Saguiguit, Jr/Willie Libunao  
Sustainable Agriculture Indicators Working Group  
Los Banos, Laguna, Philippines  
Fax: (63 49) 536 2914  
Tel: (63 2) 813 5697  
E-mail: POST@SEAMEO.SEARCA.ORG

**The Hunger Project**

John Coonrod  
15 E 26<sup>th</sup> Street, New York NY10010  
Fax: (212) 532 9785  
E-mail: cdp!thp.org!JC@uunet.uu.net

**Trickle Up Program**

Laura Lopez  
54 Riverside drive, NY 10024  
Fax (212) 8177 7464  
Email: 73444.557@compuserve.com

**The University of Reading**

Anna Lawrence  
3 Early Gate, The University  
Whiteknights Road, Reading RG6 2AL UK  
Tel: (44 1734) 318885  
Fax: (44 1734) 875123  
Email: A.Lawrence@reading.ac.uk

**Unitarian Universalist Service Committee (UUSC)**

Dick Scobie  
International Programs  
E-mail: dscobie@uusuc.org

**Users' Perspectives With Agricultural Research and Development (UPWARD)**

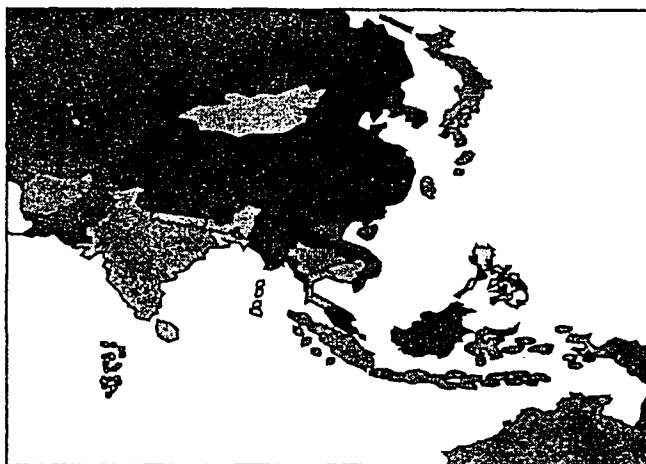
Dindo Campilan  
IRRI PO Box 933  
Manila Philippines  
Tel: (63 49) 5360235  
Fax: (63 2) 8911292  
Email: CIP-MANILA@cgnet.com

**Wageningen Agricultural University**  
Bauje Vrieswijk  
Department of Household and Consumer Studies  
P.O.B. 8060 6700 DA Wageningen  
The Netherlands  
Tel: (31 317) 48292  
Fax: (31 317) 482953



# **PARTICIPATORY MONITORING AND EVALUATION**

## **The Asian Experience**



## **SUPPLEMENTARY REPORT**

**Users' Perspectives with Agricultural Research and Development (UPWARD)  
Los Banos, Laguna, Philippines  
July 1997**

**PARTICIPATORY MONITORING AND EVALUATION**  
***THE ASIAN EXPERIENCE***

**SUPPLEMENTARY REPORT**

**Ricardo C. Armonia**  
**and**  
**Dindo M. Campilan**

**Users' Perspectives with Agricultural Research and Development (UPWARD)**  
**Los Banos, Laguna, Philippines**  
**July 1997**





# INTRODUCTION

This is a supplementary report to *Participatory Monitoring and Evaluation (PM&E): The Asian Experience*, the main document produced from the regional review on PM&E experiences. The Review, conducted in May-June 1996, sought to explore the range of field experiences on participatory monitoring and evaluation (PM&E) in Asia.

The Review exercise resulted in the identification of 12 general categories of PM&E experiences in Asia. These categories, which are presented in Table 4 of the main report, are as follows:

1. Monitoring and evaluation in research
2. Participatory rural appraisal/participatory learning
3. Rapid assessment procedures
4. Participatory evaluation
5. Participatory monitoring/participatory monitoring and evaluation
6. Beneficiary assessment/stakeholder evaluation/informal evaluation
7. Self-evaluation
8. Process documentation research/process evaluation
9. Community resource balance sheet approach
10. Development of M&E indicators
11. Building organizational structures and systems for PM&E
12. Development of support materials and services for PM&E

This supplementary report provides detailed information of these experiences, organized according to the following sections:

*Related experience* - Identifies the institution, group and project/program reporting the PM&E experience.

*Context* - Introduces the broader context of the PM&E experience, i.e. institutional mandate/mission, sectoral focus, project/program objectives, and how PM&E fits in the overall research and/or development process.

*Nature of participation* - Examines how the participatory approach is operationalized in terms of the types of participants, their respective roles and the uses they make of the PM&E outcomes.

*General methodology* - Describes the PM&E process and how its different stages are conceived, including the procedures and steps followed.

*Methods/tools/techniques* - Identifies the specific methods used, with the corresponding tools and techniques in undertaking PM&E.

*Strengths* - Highlights the comparative advantage of the cited approach/experience, especially how it contributes toward effective PM&E.

*Gaps* - Identifies limitations of the cited approach based on field experience and its potentials for further development/refinement.

*Other issues/information* - Relates the experience to general issues in PM&E and lists other references and sources of additional information.

Full bibliographic information of the literature cited here is found in the References section of the main report. To obtain copies of these materials, contact the relevant source/s found in the Directory section also in the main report.

The Review is a joint collaboration between UPWARD and the International Institute of Rural Reconstruction (IIRR) with support from the Institute of Development Studies (IDS) and the International Institute of Environment and Development (IIED). The Review team also acknowledges the assistance of those who provided information cited in the main and supplementary reports.

## TABLE OF CONTENTS

<i>Introduction</i>	<i>i</i>
1. Monitoring and evaluation in agricultural research	1
2. Participatory rural appraisal/participatory learning	4
3. Rapid assessment procedures	6
4. Participatory evaluation	9
5. Participatory monitoring/participatory monitoring and evaluation	12
6. Beneficiary assessment/stakeholder evaluation/informal evaluation	16
7. Self-evaluation	19
8. Process documentation research/process evaluation	22
9. Community resource balance sheet approach	25
10. Development of M&E indicators	27
11. Building organizational structures and systems for PM&E	29
12. Development of support materials and services for PM&E	31



# **1. MONITORING AND EVALUATION IN AGRICULTURAL RESEARCH**

## **REPORTED EXPERIENCE**

### **Philippines**

- Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD)
- Other members of the Philippine National Agricultural Research System

### **Indonesia**

- Research Institute for Food Crop Biotechnology (RIFCB)

## **CONTEXT**

- PCARRD (in the Philippines) acts as the coordinating council charged with central planning, monitoring and evaluation of R&D projects in the agriculture and natural resources sector in the Philippines. Its functions include:
  1. Formulating of policies, plans and strategies, programs and projects for science and technology development;
  2. Preparing and allocating government and external funds for R&D;
  3. Coordinating, monitoring and evaluating of R&D programs/projects;
  4. Generating of funds for R&D; and
  5. Upgrading capabilities of member-institutions (Librero 1996)
- RIFCB reported use of PM&E in its national research projects and international joint collaboration research projects regarding germplasm exploration and characterization activities in breeding programs (Dzajuli and Minantyorini pers comm).

## **NATURE OF PARTICIPATION**

- PCARRD monitoring and evaluation activities are mostly done by researchers, experts and specialists from participating agencies with the results usually presented in regional and national symposia. Farmers, extensionists, subject matter specialists, entrepreneurs, and representatives from the private and NGO sectors are invited to attend these regional and/or national symposia. In certain cases, farmers are involved in field tests/trials in R&D projects.
- In RIFCB, farmers (farmer group leaders) are involved in developing appropriate varieties through evaluation activities from initial selection to the time that the varieties are released.

## **GENERAL METHODOLOGY/CONCEPT**

- PCARRD evaluation of R&D projects go through three stages: (1) ex ante evaluation (before implementation), where research proposals are reviewed by the experts/researchers; (2) monitoring (during implementation) where project activities are reviewed relative to plans, efficient use of project resources and coordination with other agencies and for feedbacking and taking corrective actions; and (3) ex post evaluation (after implementation) to validate attainment of objectives and determine if the project has

generated breakthroughs or significant information with potential impact on the clientele. These results are presented in regional and national symposia to a wider audience.

- In RIFCB, farmers and extension agents provide support to researchers by helping gather experimental data and related information through formal and informal means.

## **METHODS/TOOLS/TECHNIQUES**

- Field evaluation and in-house reviews conducted by project research staff and/or with external evaluators coming from other members of the National Agricultural Research System.
- Conduct of regional and national symposia to present results of completed/evaluated projects.

## **STRENGTHS**

- Networking with colleagues and other institutions along technical and scientific disciplines (in terms of knowledge transfer and exchange).
- Limited time consumed.
- More focused results.
- Active participation of farmers/users of the technology.

## **GAPS**

- Role of social science in evaluation confined to assessment of project impact after project completion.
- Lack of benchmark information (e.g. on farmers' practices, costs, income, market and production data) for socio-economic evaluation.
- Bringing together farmers and researchers in symposia often results in researchers dominating the activity/discussions.
- Impact assessment often lacks attention to whether or not projects are economically viable or generate significant impact on intended clientele.
- Variability of background of the technical researchers and their limited knowledge on social science); therefore there is need to provide them training on PM&E and its concepts.

## **OTHER ISSUES/INFORMATION**

For related readings on agricultural research evaluation see Horton (1997) which traces the evolution of evaluation within the context of agricultural research organizations and discusses seven types of evaluation according to the agricultural research project cycle (including needs assessment, priority setting, evaluation of research proposals, monitoring of ongoing research, evaluation of completed evaluation, evaluation of research outputs, and impact assessments).

See also the following regarding participation of farmers in technology trials using qualitative measures:

- Callueng, Rebonoso and Sana (1992) regarding experience of the Department of Agriculture in the Philippines in the conduct of crop evaluation trials with the participation of farmers.

- Prain, Fano and Fonseca (1994) regarding farmer involvement in crop variety evaluation and selection which describes the use of surveys, field-based group assessments and participative trials in evaluating sweet potato varieties.
- Posadas (1995) which reports on the use of matrix ranking to monitor and evaluate rice varieties grown in trial plots in the Philippines.

For related readings on PM&E in the agricultural R&D environment see:

1. UPWARD (1996) for an example of case study guidelines for distilling and consolidating learning on user participatory rootcrop R&D.
2. Sandoval (1994) discusses "memory banking" of indigenous technologies to complement gene banking in the recording and conserving biodiversity before these are lost. It describes the three stages in memory banking -- documentation, reconstruction and systematization of cultural information -- and their corresponding tools. Briefly, these tools include collection and preservation of specimen, RRA techniques, benchmark socio-economic surveys, KIP interviews and diagramming from memory, life history elicitation, the triads test, sorting and ranking, and verification studies (i.e. use of more systematic field and market surveys).



## **2. PARTICIPATORY RURAL APPRAISAL/ PARTICIPATORY LEARNING METHODS**

### **REPORTED EXPERIENCE**

India

- MYRADA

Bangladesh

- Bangladesh Rural Advancement Committee (BRAC)

Vietnam

- Vietnam-Sweden Forestry Cooperation Programme (now the Mountain Rural Development Project)

China

- Yunnan Upland Management Program

### **CONTEXT**

- Emphasis on participation of village people in their own development (as partners in the development process).
- Adaptation of participatory methods that does not stop at "appraisals" but go into a shared analysis and understanding of rural situations (Mascarenhas 1992).
- Outside organizations as catalysts for the empowerment process by avoiding the usual practice of taking information from the community, analyzing them and returning only to tell the community what their problems are and how to solve them (Johnson 1993)

### **NATURE OF PARTICIPATION**

With the facilitation of an external group/agent, the community/people generate, reflect on and analyze information from within their own community using established PRA tools and techniques.

### **GENERAL METHODOLOGY/CONCEPT**

Evaluators act as facilitators for the community to critically examine its progress and find ways to improve performance (Johnson 1993).

### **METHODS/TOOLS/TECHNIQUES**

PRA/RRA tools including:

- Agroecological and historical transects
- Social mapping
- Seasonal diagramming
- Ranking and scoring
- Focus group discussion

- Informal individual interview

## **STRENGTHS**

Proven usefulness in PM&E especially for establishing baseline information and monitoring changes through time. Examples:

- Participatory village mapping can establish patterns through time of caste, assets ownership, family size, health status, etc.
- Historical transects can show how an area looked like at different periods until the present.
- Social mapping and wealth ranking have been used to determine socio-economic characteristics of new members of the Small Scale Livestock Development Program and the students of the Non-Formal Primary Education Program of BRAC (Huda and Khan 1995).
- Use of visual analytical exercises encourages participation from all socio-economic classes by removing literacy and numeracy as criteria for participation in a community's self analysis and evaluation of program activities (Johnson 1993).

## **GAPS**

- Lack of quality control and sometimes misuse of methods.
- Need to increase the use of good PRA methods and introduce them in mainstream organizations/institutions.
- Problems on use of PRA tools due to poor understanding of group dynamics and good facilitation techniques (e.g. trying to get too much information quickly).
- Lack of verification (triangulation) of information through other sources and different means.
- Members of an evaluation team using PRA need to be prepared and less determined to do what each wanted individually.
- Need to develop/expand into new areas (if to unravel the complexities in impact assessment) most notably in better exploring social and economic relationships where it is currently weak (Adams 1993)

## **OTHER ISSUES/INFORMATION**

- See Chandrakanth (1992) for an example on the use of PRA together with statistical approaches in a water supply project in India.
- The incorporation of PRA methods into M&E will not amount to anything substantial unless accordingly complemented by the required changes in organizational values, principles and ways of doing things (Ricafort 1996).
- See Rahman and Rahman (1993) for participatory action research experience in Bangladesh that is seen as leading people to doing a systematic review and evaluation of their own experiences.

### **3. RAPID ASSESSMENT PROCEDURES (RAP)**

#### **REPORTED EXPERIENCE**

##### **United Nations University (UNU)**

- UNU conducted studies to assess nutrition and primary health care programs in 16 countries using RAP. Asian countries included in the study were Bangladesh, Korea, Nepal, Pakistan, Philippines and Thailand (Scrimshaw 1992).

##### **Indonesia**

- Design of an improved nutritional surveillance/nutrition monitoring system (the TWIS or timely warning and intervention system) carried out by Cornell University under a Cooperative Agreement with USAID (Pelleter 1992).
- The Nutrition Research and Development Center/University of Diponegoro/Bogor Agricultural University applied RAP guidelines for nutritionists in a growth monitoring and promotion program (Husaini, Satoto and Karyoadi 1992).

##### **Nepal**

- His Majesty's Government of Nepal and FINNIDA conducted an assessment of a rural water supply and sanitation program (Shrestha 1992).

##### **UNICEF**

- Pearson and Kessler (1992) reported on an assessment of UNICEF health projects with RAP as one of the methodologies adopted.

#### **CONTEXT**

"...A way to get more and better information about health needs and program implementation from the local and household perspectives ... to improve the participation of proposed beneficiaries... to involve the poor in planning, implementing and monitoring ways to ameliorate their living conditions." (Messer 1992:280)

#### **NATURE OF PARTICIPATION**

Researchers/social scientists carry out RAP with indigenous researchers as apprentice (who are later on expected to do RAP by themselves in their communities). Involves in-depth consultations and discussions with the households/community members and leaders and project implementors.

#### **GENERAL METHODOLOGY/CONCEPT**

- "... Focused ethnographic interviews with community leaders, household heads and program personnel" (Messer 1992).
- "... Application of anthropological methods to the evaluation of health programs but shortening the minimum one-year ethnographic study to about six weeks using researchers already knowledgeable in the language and culture of the area and by developing the capacity of indigenous researchers in RAP. Within this premise, the researchers and their local

counterparts develop the evaluation guidelines/terms of reference together (which is more of a shopping list rather than a questionnaire to administer) that can be met within the six- week time frame. Qualitative methods/PRA tools are then adapted for data collection and analysis. Accuracy and appropriateness of the information are then verified by triangulation -- cross checking of data through the use of repeated questions, discussions and direct observations (Scrimshaw 1992).

## **METHODS/TECHNIQUES/TOOLS**

- Informal interviews/open ended questionnaire
- Informal conversation
- Direct/participant observation
- Focus group discussion
- Secondary data collection
- Structured questions for inventories and demographic information
- Preparation and use of formats for reporting information to the locals in village meetings

## **STRENGTHS**

- It is highly flexible since RAP is more of a process rather than a particular set of methods therefore "the types of assessment procedures to be used depends on the job at hand, funds available and the amount of time that can be put aside for the activity" (Pearson and Kessler 1992).
- Like other participatory methodologies, RAP encourages people participation in projects which do not have a strong element of participation built into the planning and implementation stages.

## **GAPS**

From Scrimshaw (1992):

- Convincing others on the validity and reliability of RAP.
- Need to add decision makers as key participants to the process.
- Finding/training skilled evaluators in the process.
- Interpreting results in ways understandable to the consumers, the community and the program planners/providers.
- Need to consider sampling theory in RAP particularly in determining what part of the population to interview and whose knowledge and opinions need to be reflected.

From Pearson and Kessler (1992):

- Key players should make themselves available to take part in as much of the process (RAP) as possible rather than depending on a final written report.
- A RAP team must have the expertise in communicating findings so that the issues can be easily understood.
- Cultural problems associated with a RAP-style assessment: e.g. should be sensitive to reasons why consensus or a negative reaction is not wanted in certain situations which may result in others not participating at all.
- Careful attention must be given to the initial stages of RAP especially on how the process should proceed (developing guidelines and terms of reference).

## OTHER ISSUES/INFORMATION

As per UNICEF experience (Pearson and Kessler 1992):

- The RAP team should include people who actually work on the project as well as outside investigators. The latter provides impartiality to the exercise while the former are readily available resource persons with the inside knowledge who makes the final choice as to which recommendations to take up.
- The "wide consultation" process in all stages of RAP relies heavily on comments on the written reports (several draft revisions are made). Quick turnaround times in the production and revision of these written documents is facilitated by computer technology (esp. laptops for field use) and the availability of photocopiers. Computers are also used for gathering and analyzing quantitative data where and when necessary.

## **4. PARTICIPATORY EVALUATION**

### **REPORTED EXPERIENCE**

Bangladesh

- Use of evaluation in a participatory development program (Wallace 1991)

Cambodia

- Christian Outreach (Etherington 1996)

India

Society for Participatory Research in Asia (PRIA 1995): Nepal

- World Neighbors (Vasser 1996)

Philippines

- IIRR (Suner 1994) regarding valuation of people's organizations

### **CONTEXT**

- PRIA (1995) produced case studies on evaluation it has done with various NGOs/projects in India including: The Village Development Trust, Charity Bengal, Andhra Pradesh Balwadi Programme, Rural Development Organization, Jagriti, The Inter-School Project, the Tribal Development Society and Workers' Education Project. It is a:
  1. Methodology for making the evaluation process integral to the planning and implementation processes of people-centered development initiatives.
  2. Process of individual and collective learning/educational experience.
- Participatory evaluations are meant to give the community, the NGO and governmental staff valuable information about program performance while helping build the skills of the community to analyze, identify and eventually solve its own problems (Vasser 1996).
- Participatory evaluation is a process of collective problem-solving through the generation and use of knowledge (Narayan 1993).

### **NATURE OF PARTICIPATION**

- Who participates depend on the specific situation and evaluation objectives and therefore, participants range from project beneficiaries (local people/representatives of village institutions) to field personnel to senior project management to donors.
- Unless local capacity on participatory evaluation has been developed, outsiders usually facilitate the process and draft the evaluation reports. Participants collectively set the evaluation objectives, frames of reference, evaluation methods to use and engage in data analysis.
- Project participants/stakeholders set the evaluation objectives, evaluation criteria, and the choice of program communities to be evaluated.

## GENERAL METHODOLOGY/CONCEPT

- Generally involves the following steps collectively done by the evaluation team/representatives from stakeholder groups (PRIA 1995):
  1. Setting the evaluation objectives/frames of reference through workshop meetings.
  2. Identification of data parameters and needs (includes generation of indicators/criteria for evaluation).
  3. Identification of information sources.
  4. Agreeing on and designing the data collection methods and implementation
  5. Analyzing data to determine common patterns, variations, links, relationships, etc. and initial analysis is disseminated to all constituencies from whom information have been taken (feedback and validation).
  6. Creation of future scenarios based on analysis made.
  7. Evolving action plans based on the agreed upon future scenarios (plans are in "broad strokes" and the detailed/concrete planning comes after the evaluation process
  8. Evaluating the entire process.
- Participatory evaluation in the experience of World Neighbors in Nepal (Vasser 1996) starts with a community dialogue to discuss the purpose of the evaluation activity and a clarification of the community's role in the evaluation process. The actual evaluation activities happen over a two-day period with the first day devoted to village mappings to learn who the project participants were and the benefits they gained. The second day focuses on specific interests of the community to encourage community members' analysis of the effectiveness of the project being evaluated. These discussions/meetings then end with the facilitators asking community members to describe their next steps and the corresponding support they require.

## METHODS/TECHNIQUES/TOOLS

- Questionnaire
- Interview
- Records review
- Meetings/discussions/workshops
- Presentation of initial results to project stakeholders for validation and feedbacking
- Sharing of preliminary findings to project management after each leg of field visits
- Use of folk media (e.g. theater, songs, role plays, drama, arts/drawing) as popular means of data collection
- PRA tools: social maps, Venn diagrams, wealth ranking matrix, comparative analysis matrix, resource allocation and time lines
- Participatory evaluation and learning workshops: use of evaluation posters and games (see Etherington 1996)

## STRENGTHS

- Project stakeholders "own" the evaluation experience.
- Recognition of both qualitative and quantitative methods in integrating the evaluation process to planning and implementation activities (e.g. in the evaluation of large and widespread programs, use of questionnaire is seen as a practical thing to do).
- Flexibility in the choice of evaluation techniques.

- Working out of detailed frames of reference or memorandum of understanding, though bureaucratic minimizes elements of misunderstanding, mistrust and confusion especially with the presence of external team members.

## **GAPS**

- Donor role in participatory evaluations is not clearly defined.
- Difficulty in carrying out participatory evaluation in hierarchical/bureaucratic organizations especially in an organization with an atmosphere of tension and mistrust.
- Flexibility in choice of evaluation techniques places extra demands on the facilitating team to have expertise over a range of or all techniques.
- Managing multiple constituencies with different purposes and perceptions of the evaluation
- Building a climate of openness, trust, sharing and reflection in the early stages of the evaluation and sustaining it.
- NGO workers to be able to facilitate participatory evaluation exercises need to understand the difference between process skills and technical skills.
- Facilitators of a participatory evaluation team should have an understanding of the community's history, the problems and its needs, and be able to use PRA tools appropriately and with flexibility.

## **OTHER ISSUES/INFORMATION**

- Participatory evaluation is not necessarily/entirely qualitative in approach such that the choice of data collection methods range from the qualitative to the quantitative depending on the evaluation objectives that were set.
- From the PRIA experience, the follow up of a participatory evaluation exercise begins to take place during the exercise itself (i.e. during the action planning step).
- For an example of an experience in using popular theater (by women in India) as a method of participatory research and accordingly, for potential use in participatory evaluation, see Khot (n.d.). In said experience, the storyline was based on the community development experiences for investigation and audience participation/feedback is actively sought after the theater presentation. The group periodically examines its activities by listening to the cassette tapes of performances and the discussions that ensued. Getting feedback from outside experts and other sectors is also done.
- For related readings see the following:
  1. Wallace (1991) regarding a participatory evaluation done by an NGO in Bangladesh that led to the realization of evaluation as an iterative learning process.
  2. Matsuura (1989) on the experience of IIRR in participatory program evaluation under a project called Stimulation of the Emergence of Participatory Acquisition Groups (SEPAG).
- See also Tandon (ed) 1981 for a compilation of theoretical perspectives and case studies from papers presented at a Workshop on Participatory Evaluation in India.



## **5. PARTICIPATORY MONITORING/ PARTICIPATORY MONITORING AND EVALUATION**

### **REPORTED EXPERIENCE**

#### **India**

- Aga Khan Rural Support Programme (AKRSP) (Shah, Hardwaj and Ambastha 1993)

#### **Philippines**

- UPWARD (Campilan 1996); also with experiences in Indonesia and Vietnam
- Ramon Aboitiz Foundation Inc (RAFI) (Inocian pers comm)
- International Center for Living Aquatic Resource Management (McArthur 1996)
- IIRR
- SNV-Philippines

#### **Cambodia**

- Christian Outreach (Etherington pers comm)

#### **Nepal**

- Rural Reconstruction Nepal (RRN) (Bowen pers comm)

#### **Bangladesh**

- CARE-Bangladesh (Desilles pers comm)

### **CONTEXT**

- The monitor/evaluator is a participant in the project (De Raedt 1995).
- In AKRSP, participatory monitoring is part of the overall "participatory rural appraisal, planning and evaluation" framework adopted in its Watershed Management Program
- "... In the participatory process, monitoring and evaluation tend to merge into a continuous process of review and adjustment of inputs to match the resources available to the community/" (PROWESS 1990:6)
- Used by RRN to ensure projects are realizing the objectives and needs of the beneficiaries; to encourage beneficiaries to make adjustments in their life styles and likewise enable staff to make adjustments to activities, methodologies and techniques (n Bowen/Rural Reconstruction Nepal).
- PM&E used as a planning tool by RAFI.
- Integrated into the project cycle for judging project performance as well as an opportunity for joint learning; undertaken by relevant stakeholders in the project and not left entirely to outside experts/professionals; caters to the information needs of a variety of user groups within and outside the projects (Campilan 1996).
- SNV-Philippines used PM&E "to take decisions which lead to action... and monitor their progress in order to adjust, expand or replicate" the projects.
- The CARE Bangladesh experience was grounded on the following activities: introduction of the PM&E concepts and process to the project, building up the PM&E team (identifying

the key players in the PM&E process), understanding and gaining confidence in use of participatory methods, deciding the kind of tools to use applicable to Bangladesh conditions, reviewing and learning from the experience, applying the learnings, and setting up a system for recording and reporting PM&E results.

## **NATURE OF PARTICIPATION**

- Project researchers/outside professionals and stakeholder groups (including the target groups, the project team, the partner/implementing organizations and the proponent organizations) jointly undertake M&E activities.
- Project researchers and local people generate the indicators/variables to be measured with the researchers developing/refining the tools/instruments for recording and the local people recording/providing the information.
- Villagers (especially those coming from village institutions)/project participants, local and international staff (where present) participate in the PM&E activities (e.g. in developing indicators and in generating, analyzing and using the information for planning purposes).

## **GENERAL METHODOLOGY/CONCEPT**

- In the context of AKRSP's watershed management program, participatory monitoring involved the following steps:
  1. Discussions with individual farmers in the field.
  2. Deciding on the variables to be maintained with the farmer groups.
  3. Ground/paper mapping of baseline and impact assessment.
  4. Presentation of findings to watershed outlet groups.
  5. Aggregation of information collected and preparation of aggregated maps.
  6. Presentation of findings to the community.
  7. Generation of technology domains and adaptation to village circumstances.
- In Children Outreach, PM&E methodology involves the use of monthly monitoring sheets, quarterly evaluation and objective setting workshops for the project staff, and yearly VDC (Village Development Council) evaluation and learning workshops.
- Use of both formal and informal approaches to cater to the information needs of the various stakeholder groups including researchers.

## **METHODS/TECHNIQUES/TOOLS**

- Discussions/meetings/interviews
- Ground mapping/paper mapping
- Farm plans/layout; use of specially-designed calendars for recording monitoring data (cost and returns) by farmer cooperators (see IIRR Foodlot Module Project reports 1990/91)
- Quarterly/yearly evaluation workshops by village institutions
- Developing indicators and preparing baseline studies
- Use of "picture codes" as a survey technique in group settings to come up with baseline information that will facilitate measurement or recording of changes over time of people's attitudes, values, thinking and relationships (Batchelor 1995)
- Cross-visits and exposure trips as venue for reflection/observation
- Participatory Rural Appraisal and Planning (PRAP) such as in RAFI
- RESTORE process (Lightfoot and Pullin 1995; McArthur 1996): use of resource flow diagrams which allows farmers and researchers to assess current farm conditions and resource

management strategies and to plan and monitor experimental changes in the farming system. In this process, researchers assist farmers in drawing "resource transects" of their farms

- Object-oriented project planning, e.g. SNV's use of PM&E within the context of result-oriented management

## STRENGTHS

- Facilitates better clarification of indicators used in evaluation which otherwise might be difficult to measure.
- Lowers cost of development activities.
- Project staff are closely involved with the users both in collecting data and providing technical advice.
- Use of "picture codes" as a survey technique is effective for documenting a wide range of attitudes, and "photo parade" as a related technique (Narayan and Srinavasan 1994).
- CARE experience showed that participation increases very quickly when the people can touch and play with the tools (Desilles pers comm).
- PM&E can be used to exploit market opportunities for farmers (Campilan 1996).
- Facilitated better planning and financial management and clarified roles and responsibilities at various levels (SNV-Philippines).

## GAPS

- From Campilan, Sister and Locht (December 1996):
  1. Different definitions and interpretations of PM&E by different people and institutions (in the same way that there is no single operational definition of "participation").
  2. Development of critical PM&E indicators and related tasks including assessing types and level of participation, deciding on project impact area and measurement of non-conventional indicators associated with human social processes.
  3. Proper choice and utilization of the range of available PM&E tools and methods in keeping the balance between scientific rigor and practical utility, upholding ethical standards, and strengthening users' capacity to articulate their views and control over the PM&E process.
- Problems/difficulty in identifying the meaning of drawings as a PM&E tool.
- Formal documentation of PM&E practices is very limited (RRN/Nepal, RAFI/Philippines)
- From Christian Outreach: too much use of posters/pictures can also be boring; existing picture codes do not give adequate qualitative feel of the people's religious world views
- Difficulties in translating PM&E principles and concepts into action.
- PM&E is costly (i.e. time, money and effort).
- Greatest potential for PM&E is in developing strategies for collaborative assessment where villagers and researchers participate together in a planned systematic manner in monitoring and evaluation (McArthur 1996).
- Finding a process that will meet the needs of the multiple individuals and groups who have an interest in the outcome of PM&E... (which) involves more than just packaging evaluations to meet the information needs of different groups (McArthur 1996)
- Canlas (pers comm) emphasized the need to pay more attention to gender integration in PM&E and differences in the use of indicators.

## OTHER ISSUES/INFORMATION

- The results of participatory evaluation need to feed into monitoring at national level ... (so that user views can be reflected in sector planning and policy setting (PROWESS 1990))
- Introducing PM&E tool has an impact on project management style, requires investment in developing staff's facilitation skills, attitudes and knowledge of the project (Desilles pers comm)
- PM&E implies the notion that "we" are doing development that we want to monitor and evaluate and we want people's participation in that monitoring and evaluation (John Conrood from The Hunger Project)
- Experience in measurement (CWRC, refer to e-mail message from Gary Nederveld): from measuring by quantities to one which is more amenable to stories.
- According to Haribon Philippines (Nozawa pers comm):
  1. NORDECO, a not for profit organization based in Copenhagen and having operations in the Philippines, is in the process of "developing a simple, participatory and low cost biodiversity monitoring system for use in protected areas in the Philippines". A draft framework developed in a workshop is being reviewed (consultations ongoing) and will be field tested within the coming months.
  2. They have difficulty by what PM&E really means.
  3. There are information gaps particularly in terms of monitoring for input to a protected area management by a multi-sectoral protected area management board with LGU/NGO/PO and ICC representation.
  4. Use of biodiversity indicators is unavailable.
  5. Low cost and non-expert monitoring is needed.
- Will be useful to involve partners in defining the types of information needed and where and who will provide them.
- Lightfoot et al (1993) discusses the use of bio-resource diagrams as a participatory procedure for monitoring sustainable farming activities.
- CARE Bangladesh has produced several manuals/documents describing its experiences in introducing and adapting PM&E to its projects in pest management, agro-forestry and aquaculture; the documents recognize the contribution of farmers and field trainers in helping NOPEST staff to better understand the objectives of PM&E. These documents include:

Desilles, S and T. Robertson. November 1996. This describes the process by which CARE Bangladesh carries out PM&E in its New Options for Pest Management (NOPEST) project.

Sajeda, B et al. May 1997. This is a documentation of CARE Bangladesh's experience in designing and implementing PM&E in its Chittagong Homestead Agroforestry Project (CHAP).

Roy, Kumar Tapash et al. May 1997. This document describes the experience with the design and implementation of PM&E in CARE Bangladesh's CAGES project or the Cage Aquaculture for Greater Economic Security.

## **6. BENEFICIARY ASSESSMENT/STAKEHOLDER EVALUATION/INFORMAL EVALUATION**

### **REPORTED EXPERIENCE**

India

- Aga Khan Rural Support Programme (Shah and Shah 1996)

Sri Lanka

- ITDG-Colombo (Ariyabandu 1995)

### **CONTEXT**

From Shah and Shah (1996):

- Evaluation within the context of accountability; where accountability relates to the wider process of information exchange, decision making, management, negotiation and bargaining that takes place between different stakeholders.
- Emphasis on "reverse" accountability where multiple actors are accountable to one another (particularly towards community institutions) rather than an "upward" accountability towards donors and governments

From Ariyabandu (1995)

- ... Participation of the beneficiaries (should) not (be) limited to using participatory techniques to generate evaluation information alone. Beneficiaries (should) participate in project activities in all stages of the project cycle... (such that) beneficiaries become a part of management taking part in decision making.
- Beneficiary assessment requires the existence/creation of a management structure and village institutions to carry out the process that is integral to the overall project/management cycle.

From The World Bank Participation Sourcebook:

- A systematic consultation with project beneficiaries and other stakeholders to help them identify and design development activities, signal any potential constraints to their participation, and obtain feedback on reactions to an intervention during implementation.
- "Systematic listening" to obtain feedback on interventions.

### **NATURE OF PARTICIPATION**

In the case of India, village institutions/communities evaluate the projects and performance of AKRSP using PRA tools. These village institutions develop the indicators which they use for the assessment activity (data collection and analysis). They are also encouraged to come up with written reports of the assessment results and experience.

### **GENERAL METHODOLOGY/CONCEPT**

- Village institutions/beneficiaries carry out the performance assessment of the program/support organization (e.g. AKRSP) using participatory methodologies. The results are presented in a workshop (and if possible, documents in the local language are prepared) and used in the

strategic/annual planning exercises of the support organization with the participation of the village institutions. These planning exercises are conducted prior to the conduct of an external evaluation of the support organization/program. The assessment covers the following general areas: program performance, NGO management, decision making processes, and the nature of support provided by the external agency/support organization.

- As a further step in the assessment process, AKRSP has conducted on an experimental basis the participation of village institutions in the recruitment, training and performance appraisal of NGO staff.
- The evaluation/assessment approach includes both formal and informal procedures. Formal evaluation are planned and results in documents for internal and external use. These documents include visit reports, bi-annual and annual monitoring and evaluation reports. The informal component is carried out by village institutions together with the "field catalysts" as a continuing process where they evaluate their needs, constraints, and opportunities and make decisions in carrying out project activities (Ariyabandu 1995).

## **METHODS/TECHNIQUES/TOOLS**

- PRA tools including matrix ranking exercises
- Evaluation workshops to discuss results and plan corrective action
- Brainstorming to develop indicators/criteria for performance evaluation
- Documentation of assessment results in the local language
- Formal and informal group discussions/meetings
- Village visits
- Questionnaire/surveys where necessary
- In depth conventional interviewing around key themes
- Focus group discussions
- Direct/participant observation.
- Steps in beneficiary assessment (WB Participation Sourcebook 1996)
  1. Familiarization by the technical specialists on the projects/programs to be assessed
  2. Study design (including the identification of target populations)
  3. Selection and orientation of local interviewers
  4. Conduct of the study (use of interviews, focus group discussions, participant observation, etc.)
  5. Preparation of the beneficiary assessment report

In a way, beneficiary assessment as used by The World Bank is similar to the Rapid Assessment Procedures (RAP) described earlier.

## **STRENGTHS**

- Assessment of NGO/external agency accountability by community institutions form an important input into the external evaluation of the organization/its programs and its planning activities aside from building capacity of the local groups in monitoring, evaluating and managing their own community programs.
- Taps into the existing informal evaluation capacity of the village institutions.
- Promotes dialogue and influences policy.
- Helps define problems from the point of view of people affected by the projects.
- Provides qualitative inputs to poverty assessments by focusing on the human factors.

## **GAPS**

- Tension may occur with the change in power relationships that results from the participation of village institutions in evaluation activity.
- Requires changes in the management style as called for in the beneficiary assessment results (especially on resource allocation, financial decentralization and decision making mechanisms.
- Not all village institutions are equally interested in evaluating their support organizations.
- Cannot be used in evaluating large scale projects because its methodology is highly iterative and experimental in nature
- Results of informal evaluations/beneficiary assessments carried out by village institutions are not usually documented (apart from records of management decisions taken during regular meetings)
- Integration of information generated from the formal evaluation processes into the informal processes is relatively weak
- Should informal evaluation processes be formalized?

## **OTHER ISSUES/INFORMATION**

- Beneficiary assessment should be used only when the NGO/support organization is ready to make changes in its decision making mechanisms and accountability structures when so required (Shah and Shah 1996:224)
- See also Appendix 1 (Methods and Tools) of The World Bank Participation Sourcebook in this internet address regarding Beneficiary Assessment:  
< < <http://www.worldbank.org/html/edi/sourcebook/sb0001.htm> > >

## **7. SELF-EVALUATION**

### **REPORTED EXPERIENCE**

#### **India**

- MYRADA
- Swedish Development Cooperation Bangalore Field Office

#### **Bangladesh**

- Enfants du Mond

#### **Nepal**

- UNICEF (Taylor-Ide and Taylor 1995)

#### **Australia**

- Action research (see Wadsworth 1991)

#### **Philippines**

- Self assessment by irrigators' associations (see Lauraya et al 1991))

### **CONTEXT**

- Espouses the perspective that the views, concerns and involvement of beneficiaries and workers [implementors] alike are important (Jupp and Euler 1993)
- A methodology for increasing community awareness and capacity (Taylor-Ide and Taylor 1995) and strengthening grassroots participation (Enfants du Mond 1993).
- Self Evaluation with Essential Data (SEED) under a UNICEF project is a tool that evolved from rapid assessment procedures (RAP) and participatory rural appraisals (Scrimshaw and Gleason 1992; Taylor-Ide and Taylor 1995b) that emphasizes the gathering of minimal information for decision making.

### **NATURE OF PARTICIPATION**

- "Insiders" within the context of the community or organization participate in the process (developing indicators, data collection and analysis).
- External facilitators may introduce the process and/or useful tools and instruments for self evaluation activities.

### **GENERAL METHODOLOGY/CONCEPT**

- Being reflective in a way that "will assist us to act back on ourselves in ways which change ourselves and the things around us" (Wadsworth 1991).
- "The process of thinking about what we are doing, why we are doing it, and what is its value -- particularly in the light of some sense of discrepancy between the current state of affairs and what we think we should, could, ought, or might be doing, or not doing (and why). To call it "self" evaluation implies that we can start with ourselves as individuals, however this is not the same as thinking we are individualistic.... Eventually the self-



evaluator needs to touch base in (a) social sense - whether with friends, peers, fellow workers and critical reference group members, to check that we are on the right track." Wadsworth 1991)

- Tool box of methods to assess the past, present and future situations and "establish willingness/readiness of actors to be involved in sustaining the program" (Jupp and Euler 1993).
- Self evaluation in the PIDOW project involved these five steps (Sommer 1993):
  1. Process design
  2. SE (self evaluation) implementation at field level
  3. Mid-term evaluation workshop
  4. Special field level case studies
  5. Concluding workshop
- In the SEED process, a few indicators are first identified by both experts and local people and once agreed upon, data gathering methods are adapted to local conditions through field trials (e.g. adaptation in the use of surveys). Survey findings are then "triangulated" by experts using more rigorous survey methodologies. The survey process is then repeated on a yearly basis to track changes.

## **METHODS/TOOLS/TECHNIQUES**

- PRA tools for data collection at field level
- Workshops series
- Case studies
- Self-assessment questionnaires (e.g. field out monthly by community/group leaders)
- Pictorial analysis i.e. using maps and symbols (see Lauraya et al 1991)
- Peer reviews/use of critical reference groups in a collaborative problem solving style (see Wadsworth 1991)
- Rapport building
- Matrix ranking and scoring
- Presentations
- Role play
- Situation analysis
- Transect walks
- Surveys by local people on a regular basis (e.g. yearly) for tracking changes in the community

## **STRENGTHS**

A capacity building activity in itself (in the case of Enfants du Mond in Bangladesh, self or internal evaluation was also used to test a new methodological approach i.e. PRA in order to strengthen grassroots participation; in BRAC, impact assessment by staff was conducted as part of a PRA/RRA refresher course for use in their longer impact assessment studies (see Amin et al 1993))

## **GAPS**

- Expertise from appropriate scientific disciplines is needed to identify two or three key indicators per variable to construct an "essential data set" (to be done with local people who will decide what to measure within their capability) - particular to the SEED process.

- In a SEED survey, results are verified/"triangulated" by experts using more rigorous scientific survey methodology.
- In the PIDOW self-evaluation experience conducted over a seven-month period in 1991, hard data was not attended to and collection of baseline data in future self evaluation is seen as necessary.

#### **OTHER ISSUES/INFORMATION**

- For additional reading on reflexive/self evaluation see also the following: Wadsworth (1991), Arnstein (1969), Freire (1972) and Brinkerhoff (1983).
- Uphoff (1991) described a self-evaluation methodology based on FAO's People's Participation Programme (PPP) in Sri Lanka, Ghana, Zambia and Zimbabwe.
- Perera (1991) discussed the self-evaluation experiences of farmers in Sri Lanka with a team of researchers in an irrigation-cum-settlement project.
- A useful piece of information related to self evaluation is the experience of the IIRR/CLSU-PRISP project team with a "desk evaluation" conducted by an external evaluator. The desk evaluation report was full of inconsistencies (relative to the field realities). Surprised and in disbelief, this led the project team to a meeting to discuss the evaluation report point-by-point, then drafted the formal response accordingly and sought audience with the desk evaluator and the donor representative to hear the evaluator's side and then went on to clarify and resolve the contested issues. This incidence provided the project team an opportunity to critically reflect on its performance and accomplishments relative to an outsider's perspective (Ibus pers comm).

## **8. PROCESS DOCUMENTATION RESEARCH (PDR)/ PROCESS MONITORING**

### **REPORTED EXPERIENCE**

#### **Philippines**

- Institute of Philippine Culture (IPC)/Ateneo de Manila University
- Philippine Partnership for the Development of Human Resources in the Rural Areas (PhilDHRRA)
- International Institute of Rural Reconstruction (IIRR)

#### **India**

- Society for Participatory Research in Asia (PRIA)

#### **Nepal**

- Process evaluation of a Health Department Project as reported in Robinson and Cox 1994

### **CONTEXT**

“... A tool to help development organizations learn from their own experience... to provide feedback to persons engaged in the management of an institutional learning process” and give insights to the “why” questions that guide future action rather than a tool for the precise measurements of the “what” (Korten 1989).

### **NATURE OF PARTICIPATION**

The community/project participants, field staff and to some extent project managers are pro-active sources of information. They also participate in validating and re-interpreting information generated in PDR during regular feedbacking sessions facilitated by PDR researchers either in conjunction with regular project meetings or in separate meetings.

### **GENERAL METHODOLOGY/CONCEPT**

- Largely ethnographic/anthropological in approach.
- An outsider (usually an institution) is contracted by the project/donor to do PDR for documenting project processes for replication purposes and/or for keeping track of project learning/performance for the immediate benefit of the project subjected to PDR
- PDR focuses on a particular aspect of a project in consultation with and as set by project management and stakeholders (including the donor). If several project sites are involved, a PDR team usually consists of a researcher and research assistant/s (one research assistant per project site)
- Broad steps in Process documentation (PRIA 1993):
  1. Facilitation and rapport building
  2. Establishing the focus of process documentation and developing frames of reference
  3. Facilitating the process documentation
  4. Review of the process documentation processes
  5. The process closure (of the process documentation activity)

## **METHODS/TOOLS/TECHNIQUES**

- Review of project documents and other secondary information
- Consultation meetings with project management and stakeholders to draw up terms of reference, agree on focus of PDR and generate an initial checklist or framework for data collection
- Direct/participant observation
- Use of anecdotes/illustrative events recorded in the researcher's journal
- Individual interviews with project management, staff and beneficiaries
- Monthly/quarterly validation or feedbacking sessions
- Generation of written quarterly and end-of-project/synthesis reports for submission to project management/contracting agency and also shared with other project holders/practitioners (sharing may also be in seminar presentations)

## **STRENGTHS**

- Bypasses “information filters” or built-in mechanisms within an organization that systematically inhibit reality testing. This provides stakeholders (especially management) at all levels with uncensored details of the field experience (Korten 1989).
- Perceived to be a more “objective” record of events because of the use of outsiders to do PDR.
- Provides detailed and field-based description of project processes to guide future action
- The validation/feedbacking sessions provide venue to stakeholders to immediately reflect and check on project processes vis-a-vis performance (provides opportunity to make corrective measures within the project life).
- Process documentation conducted for small projects (pilot study) provides insight for policy formulation and in setting criteria for larger projects.

## **GAPS**

- Often misconceived as a tool to monitor field staff rather than project learning.
- Perceived as mainly a tool to evaluate project performance relative to continued project support or project extension (especially when contracted out by the donor).
- High cost of doing PDR thus often limiting its use to pilot projects.
- How much inputs and analysis should the PDR team contribute vis-a-vis simply generating a “project journal” or blow-by-blow account of project processes?
- What should be the donor involvement in a PDR process?
- Would an “internal project documentor” being less costly be an alternative to an outsider PDR person?
- Difficulty of reaching a common agreement on the purpose of the process documentation activity because of fear by some key actors of getting overwhelmed in their work or being evaluated themselves.

## **OTHER ISSUES/INFORMATION**

- Because PDR reports are generally lengthy which other development practitioners may not have time to read, synthesis reports and seminars are used to present highlights of the PDR results.

- There are suggestions to use an internal project documentor instead of an outside PDR team/person to cut down costs and lessen suspicions on PDR as a tool for monitoring staff and not necessarily project learning.
- IPC has also adapted PDR in its “monitoring research” projects particularly in the development and testing of a system of monitoring women-in-development/gender equity initiatives of projects in the Philippines supported by the Canadian International Development Agency (CIDA).
- Some see PDR as equivalent to process monitoring.
- Related topic/concept is Process Evaluation. It focuses on “what is done within a service or program: the activities, who does what with whom and other matters of implementation”. Process evaluation could be in the form of an “audit review” that concentrates on tasks or an “open inquiry” where process evaluation goes into “considering a range of unintended and unexpected events, contexts, needs, conflicts, negotiations and so on that... could call into question the original goals or objectives intended to determine the process” (Wadsworth 1991).
- See also Robinson and Cox (1994) for an example of a process evaluation report in Nepal where the evaluation exercise itself was used to build capacities of the beneficiaries and implementors to carry out process evaluation by themselves. The methodology had four characteristics: (1) use of a conceptual model for examining capacity building aspects, (2) reliance on participatory strategies, (3) use of participatory appraisal techniques and (4) a qualitative approach to indicator development and investigation.
- See unpublished quarterly PDR reports of IPC for examples; also in IIRR where a PDR synthesis report on two coastal management projects was made and on the on-going PRISP projects.
- See Coutts (1995) for possibly related tools for use in process documentation activities regarding:
  1. Agricultural knowledge and information systems (AKIS) as a tool for mapping groups and individuals and their interactions.
  2. Use of internal memoranda in documenting the implementation process (e.g. of the Extension Strategy Statement in Queensland, Australia).

## **9. COMMUNITY RESOURCE BALANCE SHEET (CRBS) APPROACH**

### **REPORTED EXPERIENCE**

Philippines

- UP College Baguio
- Jaime V. Ongpin Foundation (Zambales)

### **CONTEXT**

General features of CRBS approach (Boquiren 1995):

- A tool to operationalize the Area Balance Sheet approach to resource accounting.
- It advocates that development must be taken as the advancement of people's capacity for collectively defining their goals or aspirations, for improving the means through which they can realize these aspirations.
- CRBS is a community insiders' tool intended for direct utilization by the community for its own development. "Insiders may introduce it to the community but they must create the means for enabling the community members to themselves use and sustain the use of the tool..."

### **NATURE OF PARTICIPATION**

- The community/households after being introduced to CRBS generate, maintain and update the community baseline profile through use of simple monitoring forms maintained by individual households. The baseline is then used by the households/community itself in analyzing their situation, identifying projects and priorities, making project studies and plans and in monitoring and evaluating projects/developments in the locality.
- Local teams are used to introduce CRBS with the intention of building local capacity (through LGUs, local NGOs and POs) to later manage CRBS on their own.

### **GENERAL METHODOLOGY/CONCEPT**

The CRBS uses various participatory approaches to come up with the community-level area balance sheet. Through these various CRBS tools/instruments, the community is assisted in:

- Generating the community profile/baseline information.
- Establishing development goals/objectives.
- Monitoring one or several dimensions of development or changes taking place in the area.
- Evaluating development programs (with the community profile earlier generated serving as baseline information).

### **METHODS/TOOLS/TECHNIQUES**

- Census through use of the Household Self-Assessment and Monitoring Tool (SAMTOOL). It is a census instrument for data gathering and storage whose function is similar to the health growth monitoring chart used in children's nutrition programs. Each household

maintains and uses the SAMTOOL for monitoring its own progress and that of the community.

- SWOT analysis
- Key informant interviews
- Secondary data collection
- Community meetings
- Focus group discussions/small group workshops
- Observation and direct measurement

### **STRENGTHS**

- Provides an interdisciplinary perspective.
- Comparability of evaluation measures (facilitated through the SAMTOOL).
- Transparency with the community.
- Capability building for self-directed and managed research at the community level.

### **GAPS**

The following needs/gaps were identified by Boquiren (1995):

- To institutionalize CRBS (especially the use of the SAMTOOL), it has to be adopted by the LGU and/or existing NGOs or POs in the area.
- Adoption of CRBS/SAMTOOL requires access to technical assistance from external groups especially during the first two years of implementation.
- For planning purposes, CRBS should be supplemented by sectoral and special studies. CRBS can only establish key points regarding the general situation in the area.

### **OTHER ISSUES/INFORMATION**

For additional background reading, see Onate (1982) regarding benefit monitoring and evaluation systems.

## **10. DEVELOPMENT OF M&E INDICATORS**

### **REPORTED EXPERIENCE**

#### **Bangladesh**

- BRAC (Adams et al 1993)

#### **Philippines**

- Sustainable Agriculture Indicators Working Group (a UNDP-SANE project involving ANGOC, SEARCA, UPLB, IIRR, PCARRD, etc.)
- IIRR on developing evaluation criteria in assessing status of people's organizations (Suner 1994)

#### **Australia**

- Developing performance indicators in the government services (e.g. in health), see Wadsworth (1991)

#### **India, Bangladesh, Ghana, Uganda**

- Goyder (1996) on a four-country study on methods and indicators for measuring impact of poverty alleviation interventions

#### **Cambodia**

- Christian Outreach, in relation to Credit for Small Businesses under its ABCD or Agriculture Business and Community Development Project.

### **CONTEXT**

- Identification of indigenous indicators related to health, wealth and women's status to facilitate investigation of perception changes over time (i.e. impact of project intervention).
- Developing sustainable agriculture indicators at farm, community and national levels and come up with a common framework for use of these indicators (Saguiguit pers comm).
- Generation of performance indicators to come up with a detailed contract between funder and implementor specifying operational targets.

### **NATURE OF PARTICIPATION**

Consultations with the community/sector representatives through focus group discussions and seminar-workshops (and followed through by field testing of the indicators with identified cooperators).

### **GENERAL METHODOLOGY/CONCEPT**

Consultations and field testing with stakeholder groups.

### **METHODS/TOOLS/TECHNIQUES**

- Focus group discussions



- Time lines
- Seminar-workshops
- Field testing

## STRENGTHS

- If properly developed, it serves as a complementary instrument to support M&E activities (see also Robinson and Cox 1994 on their process evaluation report in Nepal where the evaluation methodology also dealt with the qualitative approach to indicator development and investigation)
- Indicators developed bottom-up (with users and implementors) fare better (Wadsworth 1991:77) because this:
  1. Provides users/implementors an opportunity to reflect on what they are experiencing.
  2. Provides managers to get grounded indicators that are more likely to inform them and reduce uncertainty.

## GAPS

- In the case of sustainable agriculture indicators, field testing has not been done due to funding constraints/priorities.
- Performance indicators are often thought of as equivalent to “signs of achievement” or performance targets and therefore linked to standards programs, service agreements, program budgeting and audit review processes.
- Performance indicators developed top-down are often crude and distorting.
- The more “grounded”, meaningful and better quality indicators often cannot be “mass standardized” for application to many different situations.

## OTHER ISSUES/INFORMATION

- For further readings related to performance indicators, see: Wadsworth (1991), Community Services of Victoria (1990a & 1990b), Gutherie (1988), Mayo (1990), Social Justice Strategy Unit (1990), and Wyatt and Hall (1987).
- Suner (1994) discussed the sets of criteria (indicators) used in the evaluation which were developed with the POs.
- See Joshi and Kulhari (1996) regarding adaptation of indigenous indicators.
- “Community based indicators can only really be identified and used successfully in projects which are pursuing participatory methodologies at all stages of the project cycle from initial formulation to final evaluation.” (Goyder 1996).
- For developing/using indicators to monitor/measure impact, see Peters (1996) for experiences in Participatory Impact Assessment (PIA) in China where PIA is seen as fostering “local participation in assessing, projecting, integrating and measuring inputs and the development of a set of appropriate indicators and measurements to accurately reflect project impact on the quality of life of target beneficiaries”. PIA is an action-oriented research approach that promotes local participation through incorporation of local people in the data collection activities (hiring and training them instead of recruiting research assistants outside the area).

## **11. BUILDING ORGANIZATIONAL STRUCTURES AND INFORMATION SYSTEMS IN PM&E**

### **REPORTED EXPERIENCE**

On organizational structures facilitating M&E:

Republic of Korea

- See Soo-young Park et al (1986) regarding role of neighborhood associations in an urban setting in monitoring development activities

Malaysia

- See Salih et al (1986) with regards to trade unions and their role in monitoring workers' welfare

Philippines

See Okamura (1986a and 1986b) regarding community participation in M&E activities through People's Organizations/Farmers' Associations.

On computer-based information systems:

Philippines

- Marketing information systems in Integrated Social Forestry (Nera 1995:59)
- Geographic information systems in community forestry management (Davis-Case 1996)

Australia

- Telecenters/internet as a tool for community development (Stevens and Defenderfer 1996; Crellin and Graham 1996)

### **CONTEXT**

To ensure sustainability of PM&E activities at the local level (after phase out of outsiders who introduced the tools), formation or tapping of existing local organizations to adapt PM&E concepts and practices is essential. Likewise, to strengthen capacities of these local groups in PM&E, ways should be explored for them to access/make use of technological breakthroughs in information systems (particular to computer-related systems) beyond use in monitoring of credit/enterprise programs at village level.

### **NATURE OF PARTICIPATION**

Local people participate as members of People's Organizations and similar groups with NGOs/GOs and outsiders facilitating/assisting in the formation and development of the local organizations/federations and related structures.

### **GENERAL METHODOLOGY/CONCEPT**

- Use of community organizing concepts and strategies.

- For computer-based information systems, these are set up with government support (refer to Australian experience with telecenters).

## **METHODS/TECHNIQUES/TOOLS**

- Community organizing.
- Establishment/piloting of a computer information network or telecenter. Telecenters are community-managed facilities which provide public access to computers and information technology for education and training, business enterprise development and access to a range of government/community services which local organizations may tap.

## **STRENGTHS**

On organizational structures:

- Facilitates information/services exchange.

On information systems:

- With a marketing information system in Social Forestry projects, farmers can better make production and marketing decisions, improve market transparency and have a basis for planning.
- Computer-aided analysis and collected information stands a better chance of being understood by policymakers
- CINs/telecenters encourages further and wider public debate and discussions; facilitates interaction with colleagues across the globe.
- Aside from providing public access to a range of information and education options, telecenters support people embarking on small businesses but could not yet own computers

## **GAPS**

On organizational structures:

- Decreasing participation of local people in the project stages from pre-planning (71%) to project implementation (67%) to project M&E (41%), from Okamura (1986).
- Farmers associations are not well organized and often dependent on project staff for decision making thus hardly assumes a significant PM&E role, from (Okamura 1986).

On computer-aided systems/information systems:

- Inaccessibility of technology (due to high cost of technology and related infrastructure as well as the perception that ISF/community development programs are low technology interventions).
- Lack of popular examples in using geographic information systems.
- Spatial information not treated as publicly accessible information.

## **OTHER ISSUES/INFORMATION**

- See RAP experience in Pearson and Kessler (1992) and the Lao PDR health/malaria control program in Chapter II of The World Bank Participation Sourcebook (1996) for examples of experiences where computers complemented PM&E activities/instruments.

## 12. DEVELOPMENT OF SUPPORT MATERIALS AND SERVICES FOR PM&E

### REPORTED EXPERIENCE

#### Philippines

- DENR for Monitoring and Evaluation Handbook for Participatory Integrated Social Forestry Projects (Social Development Research Center/DLSU 1991)
- IIRR for kit production process, adaptation of calendars for monitoring cost and returns of FLM projects with farmer-cooperators
- UPWARD for case study guidelines (UPWARD 1996)
- Ateneo de Manila University on social weather station surveys

#### Vietnam

- Social Forestry Support Project, Helvetas-Vietnam: Experience in Social Forestry training curriculum development

#### Thailand

- RECOFTC/FTPP, Curriculum development in community forestry (see Veer 1996)
- FAO-Bangkok, Participatory Monitoring and Evaluation Handbook for Training Field Workers (Stephens 1988) in relation to FAO's Small Farmer Development Project

#### Indonesia

- Academy for Educational Development, development of counseling cards for community health workers (Sutisnaputra et al 1993). This does not directly relate to M&E per se but provides ideas on developing appropriate M&E instruments particularly monitoring which require "cliniquing" activities (immediate feedback/response) at the same time.

#### Lao People's Democratic Republic

- Health Care Planning Workbook developed by World Bank consultants with Lao counterparts (translated into Lao) which was developed with the aid of computers. See Chapter II: Sharing Experiences/Examples of Participatory Approaches, in The World Bank Participation Sourcebook (1996).

#### Australia

- Everyday Evaluation on the Run (Wadsworth 1991) which is a handbook on different types of evaluation/assessment activities many of which are based on experiences of the government services sector in the country.
- Planning Healthy Communities: A Guide to Doing Community Needs Assessments (SACHRU 1991).

### CONTEXT

Development of handbooks, case study guidelines/framework, and other educational support mechanisms (e.g. curriculum development) are mostly, if not totally, directed at field personnel - extensionists, researchers and project managers of local governments and NGOs) to:

- Strengthen their perspectives in participatory development (particular to M&E) and accordingly equip them with the appropriate tools and instruments and frameworks that have been field tested or have been successfully used in related projects.
- Guide practitioners in distilling/consolidating, documenting and sharing experiences and learning.

## **NATURE OF PARTICIPATION**

Developed usually by the research/education units and staff of projects and at times with the participation of outside consultants/institutions. Participation of field personnel (the handbook users) are through series of formal and informal consultation in individual and group settings and in the field testing of instruments/frameworks.

## **GENERAL METHODOLOGY/CONCEPT**

See sections on "Context" and "Nature of Participation" above. In addition, it makes use of both primary and secondary data sources and field testing with respondents of the developed materials for subsequent revisions.

## **METHODS/TECHNIQUES/TOOLS**

- Community/training needs assessment
- Surveys
- Structured and semi-structured interviews/key informant panels
- Focus group discussions
- Field observations/use of field journals
- Generation of indicators and simple monitoring charts/sheets (existing or adapted from experiences of others)
- Workshops to develop materials
- Field testing

## **STRENGTHS**

Provides practical "how to's" and introductory knowledge to field personnel for better appreciation and subsequent application of participatory approaches.

## **GAPS**

- Likely dominance of researchers' viewpoints and perceptions in the development of materials/curriculum.
- High costs (time and other resources) although studies have yet to prove that they are not cost efficient.
- Need for a "handbook" for village animators that offer general access and knowledge in people's self-development (Conrood pers comm).

## **OTHER ISSUES/INFORMATION**

See the following for additional/related readings:

- Lusthaus, Anderson and Murphy (1995) reported on IDRC's experience in looking at institutional assessment as a learning exercise for both donor and recipient institutions - a reforming process to find ways to strengthen the institutions. Monitoring is seen as the ongoing process of gathering, analyzing and reporting data. Meanwhile evaluation is the more methodologically complex activity that focuses on specific issues in more depth, requires more resources to undertake, and therefore done less frequently though regularly.
- Monitoring and Evaluation Unit (1981) of the World Bank prepared a handbook on monitoring and evaluation of agriculture and rural development projects
- The World Bank Participation Sourcebook (available through the internet) covered the WB's community development experiences in several developing countries (in Asia covers Bangladesh, India, Laos PDR, Nepal, Pakistan and Sri Lanka) regarding stakeholder participation including methods/tools that WB and its partners use (e.g. participatory poverty assessments, PRA, beneficiary assessment, systematic client consultations, social assessment and gender analysis).
- Scrimshaw and Gleason (1992) shared guidelines on Rapid Assessment Procedures (RAP) which evolved from anthropological and PRA methodologies -- produced in English, French and Chinese. Likewise, several groups have developed training video and manuals for RAP studies in breastfeeding, diarrheal diseases, acute respiratory infections and HIV/AIDS related illnesses.
- A publication soon to be released is a manual describing the process of "participatory appreciative inquiry" by Scott Johnson in relation to the work of CRWRC (Nerderveld pers comm).



# Community-based Indicators

A guide for field workers carrying out monitoring  
and assessment at the community level

Diana Lee-Smith

May 1997



Publisher: IUCN, Gland, Switzerland and Cambridge UK

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E mail: [iucn.psu@wcmc.org.uk](mailto:iucn.psu@wcmc.org.uk) www: <http://www.iucn.org>

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This booklet was written by Diana Lee-Smith, a member of the IUCN International Assessment Team which also includes Robert Prescott-Allen, Diana Lee-Smith, Ashoke Chatterjee, Adil Najam and Tony Hodge. The group is coordinated by Nancy MacPherson of IUCN.

This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada. These publications are one outcome of the project on assessing progress towards sustainability of IUCN (World Conservation Union) supported by IDRC. The project started by bringing together an international working group to discuss the problems of monitoring and evaluating sustainable development. The group soon realised that there was little point in monitoring and evaluating unless one had an idea of where one wanted to go, and that this understanding could best be developed through a questioning approach. A set of methods and tools, including the early drafts of this booklet, were developed and tested in pilot field trials in Colombia, India and Zimbabwe.

Print production of this booklet has been assisted by grants from the International Development Research Centre (IDRC, Canada) and the Swiss Agency for Development Cooperation (SDC).

## About the Series

This series of eight volumes has been developed by a cross-disciplinary team for people interested in assessing progress toward sustainability. Despite differences in emphasis, the materials share a common framework and key principles. We suggest that there are four basic linked steps to understanding sustainable and equitable development:

1. Wholeness. People are an inextricable part of the ecosystem: people and the environment need to be treated together as equally important. Interactions among people and between people and the environment are complex and poorly understood. Thus we need start by...
2. Asking questions. We must recognize our ignorance, and ask questions. We cannot assess anything unless we know which questions to ask. To be useful — to help make progress — questions need a context. Therefore we need...
3. Reflective institutions. The context for the questioning approach is institutional: groups of people coming together to question and to learn collectively. The process of reflection will, we suggest, lead inevitably to an approach that is...
4. People-focused. People are both the problem and the solution. Our principal arena for action lies in influencing the motivation for human behaviour.

The series starts with the summary document, *Overview of Methods, Tools and Field Experiences: Assessing Progress Toward Sustainability*. The other seven volumes fall into three sets:

Methods of system assessment (people and the ecosystem)

- Participatory and Reflective Analytical Mapping (PRAM)
- Assessing Rural Sustainability
- Planning Action for Rural Sustainability

Methods of self assessment (for organizations and communities to examine their own attitudes, capacities and experiences)

- Reflective Institutions

Tools (for use in conjunction with any of the methods or with other methods)

- Barometer of Sustainability
- Community-based Indicators
- Questions of Survival

*Assessing Rural Sustainability* and *Planning Action for Rural Sustainability* are designed to be used together. They can also be used with *Participatory and Reflective Analytical Mapping (PRAM)*, although this is conceived as a separate method. *Barometer of Sustainability* and *Community-based Indicators* may be used with any method of system assessment. *Questions of Survival* may be used with any method of system assessment or self assessment.

Methods and tools may have to be adapted to local circumstances, and some may not be relevant. Solutions must be people-focused to be sustained. We urge the user, when using these documents, to keep in mind the underlying approach:

- recognize the wholeness of people and the ecosystem together;
- decide which questions to ask before searching for indicators; and
- create opportunities for groups to reflect and learn as institutions.

## Contents

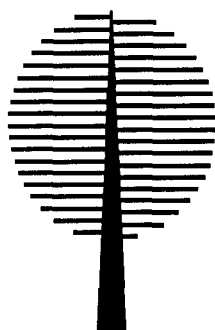
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Introduction.....	1
Why use indicators at the community level? .....	3
Framework for developing indicators .....	4
Tools for measuring and aggregating at community level .....	6
An example of how to select indicators .....	8
Setting up a process for recording data .....	10
Setting up a process for analysing and using data .....	13

## Figures and Tables

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Figure 1. Seedlings produced or transplanted .....	11
Figure 2. Firewood collection .....	12
Setting up a process for analysing and using data .....	13
Figure 3. Number of seedlings produced .....	13
Figure 4. Time taken to collect fuelwood .....	14
Table 1. Time taken to collect firewood .....	15



## Introduction

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This booklet explains the general purpose and method of developing indicators. It was developed as part of the assessment work for the District Environmental Action Plans (DEAPs) during 1995-96 in Zimbabwe, where it has been used for training field workers. In this version, the text has been written for general use, although the examples given are taken from Zimbabwe.

It can be used with all of the methods of system assessment developed by the IUCN/IDRC project on Assessing Progress Toward Sustainability; as well as any method of assessment intended for use at community level.

The method is based on developing a common understanding that human wellbeing is dependent on the wellbeing of the surrounding ecosystem. This is as true at the level of the planet as it is at community level.

At whatever level sustainability is assessed, the process involves setting common goals, identifying conflicting interests, devising and applying strategies and ways of measuring. It is a learning process involving reflection, argument, negotiation, strategising, measurement, action and continuous reassessment.

It involves identifying ill-health in the human and ecosystems and devising strategies to prevent further decline and to bring about improvement. Indicators are tools of measurement that help to make an assessment precise. They help to make the basis of judgment and evaluation explicit.

The processes of assessment and strategy development are closely intertwined in practice. When discussions are proceeding at community level, ideas about action may be continuously reviewed and combined with ideas about what is going right or wrong (assessment).

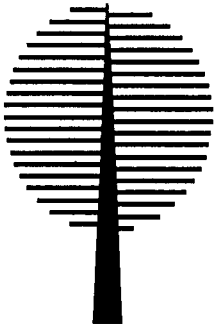
## *Introduction*

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For conceptual purposes, assessment may be broadly divided into assessment of the system and assessment of the strategy. Assessment of the system may also be divided into assessment of the state of the system (human and ecosystem wellbeing) and assessment of change (improvement or decline).

This booklet deals with how to develop indicators for assessing communities' strategies. The types of indicators discussed can be used to annotate the Barometer of Sustainability (see companion booklet). Combining the two tools, the barometer and community-based indicators, can help communities measure their own strategies for sustainability.

Assessment and strategic action based on assessment must be rethought and negotiated in every place. This is not a search for universal indicators but for ways of measuring and assessing that can be shared.



## Why use indicators at the community level?

### Measurement as a tool for empowerment

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Placing indicators in the control of communities gives them the potential to control their own lives and resources. If they have identified what needs to be measured based on their own analysis, they can have ownership over the process and can use assessment effectively.

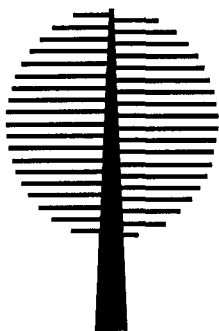
Developing data systematises knowledge. It helps communities learn about their resources and empowers them to control the process of change. Systematically recording data can also help different interests within the community negotiate by making things explicit and countable, and increases the community's power in relation to outside groups, such as local authorities and government agencies.

Our job is to provide communities with tools that they can use. Once they have said what they want to measure, we need to help them design indicators that are accurate and meaningful. They may use entirely qualitative data, such as sketch maps, anecdotes and stories. Or we may help them derive quantitative indicators based on counting things and analysing what they mean.

Typical indicators that can be shared between communities may emerge from this process. These could become inputs to computerised mapping systems for local use.

It is possible that such locally generated data could form the basis for government planning statistics in future, contributing to a community-based system of governance. This is an alternative way of looking at community-based indicators as a tool of empowerment. But for now, community-based indicators are seen as empowering through developing the local knowledge system.





## Framework for developing indicators

### Sharing a common understanding

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Assessment implies both something to measure and a way of measuring it. For this process at community level, the something being measured is progress towards ecosystem and human wellbeing in the local environment. Indicators are tools a community will use to measure these.

Rather than presenting communities with examples of indicators, it is better to listen to them and facilitate a discussion about their measurement needs, and then to provide the service of developing useful indicators based on previous experience. The purpose of this guide is to help field workers understand indicators. The examples provided in later sections of the booklet are to show how the process of indicator development works, and not to predetermine what the community should measure.

Each community will identify its own indicators when it:

- shares the understanding of working towards human and ecosystem wellbeing;
- decides on a strategy for action; and
- decides what measurements are needed and feasible.

Each community knows its situation, and we facilitate the explanation and understanding of that situation. It selects tools to measure what it thinks it needs to measure. We help design those tools through discussion.

A forum for the different interest groups is needed in each community to develop discussion and working relationships around their various:

- explanations of reality (the way they understand human and ecosystem wellbeing and the way they interact); and
- strategies and measurements they want to use.

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There will be a discussion among the various interest groups about who values what, both before and after they decide on strategies and what to measure. Different interest groups may want to measure different things. We should help facilitate the process of negotiation and the selection and design of different indicators that suit different needs or explanations.

### **Questions for discussion**

Assessment is the process of describing the state of a system and judging progress towards a goal. Indicators are measurements taken to describe the state of something or to monitor changes. The “assessment questions” we have developed are a guideline to have in mind as discussion takes place in the communities. Keeping these questions in mind, we need to provide a framework for the community to identify the things to be measured that fit their ecosystem and means of livelihood:

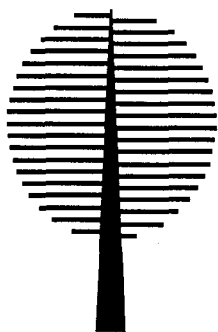
- how are you doing?
- how is the ecosystem doing?
- what needs to be done?

The first two questions are about the state of the system and the way it is changing, while the third is about strategies. A fourth question is required as a follow-up to find out whether or not the strategy is working:

- how would you know if things were getting better or worse?

This is the question that leads to indicators. The stage of planning action is when field workers need to be ready with questions and advice on techniques for developing indicators. Related questions are:

- where would you get that information?
- who has that information?
- what would you need to look at in order to find out?
- what would you need to count or measure in order to find out?



## Tools for measuring and aggregating at community level

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People are continually assessing their situation and surroundings. For effective community-based indicators we need to translate the things people want to measure into a manageable form. The purpose of measurement is to make values more precise, to compare and evaluate one thing against another.

Quantitative indicators may include trees, animals, incidence of sickness, sacks of maize, etc. They may include the nominal incidence of such things (e.g. present/not present), numbers compared to before (a trend or percentage can be derived) or per hectare. They may include complex ratios or percentages that indicate the incidence of important phenomena.

### Scales

Value measurements are derived from the nature of the thing valued and translated onto a scale. There are four different types of scales:

**Nominal scales** identify categories or classes. For example: red, blue, green, or red, not red.

**Ordinal scales** identify category and rank order. Terms that may be used are identity/non-identity, greater than or less than.

**Interval scales** identify rank order and have equal intervals. Addition and subtraction may be used.

**Ratio scales** identify rank order and interval and have an absolute zero. This allows for more complex mathematical operations.

The more complex scales may be mapped onto the simpler but not vice versa. In assessing sustainability we normally use ordinal or interval scales. For example the Barometer of Sustainability uses an interval scale of 1-100 which can be mapped onto the ordinal scale: bad – poor – medium – OK – good.

### Aggregation

The best way to aggregate this type of measurement at community level is through discussion to arrive at a consensus. This reveals both the nature of

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the value judgments, and who makes them. Aggregation involves subjective judgment, whether arbitrary or based on experience. The danger in using quantitative indicators and aggregate measures is the assumption of their objectivity. The judgment involved in assigning the nature and values of variables may be forgotten, as is the case with measures such as GDP.

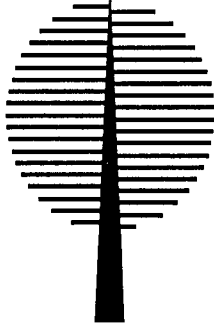
We must assume that decision-making and assignment of value are inherently political, involving multiple biases or areas of interest, and the interaction of numerous groups or organisations with different goals. Decision-making needs to be perceived as an inherently argumentative process.

If indicators are being selected for use with the Barometer of Sustainability, discuss whether all of the issues should be used in coming to an overall judgment about how the human system and ecosystem are doing.

There are three ways to aggregate:

1. If they are all seen as equally important, you can add them all up and take the average (e.g. if there are two bad and one OK, the average is bad).
2. If some are more important than others, use pair-wise ranking. You can ask people to say how much more important one is than another, and then take a weighted average (e.g. if the most important one is OK and the two bad are less important, the weighted average could be OK).
3. If one is seen as critical, it can be used as a veto function. That is, if it is bad or poor, that becomes the overall reading, regardless of how well the ecosystem is doing on the other issues.

This process can be done separately for issues dealing with human and ecosystem wellbeing. Then, for example, if the ecosystem is poor and the human system is OK, the barometer tells us that the situation is unsustainable. Even if you do not have time to hold such a lengthy meeting, you can carry out the reading among the team members. The value of doing this with the community is that learning takes place and participants develop control over their situation through understanding it better.



## An example of how to select indicators

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Time needs to be spent with the community in deciding which indicators to use. Different groups may want to use different indicators (just as they may want to use different strategies) and they should allow for some flexibility.

In particular, it is important to involve women in the design of both strategies and indicators. Men's and women's relationships to the management of natural resources differ in most societies. It has been shown by research in African countries that women are those most concerned with the management of natural resources at the point where they are transformed and used as food, fuel, water and other items of domestic consumption.

People may use indicators to describe the state of a system as well as to measure how it is changing as a result of a strategy. Very often, the same indicator can be used. For example, people in Chiwundura, Zimbabwe, used fuelwood shortage as an indicator of declining human wellbeing.

To be made more precise, this indicator could measure the number of families in a community who have no access to their own fuel supply, or the time taken by people who have to gather wood. To indicate a trend, the number of people who have to buy wood, or the time taken to gather it would need to be measured at different points in time.

Strategies to address fuelwood shortage could be:

- people planting live fences around their farms;
- community woodlots; and
- seedling nurseries.

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Indicators to assess whether the strategies were working could measure:

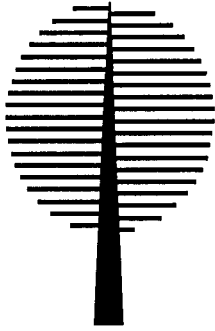
- number of farms with live fences;
- number of seedlings planted in community woodlots; and
- number of seedlings produced.

If any of these measurements are taken at different points in time, it could indicate a trend and show the effect of the strategy.

Another indicator of the strategy working effectively would be reduction in the time taken to collect fuelwood. However, this would be a longer term measure and no progress would be likely to show soon after the strategy started to be implemented, whereas seedling production and tree planting and propagation can be measured in a shorter time.

For comparison between communities, or to indicate an important statistic to national agencies to bring something to their attention, percentages are very useful. For example: “40 per cent of the women in Mateza village have to walk for two hours to collect firewood for cooking. This compares to 5 per cent two years ago and to 8 per cent in Varozvi”. This statistic can be used to compare with earlier or later readings in the same place, to compare with other places, including using it on maps to show patterns in a larger area, or for lobbying with government or other agencies about resources.

You can encourage the community to select several indicators to assess their strategy, as long as a manageable system can be set up for recording and managing the data. This implies a level of cooperation and communication among various individuals, groups and organisations in the community. In turn, this contributes to community-level institution building.



## Setting up a process for recording data

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Whatever indicator or set of indicators is selected, you need to plan with the community:

- how the data are to be collected;
- how often and by whom the data are to be collected; and
- how and where they are to be recorded.

Let us assume the strategy decided is to produce and propagate seedlings for erosion control, and that it has also been decided to use two indicators:

- the number of seedlings produced; and
- the time taken to collect fuelwood.

### Number of seedlings produced

For the first indicator, someone needs to take responsibility for counting the number of seedlings at a regular interval.

The point at which seedlings should be counted needs to be decided. The best time is probably when they are put out in plastic tubes or boxes for use or sale, but they could also be counted when they are transplanted at the place of use.

If several groups or households are producing seedlings, the persons doing data recording need to decide when and how they are going to collect the numbers from each of them. For example, they could make a list of each producer, and record how many seedlings each producer has put in plastic tubes and seedling boxes every three months.

It is important to decide if the number recorded is the cumulative total or only those produced since the last count. And if some have been planted out, counting the total you can see will not give the right picture. It is probably better to record those produced since the last count, or to count how many have been transplanted. A notebook could be used for this purpose.

---

*Figure 1. Seedlings produced or transplanted*

	June	September	December	total
Mai Varozvi	15	12	20	47
St. Patrick's Form IV	108	64	140	312
St. Patrick's PTA	60	20	102	182
Total	183	96	262	541

### Time taken to collect fuelwood

For the second indicator, someone in the community will have to:

- count the number of households;
- ask who in each household collects firewood (from where and how often); and
- ask how long it takes this person to fetch firewood, or how long they took the last time they went, including going there, collecting and coming back.

If the same community is using several indicators and these involve measuring things that every household does or does not do, then the questions can be organised in a list, like a questionnaire, and asked at the same regular interval.

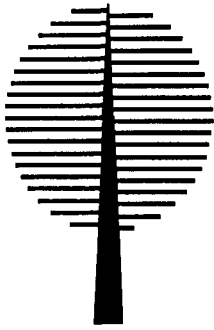
If it is the only question being asked, this can be done more informally by going round with a notebook and finding each family. It may only need to be done twice: before starting to implement the strategy; and some time after the strategy has been put in place. In either case, it is useful to have a list that shows the following.



*Setting up a process for recording data*

*Figure 2. Firewood collection*

household number	household name	who collects fuelwood?	where from?	how long it takes
1	Varozvi	Mai Varozvi	own farm	1/2 hour
2	Dube	Mai Dube	next village	1 1/2 hours
3	Moyo	Mai Moyo	commercial farm	3 hours



## Setting up a process for analysing and using data

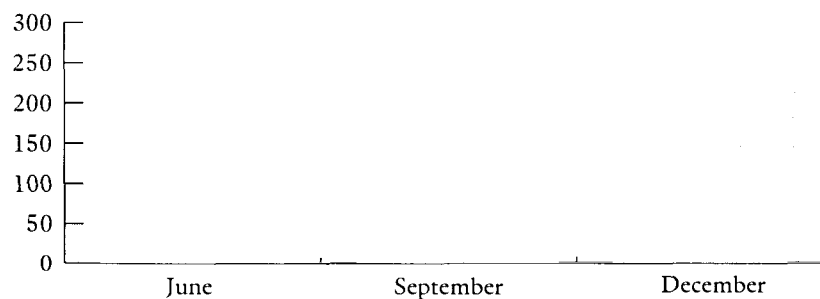
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Even before the information to be used for the indicators is collected, it must also be decided:

- by whom and when it is going to be analysed; and
- how and where it is going to be discussed or displayed.

### *Figure 3. Number of seedlings produced*

The people doing data recording could prepare a bar chart display at the village meeting-place. It would be quite easy to just read off the numbers and transfer them to the bar chart.



## *Setting up a process for analysing and using data*

*Figure 4. Time taken to collect fuelwood*

This is a more complex indicator and another step is needed in the analysis. First, list the data in categories:

less than 1 hour				
			11	
1 to 2 hours				
	1111			
more than 2 hours				
		11		

These lists can be easily compiled in an exercise book using a pencil. As each entry is read off by one person, another makes a stroke under the right category. Strokes are arranged in groups of five, and the total number is then readily visible for quick counting of the total in each category. This technique can easily be learned by people with adult literacy training.

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Using this list, a table showing the results can then be compiled.

*Table 1. Time taken to collect firewood*

time to collect firewood	no. of households	% households
less than one hour	112	46
1 to 2 hours	64	26
more than 2 hours	67	28
total	243	100

The indicator is the percentage of the population taking more than two hours to fetch fuelwood. This table could also be presented in the form of a bar chart to be displayed at the village meeting-place. The statistic can be used to compare with earlier or later readings in the same place, to compare with other places, including using it on maps to show patterns in a larger area, or for lobbying with government or other agencies about resources.

Founded in 1948 as the International Union for Conservation of Nature and Natural Resources, the IUCN brings together States, Government agencies and a diverse range of non-governmental organisations in a unique world partnership: over 900 members in all, spread across some 136 countries. As a Union, IUCN seeks to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. The Union builds on the strengths of its members, networks and partners to enhance their capacity and to support global alliances to safeguard natural resources at local, regional and global levels.

The Strategies for Sustainability Programme of IUCN works to strengthen strategic planning, policy and implementation skills aimed at sustainable development at global, national and local levels. Working with networks of strategy practitioners from member governments, partner institutions and NGOs, the Programme assists in the conceptual development and analysis of experience in strategies, the development of a range of strategic planning and action planning skills, and improved methods of assessing human and ecosystem wellbeing.

# Barometer of Sustainability

Measuring and communicating wellbeing and  
sustainable development

Robert Prescott-Allen

May 1997

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This booklet was written by Robert Prescott-Allen, a member of the IUCN International Assessment Team which also includes Ashoke Chatterjee, Eric Dudley, Tony Hodge, Alejandro Imbach, Diana Lee-Smith, and Adil Najam. The group is coordinated by Nancy MacPherson of IUCN.

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Robert Prescott-Allen, PADATA  
627 Aquarius Road,  
Victoria, British Columbia  
Canada V9C 4G5  
Fax +1 250 474 6976

Nancy MacPherson  
Strategies for Sustainability Programme  
IUCN - World Conservation Union  
Rue Mauverney 28, CH-1196 Gland,  
Switzerland  
Fax + 41 22 999 0025

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Print production of this booklet has been assisted by grants from the International Development Research Centre (IDRC, Canada) and the Swiss Agency for Development Cooperation (SDC).



## About the Series

This series of eight volumes has been developed by a cross-disciplinary team for people interested in assessing progress toward sustainability. Despite differences in emphasis, the materials share a common framework and key principles. We suggest that there are four basic linked steps to understanding sustainable and equitable development:

1. Wholeness. People are an inextricable part of the ecosystem: people and the environment need to be treated together as equally important. Interactions among people and between people and the environment are complex and poorly understood. Thus we need start by...
2. Asking questions. We must recognize our ignorance, and ask questions. We cannot assess anything unless we know which questions to ask. To be useful — to help make progress — questions need a context. Therefore we need...
3. Reflective institutions. The context for the questioning approach is institutional: groups of people coming together to question and to learn collectively. The process of reflection will, we suggest, lead inevitably to an approach that is...
4. People-focused. People are both the problem and the solution. Our principal arena for action lies in influencing the motivation for human behaviour.

The series starts with the summary document, *Overview of Methods, Tools and Field Experiences: Assessing Progress Toward Sustainability*. The other seven volumes fall into three sets:

Methods of system assessment (people and the ecosystem)

- Participatory and Reflective Analytical Mapping (PRAM)
- Assessing Rural Sustainability
- Planning Action for Rural Sustainability

Methods of self assessment (for organizations and communities to examine their own attitudes, capacities and experiences)

- Reflective Institutions

Tools (for use in conjunction with any of the methods or with other methods)

- Barometer of Sustainability
- Community-based Indicators
- Questions of Survival

*Assessing Rural Sustainability* and *Planning Action for Rural Sustainability* are designed to be used together. They can also be used with *Participatory and Reflective Analytical Mapping (PRAM)*, although this is conceived as a separate method. *Barometer of Sustainability* and *Community-based Indicators* may be used with any method of system assessment.

*Questions of Survival* may be used with any method of system assessment or self assessment.

Methods and tools may have to be adapted to local circumstances, and some may not be relevant. Solutions must be people-focused to be sustained. We urge the user, when using these documents, to keep in mind the underlying approach:

- recognize the wholeness of people and the ecosystem together;
- decide which questions to ask before searching for indicators; and
- create opportunities for groups to reflect and learn as institutions.

## Contents

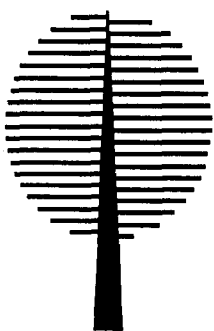
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Introduction .....	1
Combining Indicators .....	2
Barometer Basics .....	7
Setting and Controlling the Scale .....	15
Calculating Indicator Scores .....	22
From Indicator Scores to the Big Picture .....	28
The Barometer of Sustainability as a Communication Tool .....	30

## Tables and Figures

---

Table 1. Issues and indicators, Madagascar .....	3
Figure 1. Barometer of Sustainability .....	7
Figure 2. Child mortality: deaths per 1000 live births .....	10
Figure 3. CSD indicator hierarchy .....	12
Figure 4. Wellbeing of Nations indicator heirarchy .....	13
Figure 5. Child mortality rates .....	16
Figure 6. Unemployment rate (%): uncontrolled scale .....	17
Figure 7. Unemployment rate (%): controlled scale .....	18
Figure 8. GDP per person: PPP \$000 .....	19
Figure 9. Life expectancy at birth.....	20
Figure 10. Homicide rate per 100,000 population .....	21



# Introduction

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## What this booklet is about

The Barometer of Sustainability is a tool for measuring and communicating a society's wellbeing and progress toward sustainability. It provides a systematic way of organizing and combining indicators so that users can draw conclusions about the conditions of people and the ecosystem and the effects of people-ecosystem interactions. It presents those conclusions visually, providing anyone — from villager to head of state — with an immediate picture of human and ecosystem wellbeing.

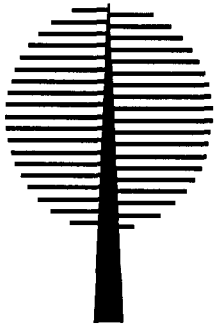
This booklet describes:

- uses of the Barometer of Sustainability;
- why combine indicators;
- combining indicators with a performance scale;
- implications of a performance scale for the choice of indicators;
- key features of the Barometer of Sustainability;
- the Barometer scale;
- organization of indicators;
- setting the scale;
- controlling the scale;
- calculating indicator scores;
- combining indicator scores;
- a caution; and
- the Barometer of Sustainability as a communication tool.

## Uses of the Barometer of Sustainability

The main use of the Barometer is to combine indicators — enabling users to draw broad conclusions from an array of often confusing and contradictory signals. As such it can be employed in a variety of assessment methods. An additional use is as a communication tool, helping people to consider people and the ecosystem together.

This booklet is devoted to showing how to use the Barometer to combine indicators. Using it for communication is briefly described at the end.



## Combining Indicators

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### Why combine indicators?

Assessing the state of people and the environment and progress toward sustainable development requires indicators of a wide range of issues. The issues may include health, population, basic needs, income, employment, business success, the economy, education, crime, soil erosion, water quality, air quality, greenhouse gases, protected areas, species diversity, energy consumption, food supply, resource use, and so on.

Each indicator can show what is happening to the issue it represents. But unless the indicators are organized and combined in a coherent way, the signals they give will be highly confusing. For example, Table 1 gives the results for just 10 indicators of the state of people and the ecosystem in Madagascar. Some show good performance, others bad, and some are in between. With high percentages of threatened species, moderate rates of land degradation and forest loss, low pressure on water supply, and low emissions of greenhouse gases, how well is Madagascar's ecosystem? With moderate life expectancy, low incomes and literacy, low rates of violent crime, and fairly good gender equity in school enrolment, how well are Madagascar's people? And how does the state of the people compare with the state of the ecosystem?

*Table 1. Issues and indicators, Madagascar*

Issue	Indicator	Result
<i>ecosystem</i>		
land quality/ degradation	degraded land as percentages of total modified and cultivated land area	1% lightly degraded 16% moderately degraded 19% strongly degraded
pressure on water supply	water withdrawals as a percentage of supply	4.8%
greenhouse gases	carbon dioxide emissions per person	0.02 tonnes
species diversity	threatened animal species as a percentage of total animal species	mammals 44%; 14% reptiles birds 7%; amphibians 1%
pressure on forests	annual change in forest area	minus 0.8%
<i>people</i>		
health	life expectancy at birth	56.5 years
income	real gross domestic product (GDP) per person per year	PPP\$700 (PPP\$ adjusted for differences in purchasing power: PPP means purchasing power parity)
literacy	children reaching grade 5	28%
personal security and civil order	violent crime rate (per 100,000 population)	1.2 homicides, 1.1 rapes, 18.1 assaults, 0.3 robberies
gender equity and education	male/female difference in combined primary/secondary school enrolment ratios	male enrolment 3% higher than female enrolment

## *Combining Indicators*

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To answer these questions and get a picture of the whole system, it is necessary to combine the indicators. If they are not combined, the indicators produce a lot of noise — a jumbled stream of data — but no clear message. By combining indicators, we can make them do more than tell us about the particular issues they represent. They can show if we are making progress toward sustainable development — if we are improving and maintaining the wellbeing of people and the ecosystem together.

### **Combining indicators with a performance scale**

Indicators measure completely different things. Combining them is like combining apples and oranges. A common unit is needed that does not distort what we value about apples or oranges. “Citrus units” would favour oranges. “Pome units” would favour apples.

The most widely used common unit is money. Money is good for measuring things that are traded in the market, but it distorts the value of things that are not traded. It reflects the market price of apples and oranges, not their taste, nutritional content, or cultural value. Most of the issues and indicators in an assessment of wellbeing and sustainability have no market price: human life, security, fresh air, the existence of a species. If you are an insurer you attach a dollar value to a person’s life; but you don’t pretend that money can express more than a fraction of the value of that life to the person’s spouse, parents or children.

An alternative to money is the performance scale. This type of scale is used in the United Nations Development Programme’s Human Development Index and by the Dutch in their assessment of the environment. A performance scale measures how good an orange is at being an orange and how good an apple is as an apple. “Best” or “good” is defined at one end of the scale, and “worst” or “bad” at the other end. The position of the indicator can then be plotted on the resulting scale.

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A performance scale allows us to use whatever measurement is most appropriate to the issue concerned. Income and value added are measured in money. But health is measured in disease and death rates, employment is measured in jobs, species diversity in percentages of threatened species, and so on. Then we define what are good and bad income levels, death rates, unemployment rates, percentages of threatened species, etc. The result is a set of performance measurements, all using the same scale and therefore able to be used together and combined.

Setting a performance scale by defining good and bad may strike some people as excessively “subjective”. It is in fact no more subjective or objective than attaching a monetary value or any other measurement method. Its advantage is that it is transparent. In the Gross Domestic Product, we cannot tell what values are buried in those ranks of dollars and zeros. In performance measurement, we have to make explicit what we think are good levels of education or water quality and what are unacceptably bad levels.

More important, defining good and bad performance for each indicator helps to improve understanding of the nature of sustainable development. Pondering and discussing key issues for sustainable development, indicators of each issue, and desirable and unacceptable performance for each indicator, are critical for each society to build consensus on the nature and relationship of human and environmental wellbeing.

### **Implications of a performance scale for the choice of indicators**

Ways to select indicators are described fully in a companion booklet on system assessment titled Participatory and Reflective Analytical Mapping (PRAM). However, since the Barometer of Sustainability is a performance scale, a comment is necessary on the type of indicator that can be combined on a performance scale.

A performance scale can combine only those indicators to which one can attach a performance value. Indicators are chosen if it is possible to define



## *Combining Indicators*

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values for them that would be desirable, acceptable or unacceptable with respect to human or ecosystem wellbeing. Indicators that are neutral or of unknown significance are excluded.

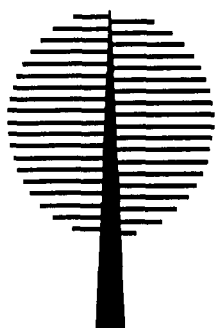
For example, the quantity of a nutrient (such as nitrogen or phosphorus) in a litre of water is a valid performance indicator because it is possible to define acceptable (unpolluted) and unacceptable (polluted) levels. Similarly, income per person is a valid performance indicator because it is possible to judge (for example) how much income would make a person rich, not rich but comfortable, not comfortable but not poor, or poor.

Many potential performance indicators may have to be dropped because there is no telling what is a good or bad performance. An example, is percentage of the population in urban areas. There may be an optimum ratio of rural to urban populations, or a society may decide that there is. But until a desirable ratio is discovered, or agreed on, the indicator cannot be used.

Purely descriptive indicators — wind patterns, monthly rainfall, or mineral content of rocks — are not suitable because they measure background conditions. They are part of the context. People can be more or less successful in coping with them, but there is very little they can do to change them.

This does not mean that such indicators should be left out altogether. Trying to define values for indicators that are difficult to put on a performance scale can illuminate the assessment and improve understanding of human and ecosystem wellbeing. Context setting is part of assessment, so descriptive indicators also have their place. Their place is simply not on a performance scale.

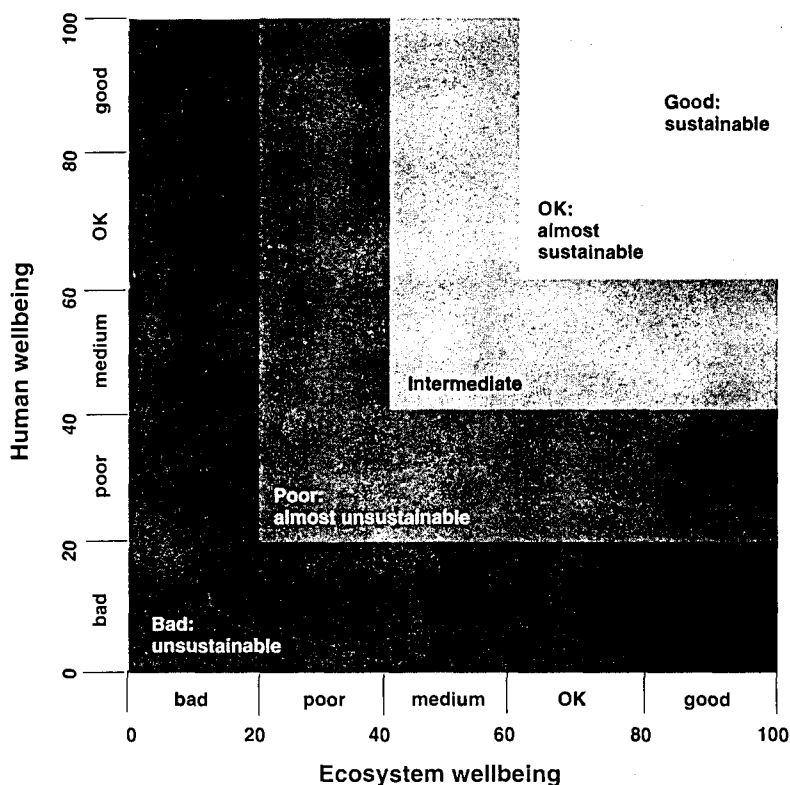
Some important issues may not be covered adequately if the indicators that best represent them are dropped because performance values cannot be assigned to them. It is essential that all participants in the assessment (and all users of the assessment) are as aware of what has been omitted as of what has been included.



## Barometer Basics

### Key features of the Barometer of Sustainability

*Figure 1. Barometer of Sustainability*



The Barometer of Sustainability (Figure 1) is a performance scale with three special features:

#### 1. Equal treatment of people and the ecosystem

The Barometer treats people and the environment together and as equally important. The scale has two axes, one for human wellbeing, the other for ecosystem wellbeing. This ensures that an improvement in human wellbeing does not mask a decline in ecosystem wellbeing, or vice versa.

Conclusions about the condition of people are expressed as a point on the human wellbeing axis: an index of human wellbeing. Conclusions about the condition of the ecosystem are expressed as a point on the ecosystem wellbeing axis: an index of ecosystem wellbeing. The intersection of the two points provides a reading of overall wellbeing and progress toward sustainability.

A lower score on one axis overrides a higher score on the other: the reading of overall wellbeing and sustainability is based on whichever subsystem (the society or the ecosystem) is in worse condition. This is to prevent an improvement in ecosystem wellbeing being read as compensating for a drop in human wellbeing, or vice versa. It reflects the view that people and the ecosystem are equally important and that sustainability is a combination of human wellbeing and ecosystem wellbeing.

## **2. Five-sector scale**

The scale is divided into five sectors. The user can control the scale by defining the range of performance appropriate for each sector. This feature — explained in the following section on the Barometer scale — gives users an unusual degree of flexibility: in other performance scales only the end points are defined.

Defining the sectors of the scale extends a series of judgments that starts with definitions of sustainable development, ecosystem wellbeing and human wellbeing, and continues through the choice of issues to be assessed and the selection and interpretation of indicators. This process of value-based judgments is not peculiar to the Barometer. It is common to all decision making and assessment — but perhaps not sufficiently acknowledged.

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### 3. Ease of use

Converting indicator results to the scale involves simple calculation. Formulae accessible only to people trained in statistics or indices have been deliberately avoided. Ease of use by a wide range of users is preferred to mathematical sophistication.

#### The Barometer scale

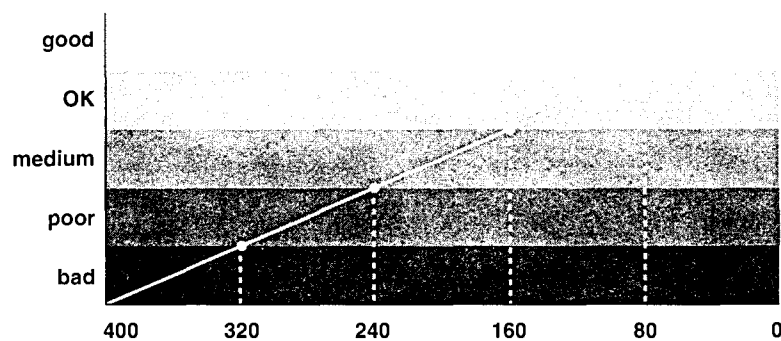
The Barometer has a 100-0 scale, consisting of 100 points plus a base of zero. It is divided into five sectors of 20 points each, plus the base of zero:

Sector	Points on scale
good	81-100
OK	61-80
medium	41-60
poor	21-40
bad	1-20
	0

Dividing the scale into five sectors allows the user to control the scale by defining one or more of the sectors. If a good income is considered to be \$20,000 or more and a bad income to be \$1,000 or less, the scale can be set accordingly.

This feature makes the Barometer a more powerful performance scale than if only the end points were defined. When only the end points are defined, results can be odd or even absurd. For example, child mortality rates range from 5 deaths per 1,000 live births (Finland today) to 400 deaths per 1,000 (Mali in 1960). If best is defined as 0 deaths and worst as 400 deaths, then a country with 75 deaths per 1,000 would still fall in the top fifth of the scale (the good sector); and only a country with 320 or more deaths per 1,000 would fall in the bottom fifth (the bad sector).

*Figure 2. Child mortality: deaths per 1000 live births*



This would not matter if the only purpose of the scale were to rank societies — to see which ones perform best. But the main purpose is not to see if a society is doing better than others but if it is doing well. Being in the top ten is small comfort if everyone is doing terribly.

Converting indicators to the Barometer scale maintains a process of more clearly defining what we mean by human wellbeing and ecosystem wellbeing. It obliges people to state explicitly their assumptions about the significance of the indicator for human or ecosystem wellbeing, and the levels of achievement that would be ideal, desirable, acceptable, unacceptable, or disastrous. To do otherwise would be to let the scale make the decisions rather than thinking things out for ourselves.

It would be possible to control the scale without dividing it up into sectors. A formula could be applied that would adjust the distribution of scores. But sectors labeled “good”, “bad”, etc., are preferable to a formula for two reasons. First, they are easier to understand and calculate (see “Calculating indicator scores”, page 22) — so they are more open to scrutiny. Second, they make it obvious that judgments are being made and they keep the judgments transparent.

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## Organization of indicators

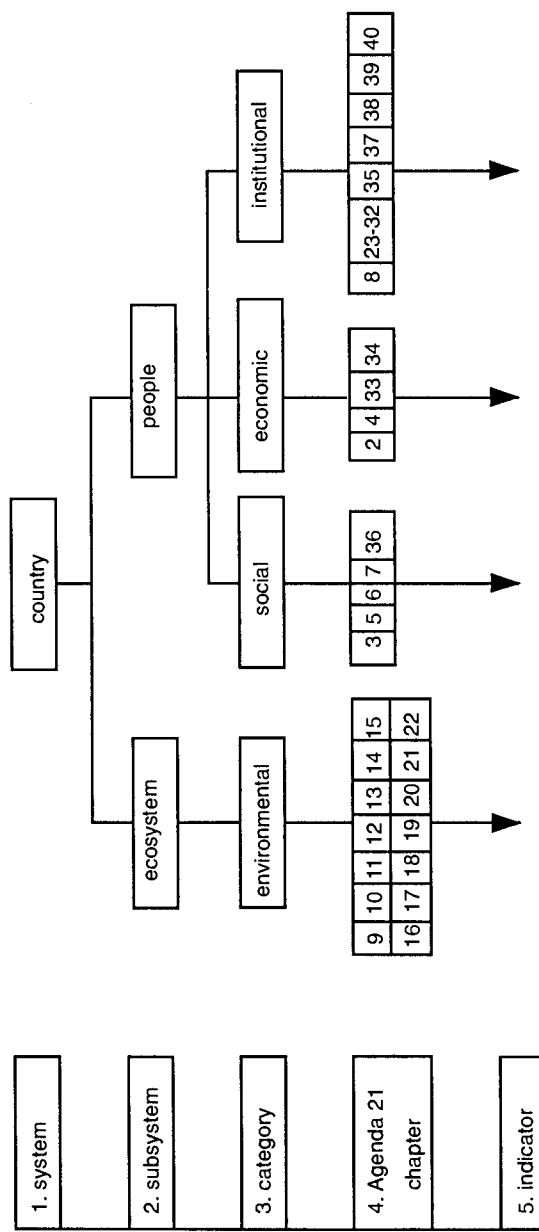
Ways to organize indicators are described in detail in the handbook on system assessment. Here it is assumed that participants in the assessment have organized their indicators hierarchically. The Barometer requires a subsystem level, which consists of two subsystems: the ecosystem; and people (or the society). Within that framework it can accommodate any hierarchical arrangement of indicators.

For example, the indicator hierarchy of the United Nations Commission on Sustainable Development (CSD) has four levels:

1. System (country);
2. Category (social; economic; environmental; institutional);
3. Agenda 21 chapter; and
4. Indicator.

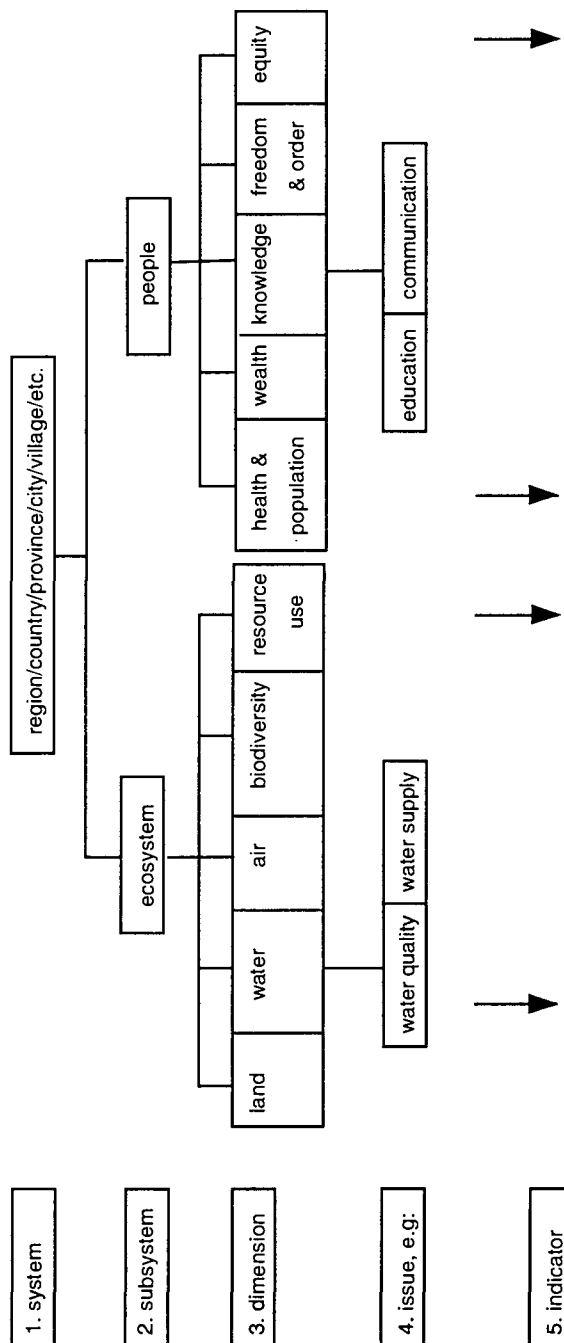
To use the Barometer, the subsystem level is added as a new level 2. The CSD's indicator hierarchy would then look like Figure 3.

Figure 3. Commission on Sustainable Development (CSD) indicator hierarchy



In The Wellbeing of Nations (an assessment of the wellbeing and sustainability of 180 countries), the hierarchy looks like Figure 4.

*Figure 4. Wellbeing of Nations indicator hierarchy*



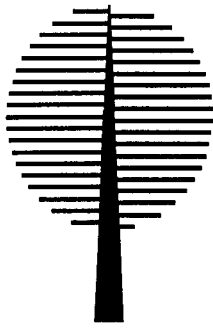


## *Barometer basics*

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Only a few issues are included in this example, and the indicators have been left out of both.

Any assessment method can use the Barometer to combine indicators, provided it uses performance indicators and organizes them hierarchically. It does not matter how many levels make up the indicator hierarchy, or what the levels are called, provided the top two levels are system and subsystem, and the subsystems are the society (people) and the ecosystem.



## Setting and Controlling the Scale

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### Setting the scale

The scale needs to be set for each indicator. This involves defining best and worst values for the indicator. The end points strongly influence where an indicator reading falls on the scale. For example, an income of \$20,000 would be near the middle of a \$50,000-\$0 scale, near the top of a \$25,000-\$0 scale, and near the bottom of a \$100,000-\$10,000 scale.

A fairly objective way of setting the end points of the scale is to choose best and worst values that encompass the range of performance that has been experienced in the recent past and could be experienced in the foreseeable future. Performance in other countries can be included, if international data are available.

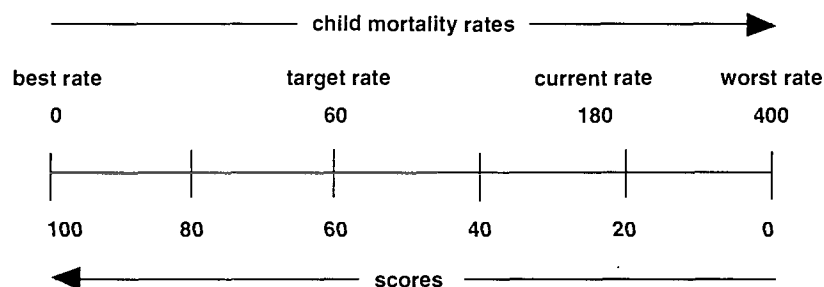
The end points need not always encompass the full range of values. If an exceptionally good or bad performance would unduly distort the scale, the scale can be capped (cut off at the top) or truncated (cut off at the bottom). For example, carbon dioxide emissions per person in the US Virgin Islands are almost 22 tonnes and were more than 49 tonnes in 1978. To encompass this, zero would have to be set at 59 tonnes. Instead, it is more convenient to truncate the scale and set zero at 20 tonnes, because the next worst performance is well under this, and emissions higher than 10 tonnes per person are unusual.

A performance worse than the worst value is given a zero score. Similarly, a performance better than the best value receives a score of 100.

Best values are not necessarily targets. A country with a child mortality rate of 180 deaths per 1,000 live births might set the best value at 60 deaths because an international target is to reduce child mortality rates by two-thirds by 2015. However, 60 deaths per 1,000 live births is still quite high: most developed countries have rates under 20 deaths, and the best performance is 5 deaths. It would be preferable to define the best value as 0 deaths, making 60 deaths a target.

## *Setting and Controlling the Scale*

*Figure 5. Child mortality rates*



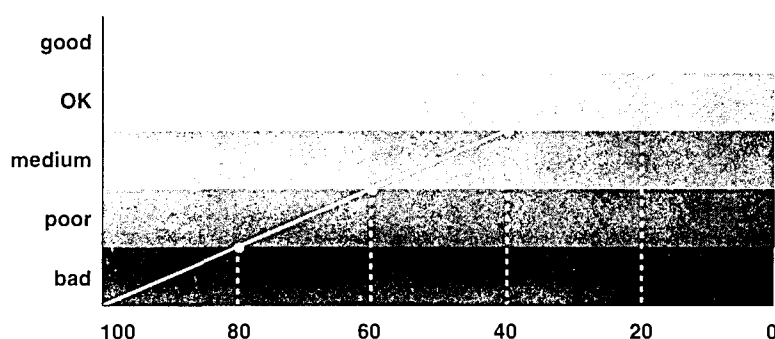
### **Controlling the scale**

The scale can be either uncontrolled, partially controlled, or fully controlled. In an uncontrolled scale only the two end points are defined and the intervals between them are equal. Whether an indicator reading falls in the good, OK, medium, poor or bad sector is determined by the end points of the scale and not by whether the level of performance that would fall into a particular sector is appropriate for that sector. This feature of an uncontrolled scale must be taken into account or the results may prove to be indefensible.

For example, if the unemployment rate were plotted on an uncontrolled scale set so that one end point was 0% (representing the best unemployment rate) and the other end point was 100% (representing the worst), a rate as high as 19% would be classified as good and only unemployment rates of 80% and higher would be classified as bad, as in Figure 6.

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*Figure 6. Unemployment rate (%): uncontrolled scale*



The flaw in this arrangement comes from treating all five sectors (good, OK, medium, poor, bad) as equal. Sometimes, they are equal. But more often they are not. Usually, the most important sectors are good and OK, since they define human wellbeing and ecosystem wellbeing — the conditions of the good and sustainable life. Good performance means either ideal or desirable performance, or both. The good sector therefore needs to be defined exactly.

OK performance is acceptable, or better than acceptable performance. The boundary between good and OK may be thought of as the gateway to wellbeing; and the boundary between OK and medium as the gateway to the neighbourhood of wellbeing. OK performance must clearly be on the way to good performance.

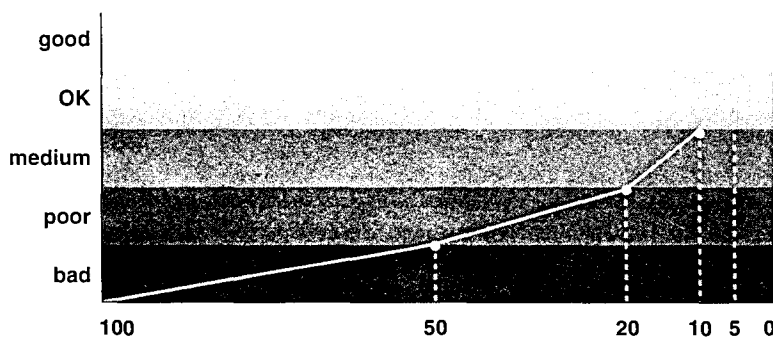
When an uncontrolled scale is not appropriate, then a partially or fully controlled scale may be used. In a partially controlled scale, either the good sector or the bad sector (or sometimes both) is defined. In a fully controlled scale, all sectors are defined.

## *Setting and Controlling the Scale*

When the scale is partially or fully controlled, it ceases to be one scale with equal intervals throughout. Instead, it becomes a set of from two to five scales — depending on the number of sectors defined — each with its own end points and different intervals.

For example, if the unemployment rate were put on a fully controlled scale in which 0-4% was considered good, 5-9% OK, 10-19% medium, 20-49% poor, and 50-100% bad, the scale would look like Figure 7.

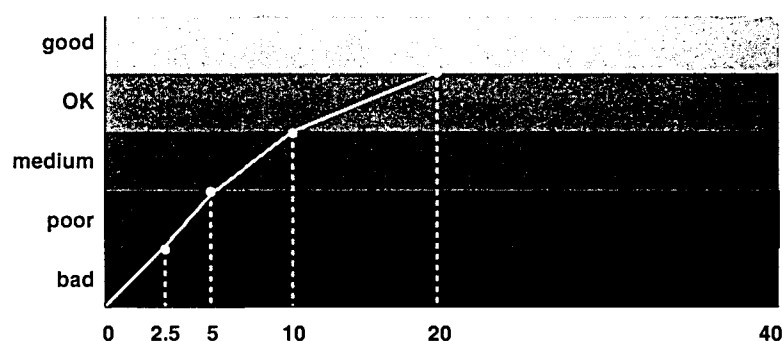
*Figure 7. Unemployment rate (%): controlled scale*



In partially or fully controlled scales, the good and OK sectors may include a narrower or a wider range of performance than the other sectors. A narrower range of performance occurs in indicators where the good (and sometimes OK) sector represents a high standard: the better the performance, the more difficult it is to make improvements. This is shown in the fully controlled unemployment rate scale above in which the good and OK sectors have a range of five percentage points each, the medium sector a range of 10 percentage points, the poor sector a range of 30 percentage points, and the bad sector a range of 50 percentage points.

When improvements in good performance bring diminishing returns, then the good sector may include a wider range of performance than the other sectors. Real (purchasing-power-adjusted) per capita gross domestic product (GDP) is an example. A real per capita GDP of \$40,000-\$20,000+ is considered good (range of 50%), \$20,000-\$10,000+ OK (range of 25%), \$10,000-\$5,000+ medium (range of 12.5%), \$5,000-\$2,500+ poor (range of 6.25%), and \$2,500-\$0 bad (range of 6.25%).

*Figure 8. GDP per person: PPP \$000*

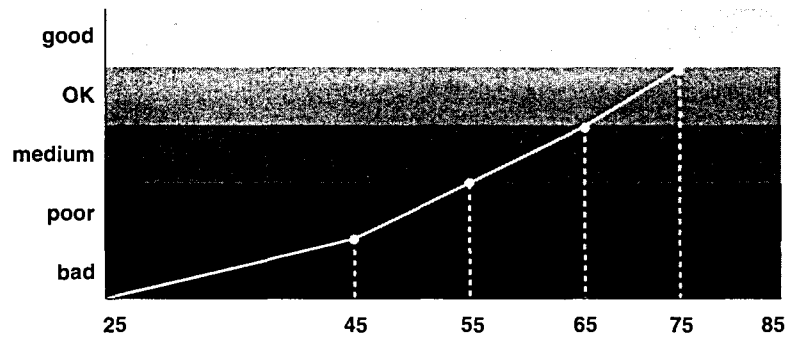


The choice of a partially or fully controlled scale involves two considerations. First, what is the most convenient way of ensuring that scores falling in the good or OK sectors are indeed good or OK. Second, whether it is desired to define the bad and poor sectors as carefully as the good and OK.

In the case of life expectancy at birth, a partially controlled scale has been chosen for its convenience. With best at 85 years and worst at 25 years, it is enough to control only the bad sector, defining it as 45-25 years. The remaining four sectors then automatically consist of 10 years each, 66-75 being OK and 76-85 being good.

## *Setting and Controlling the Scale*

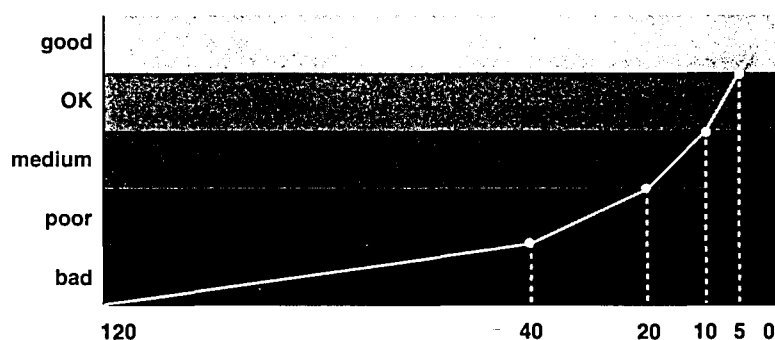
*Figure 9. Life expectancy at birth*



sector	points on scale	life expectancy (years)
good	81-100	76-85
OK	61-80	66-75
medium	41-60	56-65
poor	21-40	46-55
bad	1-20 (0)	26-45 (25)

With the homicide rate full control is necessary to ensure that the good and OK sectors are reserved for very low homicide rates; and that the poor and bad sectors are not limited to extremely high rates. Best is set at zero homicides per 100,000 population and worst at 120 (to accommodate the highest rate — 118 — in Swaziland). If only the good and OK sectors were defined (1-9 homicides), then the lowest rate that would be classified as poor would be 46 per 100,000 population. Accordingly, all sectors have been defined.

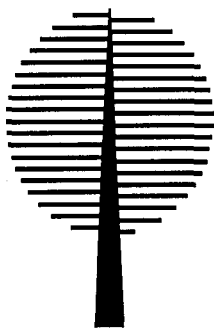
*Figure 10. Homicide rate per 100,000 population*



sector	points on scale	homicides per 100,000 population
good	81-100	0-4
OK	61-80	5-9
medium	41-60	10-19
poor	21-40	20-39
bad	1-20 (0)	40-119 (120)

In the above example, good consists of 5 units per 20 points on the scale, OK 5 units/20 points, medium 10 units/20 points, poor 20 units/20 points, and bad 80 units/20 points. The sectors do not join smoothly. There is always a break where the intervals of one sector change to the intervals of another. This may be mathematically inelegant but it makes it easy to control the scale and calculate indicator scores for each sector. (A formula could be written to make the curve smooth, but this would make recalculation more difficult for non-mathematical users wishing to try out different assumptions and interpretations.)





## Calculating Indicator Scores

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When the scale is uncontrolled, the indicator reading is plotted on the scale, using the standard formula:

**If best is the maximum value and worst the minimum:**

([actual minus minimum] divided by [maximum minus minimum]) multiplied by 100.

**Or, if best is the minimum value and worst the maximum:**

([actual minus minimum] divided by [maximum minus minimum] subtracted from 1) multiplied by 100.

Main telephone lines per 100 inhabitants provide an example of the former. Best (maximum) is set at 80 main lines and worst (minimum) at 0 main lines. Iceland has 55.5 main lines per 100 inhabitants. Its position on the scale is calculated thus:

$$55.5 \text{ (actual)} - 0 \text{ (minimum)} = 55.5$$

$$80 \text{ (maximum)} - 0 \text{ (minimum)} = 80$$

$$55.5 \div 80 = 0.694$$

$$0.694 \times 100 = 69.4 = 69$$

Water withdrawals as a percentage of supply is an example of an indicator in which best is the minimum value and worst the maximum. Best (minimum) is set at 0% and worst (maximum) at 100%. Zimbabwe's water withdrawals are 8.65% of its supply. Its score is calculated thus:

$$8.65 \text{ (actual)} - 0 \text{ (minimum)} = 8.65$$

$$100 \text{ (maximum)} - 0 \text{ (minimum)} = 100$$

$$8.65 \div 100 = 0.086$$

$$1 - 0.086 = 0.914$$

$$0.914 \times 100 = 91.4 = 91$$

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When the scale is controlled, each sector or group of sectors is calculated separately, but the method is the same as for the scale as a whole.

When the scale is partially controlled, the good (81-100) sector or the bad (1-20) sector is defined. With life expectancy at birth, for example, the bad sector is defined. This means that the scale now consists of two parts: the bad sector; and a group of sectors from poor through good. The end points for each part are:

sector	points on scale	life expectancy (years)
best-poor	21-100	46-85
bad	1-20	26-45
worst	0	25

A reading that equals any of the end points is simply given the corresponding score. For example, if life expectancy were 46 years it would be given a score of 21.

Life expectancies between 85 and 46 years are calculated in the usual way, except that the minimum is 45 (instead of 0), and the multiplier is 80 (instead of 100). The result is added to 20, since that is the zero point of that part of the scale. For example, the score for Guatemalans' life expectancy of 64.8 years is calculated as follows :

$$\begin{aligned}64.8 \text{ (actual)} - 45 \text{ (minimum)} &= 19.8 \\85 \text{ (maximum)} - 45 \text{ (minimum)} &= 40 \\19.8 \div 40 &= 0.495 \\0.495 \times 80 &= 39.6 \\39.6 + 20 &= 59.6 = 60\end{aligned}$$

## *Calculating Indicator Scores*

For life expectancies between 45 and 26, the maximum changes to 45, the minimum to 25, and the multiplier to 20. The result is added to 0. For example, the score for Afghanistan's life expectancy of 43.5 years is calculated as follows :

$$\begin{aligned}43.5 \text{ (actual)} - 25 \text{ (minimum)} &= 18.5 \\45 \text{ (maximum)} - 25 \text{ (minimum)} &= 20 \\18.5 \div 20 &= 0.925 \\0.925 \times 20 &= 18.5 \\18.5 + 0 &= 18\end{aligned}$$

Scores are rounded to the nearest whole number; 0.5 may be rounded down or up. Usually it is rounded conservatively — whichever produces the lower score. In this case it is rounded down.

Note that when calculating scores within sectors (or within a group of sectors), the maximum is the maximum of the sector (or group) concerned but the minimum is the maximum of the sector below. This is because the minimum always corresponds to the zero position at the base of the scale.

Timber removals plus imports as a percentage of volume illustrates the case of a partially controlled indicator, in which best is the minimum value and worst the maximum. Best, worst and the bad sector is defined but the other sectors are not:

sector	points on scale	timber removals + imports as % of volume
best-poor	100-21	0-3.9
bad	1-20	4.0-9.9
worst	0	10

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Japan's removals plus imports are 3.0% of volume, so it is placed in the best-poor (100-21) sector. Its score is calculated as follows:

$$\begin{aligned}3.0 \text{ (actual)} - 0 \text{ (minimum)} &= 3.0 \\4.0 \text{ (maximum)} - 0 \text{ (minimum)} &= 4.0 \\3.0 \div 4.0 &= 0.75 \\1 - 0.75 &= 0.25 \\0.25 \times 80 &= 20 \\20 + 20 &= 40\end{aligned}$$

Sri Lanka's removals plus imports are 9.3% of volume, so it falls in the bad (1-20) sector. Consequently, its score is calculated thus:

$$\begin{aligned}9.3 \text{ (actual)} - 4.0 \text{ (minimum)} &= 5.3 \\10.0 \text{ (maximum)} - 4.0 \text{ (minimum)} &= 6.0 \\5.3 \div 6.0 &= 0.883 \\1 - 0.883 &= 0.117 \\0.117 \times 20 &= 2.34 \\2.34 + 0 &= 2\end{aligned}$$

Note that when calculating scores within sectors (or within a group of sectors), the minimum is the minimum of the sector (or group) concerned but the maximum is the minimum of the sector below.

When the scale is fully controlled and all sectors are defined, the multiplier for each sector is always 20. The maxima, minima, and bases (zero) correspond to these points on the scale when best is the maximum value and worst the minimum:

### *Calculating Indicator Scores*

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sector	points on scale	maximum	minimum	base
good	81-100	100	80	80
OK	61-80	80	60	60
medium	41-60	60	40	40
poor	21-40	40	20	20
bad	1-20	20	0	0

When best is the minimum value and worst the maximum, the maxima, minima, and bases (zero) correspond to:

sector	points on scale	maximum	minimum	base
good	81-100	80	100	80
OK	61-80	60	80	60
medium	41-60	40	60	40
poor	21-40	20	40	20
bad	1-20	0	20	0

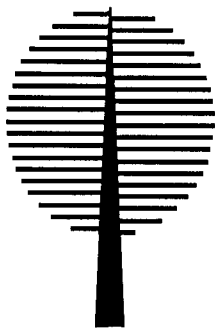
The child mortality rate illustrates the calculation procedure for a fully controlled scale. Costa Rica's child mortality rate is 16, so it falls in the OK (61-80) sector. Its score is:

$$\begin{aligned}16 \text{ (actual)} - 10 \text{ (minimum)} &= 6 \\50 \text{ (maximum)} - 10 \text{ (minimum)} &= 40 \\6 \div 40 &= 0.15 \\1 - 0.15 &= 0.85 \\0.85 \times 20 &= 17 \\17 + 60 &= 77\end{aligned}$$

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Togo's child mortality rate is 132, so it falls in the poor (100-199) sector. Its score is:

$$\begin{aligned}132 \text{ (actual)} - 100 \text{ (minimum)} &= 32 \\200 \text{ (maximum)} - 100 \text{ (minimum)} &= 100 \\32 \div 100 &= 0.32 \\1 - 0.32 &= 0.68 \\0.68 \times 20 &= 13.6 = 14 \\14 + 20 &= 34\end{aligned}$$



## From Indicator Scores to the Big Picture

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### Combining indicator scores

Indicator scores are combined up the hierarchy from the lowest to the highest level. If the levels are:

1. System
2. Subsystem
3. Dimension
4. Issue
5. Indicator

then they are combined from indicator to issue; from issue to dimension; and from dimension to subsystem. If they are

1. System
2. Subsystem
3. Category
4. Agenda 21 chapter
5. Indicator

then they are combined from indicator to Agenda 21 chapter; from chapter to category; and from category to subsystem.

Combining to the subsystem level yields two results (one for the ecosystem, the other for people): an index of ecosystem wellbeing; and an index of human wellbeing. These are combined into an index of sustainability or overall wellbeing by reading the intersecting points on the Barometer.

If an issue is represented by one indicator, the indicator's score is the issue's score. If an issue is represented by two or more indicators, the indicators have to be combined or aggregated. Standard procedures for aggregation are:

- if the indicators are considered to be equally important, they are added together and then the average is taken;

- 
- if some are regarded as more important than others, they need to be weighted according to their relative importance before they are added and averaged; or
  - if one indicator is judged to be critical, it can be given a veto function, overriding the other indicators.

Similarly, if a dimension is represented by one issue, that issue's score is the dimension's score. If the dimension is represented by two or more issues, the issues have to be aggregated following the same procedure as for indicators. A comprehensive discussion of aggregation and weighting is given in the companion handbook on system assessment.

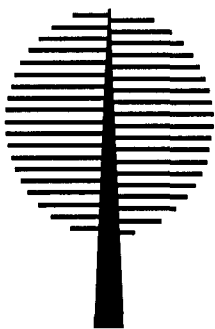
### **A caution**

A Barometer reading is simply a means to an end, not the end itself. Its purpose is to stimulate people to pay more attention to the underlying issues. Consequently, the Barometer results need to be accompanied by an analysis of the key issues. Together, the results and the analysis will enable politicians, officials and the public to draw conclusions about the conditions of people and the ecosystem, the main interactions between people and the ecosystem, and priorities for action.

Assessment involves values and judgments, from the model of the system and the goal, through decisions about aggregation, to the interpretation of indicators. These values and judgments should be made clear, so that people who disagree with them can see how alternative judgments would alter the assessment. Every part of the assessment needs to be presented in a way that allows people to use different indicators or alternative arrangements. Users need to know what data support the indicators, the confidence in the data, and the interpretations and judgments involved in choosing, calculating and combining indicators.

The big picture is good to have. But what's behind the big picture is just as necessary and more revealing.





## The Barometer of Sustainability as a Communication Tool

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The Barometer can be used as a communication tool, focussing discussion on the meaning of human wellbeing and ecosystem wellbeing, their relationship to each other, and the importance of both for sustainable development.

Support teams helping villagers in Zimbabwe to prepare their own sustainable development action plans have used the Barometer mainly for this purpose. Villagers defined their own categories and labels for different levels of human and ecosystem wellbeing. Then they discussed where they were on each axis. They went on to assess their condition and the state of their ecosystem in more detail. At the end of the assessment they reviewed their position on the Barometer. Positions on the two axes were not calculated but were estimated qualitatively.

The value of the Barometer was that it helped the villagers to consider people and the ecosystem together; and to see progress as improving both the condition of people and the condition of the ecosystem.

### **Comparing community perceptions with technical data**

The Barometer can also be used to compare where people perceive themselves to be in terms of ecosystem and human wellbeing, and where government institutions and available conventional data would place them.

The differences and similarities between the perception of people themselves and conventional data will soon become apparent. This can then act as a focus of discussion among resource managers, scientists, development workers and villagers to arrive at a common understanding of the problems of the area.



Founded in 1948 as the International Union for Conservation of Nature and Natural Resources, the IUCN brings together States, Government agencies and a diverse range of non-governmental organisations in a unique world partnership: over 900 members in all, spread across some 136 countries. As a Union, IUCN seeks to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. The Union builds on the strengths of its members, networks and partners to enhance their capacity and to support global alliances to safeguard natural resources at local, regional and global levels.

The Strategies for Sustainability Programme of IUCN works to strengthen strategic planning, policy and implementation skills aimed at sustainable development at global, national and local levels. Working with networks of strategy practitioners from member governments, partner institutions and NGOs, the Programme assists in the conceptual development and analysis of experience in strategies, the development of a range of strategic planning and action planning skills, and improved methods of assessing human and ecosystem wellbeing.

## 15

### Tips for trainers: Introducing the 'H-form' - a method for monitoring and evaluation

#### Introduction

Working in 1997 for IUCN with Veronica Muthui in Somalia, Andy Inglis developed a method to assist local people to monitor and evaluate local environmental management. He called this the 'H-Form' or 'Rugby Post form'. Since then it has been modified in other monitoring and evaluation exercises in Scotland, Wales, Austria, Northern Ireland, Egypt, England, India and Romania.

#### Examples of applications

- To assist local people to evaluate the performance of partnerships, programmes, agencies, initiatives, and a range of social and environmental topics;
- To identify local indicators for ongoing monitoring and evaluation;
- To assist agency staff to evaluate and monitor their activities related to smallholder farming, forestry, fisheries, public consultation process, etc.;
- To assist participatory appraisal (PA) workshop participants to evaluate their training and scenarios of good and bad practice for engaging with people;
- to facilitate and record semi-structured interviews with individuals and or groups of people young and old.

#### Materials

A large piece of paper (e.g. flipchart paper if working with a group, or smaller if working with an individual), enough markers so that everyone in the group has one each, and post-it notes<sup>1</sup> (about 12 per group member).

<sup>1</sup> 'Post-its' are small, self-adhesive pieces of paper, which are easy to stick on to charts. If they are not available, pieces of paper can also be written on and stuck on to the chart with tape.

#### Steps

1. As it is important to get the dimensions right at the beginning, fold the paper as follows: fold it in half length-wise, then fold it in half width-wise and half again width-wise. Now unfold the paper and with a marker, draw a large H using the folds as your guide lines (don't bother drawing in the centre vertical line).
2. Write the question being discussed in the top centre area of the H-form. This question must be simple and focused, such as 'How well does the local economy benefit from forestry in this area?' or 'How well do organisations work together in this area?' or 'How good are the services for your horse in this area?' At the left end of the horizontal centre line of the H write 0 or 'not at all well' or a sad face symbol, and at the right end of this line write 10 or 'extremely well' or a smiling face symbol.
3. If you are working with a group of people, give each person a marker and ask them to place their individual score along the line between 0 and 10 (or 'not at all well'/'extremely well', or sad face/ happy face symbols). See Figure 1.
4. Give each person 3<sup>2</sup> 'post-its' and ask them to write (or draw) the negative reasons for their individual score, i.e. why did they not give it the maximum possible score. Write or draw one reason on one post-it.

<sup>2</sup> People are not limited to just 3 'post-its' if they need more they can use more nor do people have to use all 3 'post-its'. If they only have one reason that is OK.

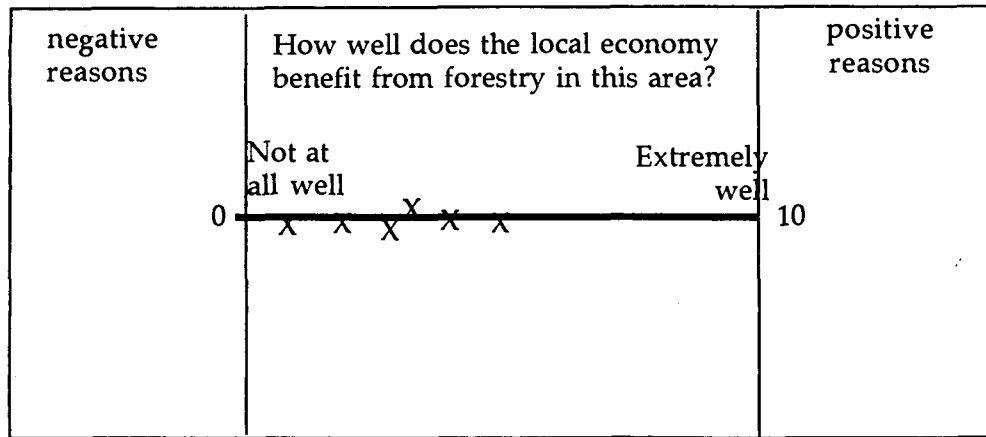


Figure 1. Diagram of an H-form

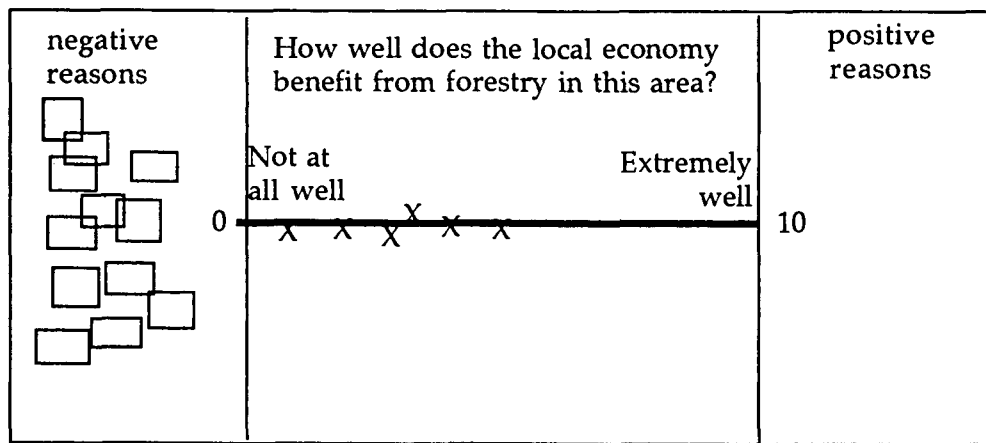


Figure 2. An H-form showing negative reasons for scores

5. While participants are recording their own reasons, the facilitator can make a heading at the top left hand side of the H-form: 'Negative Reasons for Your Score'. Once everyone has written down their reasons, ask them to stick these up on the left-hand side of the H- form (See Figure 2.).
6. Then give each person another 3 'post-its' and ask them to record the positive reasons for their individual score, i.e. why they did not give a zero score. Once these are written on the 'post-its', participants stick these on the right-hand side of the form (see Figure 3).
7. Then each person reads out her/his negative and positive reasons for their score. Encourage people to simply read what they have written (or drawn) on their own 'post-it'-notes without going into lengthy discussion, with any clarification if necessary. The group does not have to agree or disagree with any of the reasons people have recorded. This is simply an opportunity for each person's views to be heard and understood.
8. The next steps depends on the objective of the exercise. In most of the uses of the H-form to date, one of the objectives has been to encourage the individuals in a group to record, share and understand each others' points of view. Asking them to agree to a group score provides the focus and impetus for the discussion of all the views expressed.

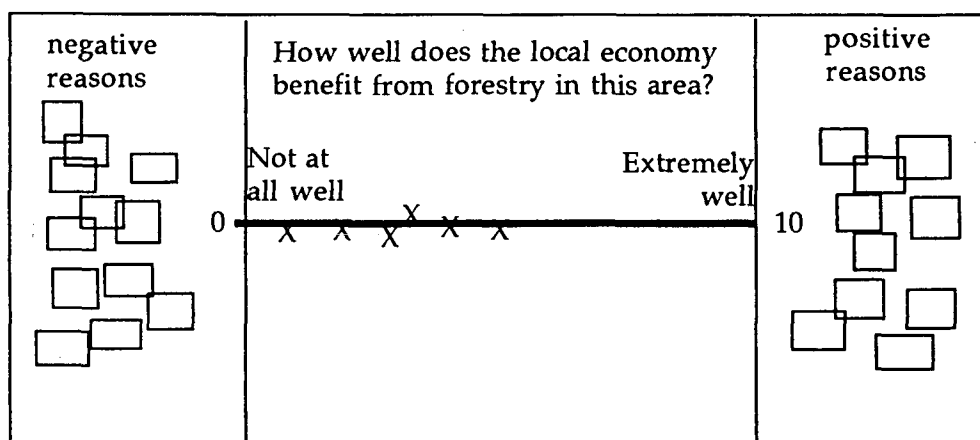


Figure 3. H-form showing positive and negative reasons for scores

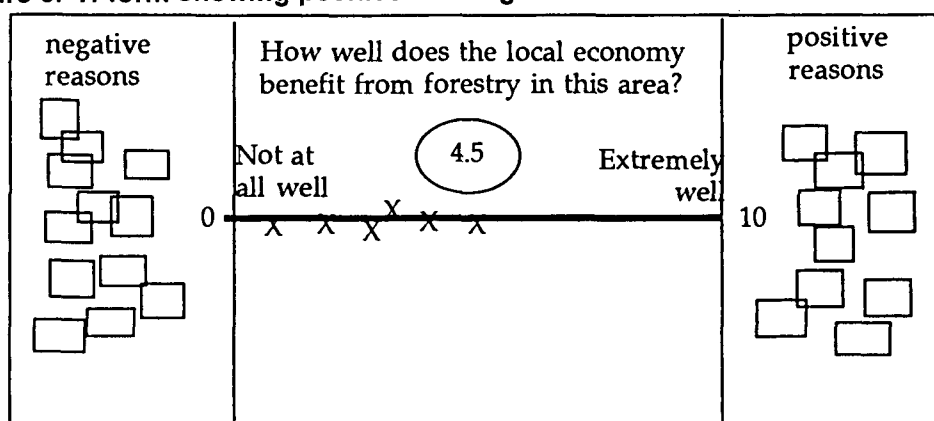


Figure 4. H-form showing group score

8. Once everyone has read out their negative and positive reasons for their individual score, the group can develop a group score. The facilitator asks the group to decide upon a score between 0 and 10 or whatever the scale is you are using. This group score is based on the negative and positive reasons people recorded on the 'post-its'. This is often a quick process because the group will have heard a wide range of reasons behind the individual scores and can therefore usually agree on the group score. Once the group has decided upon a score between 0 and 10 then that score can be marked as a large number (or number of beans) at the top centre section of the H-form.
9. Again, depending on the objectives, the next step could be to ask the group to list ways in which the current situation as represented by all the positive and negative reasons could be improved. This is carried out by asking someone from the group to record everyone's ideas in the bottom centre half of the H-form. Alternatively, this step can also be done individually by giving each person 3 'post-its' (see Figure 5).
10. The outputs of this tool can be easily transferred into a report without losing any detail or changing any words or symbols people have used to record their own views and ideas (see Figure 6). This can be done by creating one H-form and marking on it all the individual marks from all the H-forms on the horizontal line and listing all the negative and positive reasons as well as all the ideas for improvement. Another way is by scanning or photocopying (and reducing to A4 if necessary) all the original H-forms and incorporating them in a report.

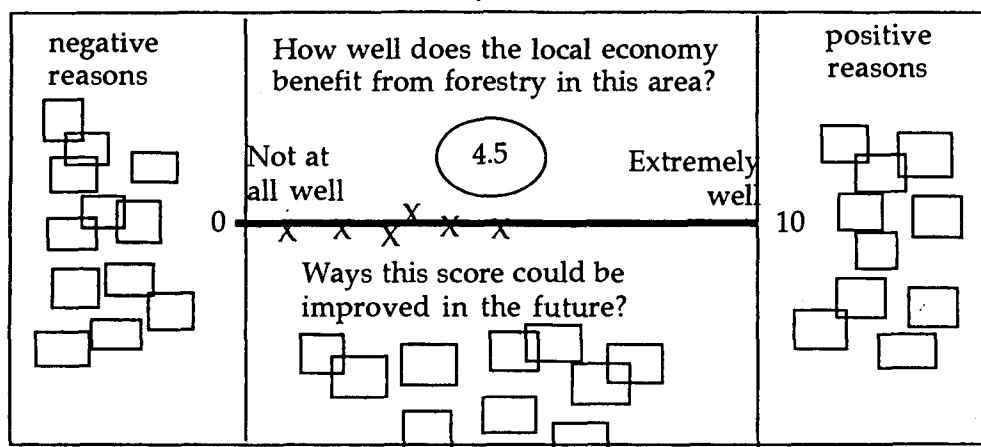


Figure 5. Completed H-form showing ways to improve the group score

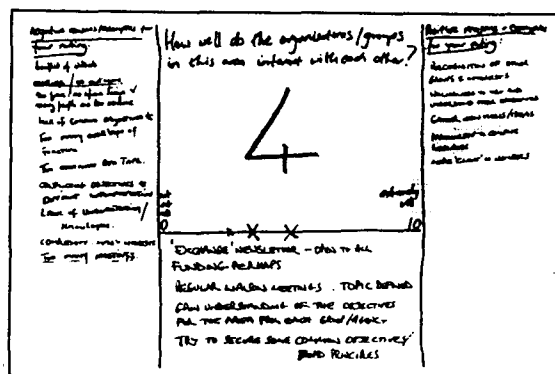


Figure 6. Example of an H-form transferred to report format

## Notes

We have found that this tool helps individuals and/or groups to record their own views and ideas in a non-threatening and open, yet structured, way which fosters individual expression as well as common understanding and consensus. It can be used in meetings, workshops, conferences as well as on the streets, in pubs, etc. The sequence and clear framework that the H-form provides keeps discussion focused, specific, progressive and can easily lead to action points. This structured format helps to facilitate and record semi-structured interviews without introducing facilitator biases. We have found that H-forms can be used to enable people of all ages to participate in indicator identification, monitoring, evaluation and planning for improvement in many contexts. This method can also be used alongside other visual/recording tools such as mapping, timelines, Venn diagrams, etc. If written words or numbers are not appropriate then

symbols and scoring units (e.g. beans) can be used.

H-forms have been used to evaluate:

- how well objectives are being met;
- how effectively money is being spent;
- what students think of language courses;
- how well the local economy benefits from forestry;
- how much people have heard about a particular programme/project;
- how important farming is in an area;
- how well agencies/organisations work together; and,
- how involved local people have been regarding the development of National Parks, strategic plans, local plans etc.

Susan Guy and Andrew S. Inglis,  
Scottish Participatory Initiatives, 3 Queen  
Charlotte Lane, Leith, Edinburgh EH6 6AY  
UK Email  
101234.2170@compuserve.com

**In: UPWARD. 1997. Self-Assessment: Participatory Dimensions of Project Monitoring and Evaluation. Los Banos, Laguna, Philippines.**

**Making participatory monitoring and evaluation (PM&E) work: thirteen vignettes from the field<sup>1</sup>**

DINDO M. CAMPILAN

**Abstract.** *The paper reviews UPWARD experiences in integrating participatory monitoring and evaluation (PM&E) in the research and development (R&D) process. The various vignettes illustrate the important role of monitoring and evaluation in field projects, and yield lessons for effective planning and implementation of PM&E. The paper describes the experiences of UPWARD projects in incorporating monitoring and evaluation into the project cycle, in designing monitoring and evaluation systems that R&D professionals can engage in jointly with users, and in exploring how monitoring and evaluation can be made a participatory process. PM&E is a critical but often undervalued tool for successful agricultural R&D. Thus, the institutionalization of PM&E needs to become a priority task in field projects that seek to promote sustainable agricultural innovations.*

## **Introduction**

Participation has become a byword in the world of agricultural R&D. It seems that no project document - be it a proposal, report or paper - is complete without making reference to the approaches and methods which it supposedly uses to promote the participation of local people in the project. In claiming to be participatory, these projects highlight the ways in which they seek to involve beneficiaries in planning and implementation.

In many instances, however, the project's participatory character excludes the aspect of monitoring and evaluation, since this continues to be seen as a task exclusively for outsiders - external experts perceived as the authority in making an objective examination of the project.

For any R&D project to rightfully claim to be fully participatory, it has to share with local people the control and influence over all aspects of the project - including monitoring and evaluation. In other words, a participatory project demands participatory monitoring and evaluation (PM&E).

While many agricultural R&D projects are taking a more serious interest in PM&E, there is a need to systematically determine whether local people's participation contributes to effective monitoring and evaluation, and ultimately towards achieving project goals. The challenge is to get the most from PM&E while avoiding the danger of its being romanticized as the panacea for all the ills in project monitoring and evaluation. As agricultural R&D professionals, we must take a closer, balanced look at PM&E especially since field experiences now show



that it does not work well for all projects, in all situations and at all times (Cummings 1995).

With this as a backdrop, the paper looks into UPWARD's PM&E experiences with the aim of making it work better for R&D professionals, the institutions they work under, and most importantly the people whom the projects are supposed to serve. It offers a series of vignettes drawn from UPWARD's field experiences as gleaned from various documents and through interactions with the R&D professionals behind these projects.

### **PM&E: defining the area of discourse**

Agricultural R&D projects engage, consciously or unconsciously, in a variety of monitoring and evaluation (M&E) activities. The range of activities considered as part of project monitoring and evaluation extends from documentation and problem diagnosis, through on-going review and feedback mechanisms, down to final assessment and long-term planning. In sum, the monitoring and evaluation system is an integral element of a project and is closely interwoven into the entire project cycle.

Conventionally, M&E serves the needs of project proponents, implementors and donors by hiring external experts who take a supposedly detached, impartial assessment of the project. In contrast, project M&E is said to be participatory - and, therefore, becomes PM&E - when conceived as a process that involves and benefits a wider circle of project stakeholders.

PM&E is distinguished by at least three characteristics:

- *How M&E is done.* In PM&E, the process of monitoring and evaluation aims not only to pass judgment on project performance but also seeks to make it an opportunity for joint learning.
- *Who does M&E.* In PM&E, the task of monitoring and evaluation is not left entirely to highly trained and experienced professionals but is designed as a widely participatory undertaking involving the relevant stakeholders of a project.
- *For whom M&E is done.* In PM&E, the outcomes of monitoring and evaluation are expected to cater to the information needs of a variety of user groups, within and outside the project.

Using the above, it is possible to establish a continuum with different modes of PM&E based on the degree and nature of participation in project monitoring and evaluation. On one side is *external M&E*, conducted by individuals or groups considered as having no direct involvement or interest in the project. As outsiders, they are called upon - usually by project donors - to provide professional, unbiased

and objective assessment of the project. This donor-driven M&E can hardly be considered participatory since project participants are not involved except as respondents for surveys and other data collection activities.

On the other side is *internal M&E*, done by those directly involved in the project, particularly in its implementation. They include local people and field-based staff who are considered as project insiders. The activity is organized by local people themselves, facilitated by field-based staff and/or with external professional support. This is usually referred to as conventional PM&E.

Between these two extreme types is *joint M&E*, which combines external and internal M&E. It aims to assess the project from the viewpoints of both insiders and outsiders, with the underlying purpose of achieving a more balanced, well-rounded M&E perspective. Joint M&E is a variant of conventional PM&E, and can be viewed as more participatory involving a larger, more diverse set of individual and group stakeholders.

In planning for PM&E, a project should determine the following: *when to do PM&E* - *ex-ante* (pre-project), ongoing (current), terminal (summative) or *ex-post facto* (post-project); *focus of PM&E* - process (activities) or product (outcomes); and, *level at which PM&E is undertaken* - project, sub-project, component, activity, task or technology.

### Vignettes from the field

Over the years, -UPWARD has sought to operationalize the PM&E approach through its various field R&D projects. The experiences have been varied in terms of the overall framework, methods and tools, and most especially in outcomes. Each project has its own story to tell about PM&E - the specific context in which it is applied, the opportunities and constraints, and the successful and less successful results. The vignettes below are, therefore, meant to showcase the diversity of project experiences within the UPWARD network and to illustrate the complexities of making PM&E work in the field.

#### *PM&E for whom?*

One emerging hypothesis is that there is a direct correlation between users' degree of participation and perceived level of benefits they derive from a project. The urban homegardening project in northern Philippines has successfully brought together different institutions - a research center, public elementary schools, and a local health agency - to pursue the common goal of promoting home and school gardens for enhanced food security. This was mainly because the overall project goal directly supported the agencies' respective mandates and priority programs.

The aspect of PM&E was different though. At the onset of planning for project monitoring and evaluation, the data requirements were identified based mainly on the research agenda of the research center. Meanwhile, the staff of the health and education agencies did not see the relevance of monitoring detailed data, e.g. crop yields, variety use and related technical aspects, to their work. As expected, project PM&E did not proceed as planned. Health workers failed to regularly collect data and fill up the forms prepared by the researchers.

This initial experience made the researchers realize that to enhance participation of partner agencies, PM&E has to be designed in such a way that the information generated is relevant for all project stakeholders, and not only to meet researchers' requirements. Learning from the earlier experience a second PM&E workshop was recently held and this time the representatives from the three agencies agreed on a PM&E framework covering their respective information needs. The data requirements were expanded to ensure that researchers, health workers and schoolteachers find the PM&E outputs useful in meeting their own agencies' reporting requirements.

#### *The memories of PM&E systems*

Genetic resources programs usually collect germplasm of different crop varieties and set up a system of conserving these materials for potential use in future breeding work. Each collected material comes with routine *passport data* but in most cases this does not include information about the socio-cultural milieu from which they were extracted. The systematic documentation - or memory banking - of users' intimate knowledge and practices associated with the local crop varieties is an effort to avoid the de-contextualization of germplasm. This is done by documenting the cultural dimension of crop genetic resources.

An exploratory UPWARD study (Sandoval 1994) sought to establish a memory bank for sweetpotato varieties grown in a southern Philippine community. Tapping and storing of users' memories were done by collecting and preserving herbarium species of local varieties along with the simultaneous documentation of farmers' characterization and evaluation of each material collected. The study found among others that users distinguish varieties on the basis of local criteria such as morphological characters, gastronomic quality, life habit, familiarity and functionality.

One of the project's concrete output is a memory bank containing the herbarium specimens for each variety together with technical characterization, scientific illustrations and users' own characterization and evaluation. This memory bank is, however, housed in the UPWARD coordinating office rather than in the field where it can be most useful. For germplasm collections to be of greater benefit to actual users - farmers - these need to be moved closer to the source. Thus, an

ongoing activity of the project is the establishment of an *in situ* collection of the local crop varieties situated within the community (Prain *et al* 1996)

*Users' perspectives in field monitoring:  
when problems may not be what they seem*

Field monitoring is an essential element in participatory problem diagnosis. It is especially important for agricultural problems requiring regular and careful observation, such as pest incidence. Farmers recognize the existence of a pest problem based on their own understanding of the surrounding biological and ecological system. This local pest knowledge provides the framework through which farmers undertake pest surveillance, and therefore, determine the conclusions and decisions that may be reached.

An UPWARD study on sweetpotato pests in Leyte, central Philippines examined users' pest monitoring framework in terms of their own ethno-classification of insects, diseases and weeds (Palomar *et al* 1993). The common term *sakit* in the local Cebuano dialect, translated as *biotic stress*, was found to be the all-encompassing concept for the wide range of perceived pest problems. Six general categories under *sakit* comprised the ethno-classification system of sweetpotato pests. The most important pest category is *bokbok*, or weevil, which is closely related to the residual category *baobao*, glossed as *beetles other than bokbok*. From the perspective of local people, the *bokbok* covers only the adult form of the weevil and not the more damaging larva form. Instead, the latter is included in a separate category for larvae, *ulod*, which is a generic term for all pests having the same morphology. By exploring local pest knowledge, scientists learned among others that users are not fully aware of the weevil's metamorphosis from larva into full adult form - an information gap where science can make an important contribution.

The findings highlight the limitations and potentials of users' own monitoring framework, which in this case is based on their local pest knowledge. It is when R&D professionals exert effort to explore and learn from users' perspectives that they are able to identify opportunities for enhancing local capacity for field monitoring.

*Managing PM&E: the means determine the end*

One of the difficulties of PM&E is translating its principles and concepts into action. R&D professionals need to anticipate a host of field-level constraints often not found in any PM&E textbook. This is the case of a project (Solimen *et al* 1996) for documenting community-based knowledge systems in sweetpotato genetic resources in northern Philippines. The project aimed to identify varieties

locally grown in selected ethno-linguistic communities, including local knowledge and practices on crop genetic resources management.

To evaluate users' knowledge about local varieties, the project conducted *ex-situ* identification and characterization activities. Materials were collected from the local communities and planted at a university demonstration farm. Prior to harvesting, a workshop was organized and farmers were asked to identify their own varieties and validate their knowledge about these materials. Farmers visited the *ex situ* field and participated in an exercise to identify varieties through the use of a questionnaire. Quite unexpectedly farmers failed to accurately identify their own varieties. The outcome raised doubts about the validity of local knowledge on genetic resources. Further inquiry, however, revealed that the inability of farmers to distinguish *ex-situ* materials was due to factors related to how PM&E was handled by the project. Among these were:

- Morphological characteristics of the sweetpotato varieties changed with the new growing environment. The *ex situ* field was located in the highlands while some of the farmers' varieties were originally grown in the lowlands.
- Lapses occurred in collecting, transporting and transplanting the *ex-situ* materials. It was highly possible that labels were interchanged during handling and in the actual planting of the varieties.
- A plant breeder was tasked to undertake technical characterization of the varieties, based on the International Potato Center's list of key characters. Unfortunately, instead of being done right in the *ex situ* field, specimen of the planted varieties were cut and brought to the breeder's office for the characterization work.

This project experience underscores the importance of careful planning and management of PM&E activities since even the most minor logistical problem can have serious consequences for the project.

#### *PM&E: food for thought in food product development*

Long before its introduction in agricultural R&D, PM&E was already a standard approach in developing consumer products and services (Hardon 1996). Product prototypes are re-designed and refined by commercial firms based on input and feedback through user evaluation.

A project in Indonesia (Indrasari *et al* 1995) evaluated the technical, social and commercial feasibility of sweetpotato flour production and use in a range of local food products. A central aspect of the R&D process was a participatory evaluation of sweetpotato-based products involving two user groups - food home industry producers and the consumers. Samples of sweetpotato flour were given to

the two user groups so they could substitute this for the usual flour/starch ingredient used in snack food products. Through in-depth interviews, producers assessed sweetpotato flour attributes like shelf-life, texture and expansion ratio. The most important criterion for acceptability of sweetpotato flour, however, was its lower price than wheat flour, thus, making substitutions economically feasible.

Similarly, food products from sweetpotato flour were subjected to consumer evaluation in terms of color, aroma, taste, texture, appearance and general acceptability. Results of consumer evaluation were generally positive and served as input to the subsequent phases of product development and piloting. The project as a whole demonstrated the significance of users' perspectives in helping R&D professionals assess and improve organoleptic qualities of food products. Users' perception on individual product attributes, however, was not adequately probed. Instead of consumer-respondents provided with a predetermined set of evaluation criteria, they could have been asked to identify their own criteria based on qualities which they think make a food product more acceptable.

#### *Mapping the process of change*

PM&E provides an R&D project the opportunity to systematically assess changes resulting from its intervention. Comparison of pre- and post-project situations, for example, allows for evaluating how far stated goals have been achieved.

A project made use of participatory mapping to assess project impact on homegarden biodiversity (Prain and Piniero 1994). At the beginning of the project, cooperating homegardeners participated in an exercise to draw maps of their respective gardens, indicating features such as size, location and crops grown. After about two years of R&D intervention through participatory trials of introduced crop species, another workshop was held to evaluate changes in homegarden biodiversity. Again, the cooperators drew maps showing status of the homegardens which were then compared with the maps they drew previously.

On the whole, mapping proved to be a useful PM&E tool and helped homegardeners analyze changes arising from their involvement in the project. Its full potentials were, however, not fully tapped in the project due to two major limitations. First, it was not possible to accurately compare and analyze the two maps since these were drawn independently and, therefore, markedly differed in terms of scale, perspective, boundaries and symbols. Second, due to time constraints, the mapping workshop had limited opportunity for group discussions among homegardeners to jointly analyze the outputs of the mapping exercise.

*When the medium becomes the message*

“Passing the pen” is a key principle in participatory research, as well as in PM&E. Drawing illustrations and diagrams encourages users to communicate their own perspectives of relations, complex concepts, processes or technologies. Field experience, however, has shown that in certain instances, users take drawings as an end rather than a means in participatory learning.

In the farmer field school (FFS) approach, such as in the Indonesia integrated crop management project, participants undertake agroecosystem analysis by drawing their observations on a sheet of paper which they use as a visual aid in group discussion. While their drawn outputs contribute to the learning process, there is also the tendency to focus their effort on the aesthetic elements of the drawing, while making them and during group presentations. Thus, drawings tend to become treated more of an artwork instead of being used as a learning tool.

An alternative tool introduced by the project was the corkboard on which FFS participants displayed actual specimens collected through the field exercise. In categorizing insects and their natural enemies, the FFS made use of a wooden board with strips of cork material glued on each end. Participants pinned or stuck the insect specimens on either corkstrip based on whether they considered these as pests or natural enemies. One advantage of this tool is that using the actual specimen overcomes limitations in terms of drawing skills and cuts time devoted to drawing. In addition, its flexibility allows continuous debate and discussion since a specimen can be transferred easily to a different category by simply removing this and then placing it on the other corkstrip.

*PM&E: more than just a game of cards*

PM&E is a double-edged sword. On one hand, it seeks to be participatory by involving local people in its various stages and activities. On the other hand, PM&E is expected to yield timely and reliable data for making valid conclusions and informed decisions.

This is a dilemma faced by UPWARD researchers undertaking field trials on true potato seed (TPS) technology with farmers in southern Philippines. The project devised a PM&E tool in the form of color-coded and pre-formatted monitoring cards. Researchers asked farmer cooperators to record on these cards production and economics-related data from the farm trials. As planned, the project research assistant regularly collected the farmers' completed cards for the data to be analyzed and fed back to them.

The first few months of trying out the tool in the field revealed that farmers found the task cumbersome. They did not follow regular record keeping using the cards, which was supposed to fill in major data gaps faced by the project. To correct the situation, the research assistant has decided instead to fill up the cards

herself by interviewing farmers during regular visits. This arrangement significantly improved the process of data collection, allowing among others for more sophisticated economic analyses. On the other hand, it highlighted the trade-offs involved between farmer participation and the need to meet research data requirements of the project.

One of the most important lessons learned by researchers from the experience is that PM&E can work most effectively when dealing with data which are mutually important and useful to researchers and farmers.

#### *Using PM&E to exploit market opportunities*

Regular and timely information spells the difference between profit and losses in a competitive market environment for agricultural products. One processor-trader in Vietnam for instance, Mr. Tam, takes M&E seriously in taking advantage of market opportunities for his transparent noodle processing enterprise.

Over several years of engaging in the business, Mr. Tam has established an informal information network with farmers, starch processors, other noodle processors, traders and consumers. The noodle processing enterprise involves the entire household with his wife and children assigned to different processing activities. Aside from his management role, Mr. Tam plays the added role of *monitoring* specialist and spends most of the working day visiting his contacts to gather updated information on noodle prices, market supply and demand, sources and availability of starch, and orders and sales.

This M&E expertise puts Mr. Tam in a strategic position to make decisions on scaling up operations, moving to a new site, identifying new suppliers, expanding market outlets or introducing technological improvements. Recognizing the potential contribution that Mr. Tam can make in promoting sweetpotato starch and transparent noodle processing in Vietnam, the UPWARD project has tapped him as trainor, resource person, and key informant for the project. As the project team noted, Mr. Tam's enthusiasm and market knowledge were far more convincing for local people than words of the government scientist (Lan 1995).

#### *Decision outcomes of PM&E*

Diffusion of innovation can be viewed as the opportunity to evaluate (Chilver 1995). PM&E offers the tools for evaluating innovations to enable users to make informed decisions. In conventional linear technology flow, this process leads ultimately to either of two outcomes - adoption or non-adoption of innovation.

An UPWARD study of sweetpotato farmers in central Philippines (Campilan 1995), however, showed that decisions arising from PM&E is not limited to these dichotomous options. In evaluating technologies, farmers may arrive at any of the following decisions:



- *Continuous adoption* - after field testing and verifying results, technologies with a proven track record through use over a longer period are continuously adopted;
- *Adaptation* - technologies are modified and/or adapted to suit new or changing conditions;
- *Integration* - combining an introduced technology with existing practices;
- *Selective adoption* - adopting certain aspects of an introduced technology;
- *Rejection* - in extreme cases, introduced technologies are outright rejected; and,
- *Re-adoption* - resuming the application of a technology previously used but at some point was discarded/discontinued.

*Monetary incentives for PM&E: to pay or not to pay?*

Incentives, especially of the monetary kind, is often considered *taboo* in participatory R&D projects. Yet it cannot be denied that effective PM&E can be costly not only for an organization or a project, but also for local people themselves.

Participatory monitoring of field research requires direct involvement of users in conducting experiments and related activities. UPWARD projects generally involve farmer researchers (also called *field monitors*, *farmer cooperators* and *project assistants*) who work closely with R&D professionals in monitoring field trials through regular data collection, as well as by coordinating and facilitating various activities. The practice of providing farmers with monetary incentives to compensate for the *work* they rendered is reported for instance in integrated crop management in Indonesia (Braun and van de Fliert 1996), in on-farm potato bacterial wilt research in the Nepal hills (Dhital pers comm), and in the potato production trials in the eastern terai of Nepal (Barral pers comm).

For the researchers and institutions behind these projects, giving farmers monetary incentives is justified considering the opportunity costs involved in taking away a significant amount of time which farmers could otherwise have spent for income-earning activities. Still many others think that this is an unacceptable scheme since it may negatively influence the spirit of voluntarism and genuine interest for learning, and may even put to question the real motive behind farmers' participation in agricultural R&D.

*Institutionalized M&E: expanded bureaucracy or resource efficiency?*

The establishment of an independent section for monitoring and evaluation within an agency may be viewed as a concrete move towards institutionalizing M&E. The Lumle Agricultural Research Centre (LARC) is UPWARD's oldest ally in participatory action research in Nepal, through a collaborative project on community management of bacterial wilt. A recent reorganization (Lumle Newsletter 1996) resulted in the dissolution and/or merger of technical research divisions and at the same time creation of a new planning, monitoring and evaluation unit (PMEU). Whether this is a justified decision has become one of the subjects of serious discussion within the center.

On one hand, the LARC management considers the creation of the unit as an innovative step towards institutional development. It gives renewed importance to the role of M&E in supporting its R&D program, in strengthening institutional capacity for M&E, and in contributing towards enhanced resource efficiency (Harding, pers comm). The last reason is particularly critical considering the forthcoming withdrawal of funding support by the British Overseas Development Administration (ODA), its key funding source in the last two decades.

On the other hand, some of the research staff think that there already exists adequate M&E mechanisms at the division and center levels. It is too early to make any conclusion on the impact that the M&E unit can have on the agency. But whatever the consequences may be, these will certainly shape the future of LARC's monitoring and evaluation system.

*Scaling up PM&E: building bridges for experience sharing and capacity building*

In our enthusiasm to promote project PM&E, we often fail to realize that many R&D professionals lack not only the relevant experience but also the necessary formal training. Their advanced education has enabled them to develop expertise in their own field of specialization but often this does not provide them with the knowledge nor skills to undertake M&E of their own R&D projects. This was a realization impressed upon the UPWARD coordinating office in a recent consultation meeting with scientists at the Philippine Root Crop Research and Training Center (PRCRTC). Although PM&E draws from a wide range of natural and social sciences, no single discipline can lay exclusive claim to it.

It is notable for instance that M&E practice dates back to several decades ago. But the first ever international conference of evaluation professionals representing a wide range of sectors - from agriculture and health to education and business - was held only most recently, in 1995. This pales in comparison to other professional groups which for years now have been holding annual meetings. At the moment, UPWARD is part of a working group involved in planning an

international workshop on PM&E. Slated in late 1997, the workshop is seen as a venue where practitioners and academics from various sectors can share and exchange experiences as well as ideas on the state-of-the-art in PM&E.

### Summary

These vignettes make clear that there are no shortcuts to effective PM&E. Those in search of a magic formula are in for a big disappointment. All that field experiences can offer is a set of general guidelines which R&D professionals need to combine and adapt to specific project contexts. Some of these are presented here:

- PM&E, just as the R&D process itself, needs careful planning early in the project cycle. The project plan provides the general framework for the PM&E plan. The participatory R&D process is highly flexible and formative, therefore, the PM&E plan inevitably has to allow enough room for modification to suit changes in the overall project plan.
- PM&E is operationalized by involving users in assessing various aspects of a project. Yet, project researchers often pre-set the assessment criteria while excluding local people in the process of identifying and prioritizing these. PM&E outcomes may not, therefore, reflect users' own perspectives since researchers predetermine the framework for assessment. In PM&E, it is important not only to assess a project on the basis of certain criteria, but also to determine which among the assessment criteria are most important to users.
- The task of monitoring and evaluation is not something that is entirely new for many individuals and institutions. On the contrary, it is part of the normal activities they do - either consciously or unconsciously. The challenge is to build on this inherent capacity so that M&E becomes a more effective tool for achieving R&D goals. An even greater challenge is to make project stakeholders recognize each other's potential in contributing to PM&E, and therefore, the need for joint learning and cooperative action.
- PM&E is a costly process - in terms of money, effort and time. Yet the costs of PM&E are usually left out in project planning and budgeting. The limited resource allocated to PM&E is often one of the greatest barriers to its successful implementation. In PM&E planning, it is important to consider what costs are borne and inputs to be contributed by the respective project stakeholders.
- PM&E brings together the tools and methods used by project stakeholders to jointly assess processes and outcomes. PM&E's emphasis on the use of local or indigenous tools and methods does not in any way reduce the need to bring in the contribution of standard technical M&E procedures. Similarly, there are

project situations that require that PM&E be combined with conventional external M&E approaches.

- Project stakeholders can be expected to participate in PM&E only if they see this as relevant and its outcomes are of direct benefit to them. Participation is enhanced when PM&E is designed to generate information that address the needs of various stakeholders. While an R&D project has its own data requirements to meet research objectives, it must also be sensitive to the needs of users for more practical information with immediate and concrete use.

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### Endnotes

- <sup>1</sup> An earlier version of the paper was presented at the Fifth UPWARD Annual Conference, Clark Field, Pampanga, Philippines, 9-12 December 1996.

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## 7

# Monitoring and evaluating in the Nepal-UK Community Forestry project

Raj Kumar Rai

### • Background

The Nepal-UK Community Forestry Project works with fifteen hundred Forest Users Groups (FUGs) in seven of the hill districts of Nepal. It aims to improve the living conditions of local people by supporting FUGs to manage community forests more effectively, sustainably and equitably. It is part of the government policy of transferring national forests to community management and works with the Department of Forests and other district level organisations. The objective of working with FUGs is to help them strengthen their planning, monitoring and reporting activities.

To give the best support possible, the project team (composed of Department for International Development and His Majesty's Government of Nepal employees) are encouraging the FUGs to share their experiences and ideas through a cycle of action-reflection-learning. However, the FUGs tend to be dominated by the more literate and resource rich elites in the communities. They capture the resources as they sit on the committees, receive information, and make the decisions. For all forest users to perform their management responsibilities and to function in the FUG, they need to be aware of the different decision-making fora within community forestry and have enough confidence, which they can gain through practical and management skills and knowledge.

To assist the less advantaged forest users in the FUGs, the project team sought ways to improve communication within the many

FUGs of the project area. Participatory monitoring and evaluation (PM&E) was considered an important element of an effective communication strategy. However, while FUGs play a leading role in planning, monitoring and evaluation have been largely extractive and carried out by the Department of Forests. But, with the ever increasing number of FUGs, the Department found it had insufficient resources to continue supporting the FUGs in this centralised manner. They felt that by ensuring the FUGs learn to monitor and evaluate themselves, the process would also be more relevant and effective.

In this context, the Nepal-UK Community Forestry Project is experimenting with a number of participatory monitoring methods. These methods are based on pictures to allow for greater ease of understanding amongst less literate FUG members. In this way and by emphasising the building of the forest users' and the committee's understanding of the process, PM&E becomes a strategy for empowering less literate forest users.

Four methods are described below, the FUG 'Health Check', one that builds on a pictorial literacy methodology, one using PLA techniques to situate the PM&E in a planning cycle and most recently, one based on the health check with user generated indicators.

### The FUG Health Check

The main purpose of the FUG 'Health Check' is to help committees and forest users develop a better understanding of the forest management process by encouraging them to reflect on existing resources and their

institution. The discussions are facilitated by the Department of Forests field staff, who have included the views of the users to make this method more effective.

Pictorial formats have been developed to ensure equal involvement of non-literates, semi-literates and literates in the monitoring and evaluation process. The pictures have been very effective at provoking discussion within and between the groups. Four broad categories of indicators are covered in discussions provoked by these pictures (see Box 1). For each of these categories, different aspects are represented and discussed, and then assessed along a three point scale, such as poor, fair or good (see Figure 1).

For example, in forest resource management, the presence of a 'forest silvicultural system', a 'forest protection system', and a 'forest product distribution system' is assessed. Under the category 'Social and Institutional Development', indicators include 'fund mobilisation' and 'gender and equity', while 'Learning and Skill Development' includes the presence of 'innovative ideas for community forestry' and 'new skills for community forestry'.

Two aspects have needed special attention in the use of the Health Check. First, good facilitation of the discussions is essential. Second, preliminary discussions with the FUGs require a process of decoding or interpreting the pictures so there is a common understanding of which conceptual issues they represent. The FUGs continue to add to, and adapt, the Health Check, to enable more detailed reflections and more self-sustained use.

This Health Check has been taken up by the District Offices to identify the best FUGs for the annual district competition - thus all FUGs are exposed to it annually. FUGs are adapting the idea: the diagrams are seen as resource materials which can be used at different time for different purposes. FUGs reflect on the diagrams during their assemblies, annual harvesting period (once in a year) and even in their committee meetings.

BOX 1.

**FOUR THEMES OF THE FUG 'HEALTH CHECK'**

**1. Forest resource management**

The forest user groups can use the 'Health Check' to monitor the impact of their management plans on forest condition. They assess indicators like canopy density, condition of regeneration, and tree ages. With this information they then prioritise their silvicultural management plans.

**2. Social and institutional development**

















The Health Check helps to build users' confidence in analysing their own social and institutional development and encouraging more participatory decision-making. Forest users reflect on indicators such as: current decision-making processes in the FUG; the role of disadvantaged groups and whether they are benefiting; and who implements the decisions made by which group members. Ideas are shared about conflict management and prevention.

**3. Awareness and flow of information**

There is much room for improvement in the flow of information and communication in FUGs, and the Health Check aims to draw attention to ways in which communication fora can be improved. Users reflect on their roles and responsibilities in bi-annual assemblies and in monthly committee meetings. These fora provide feedback from the members, and allow for a review of the implementation of the group plan and of the group's constitution. In these meetings, members also discuss forest policy, and their own process for planning, monitoring and evaluation. Indicators include 'feeling ownership in community forestry' and 'awareness of legal status'.

**4. Skill development and learning processes**

By sharing information within and amongst the groups, the forest users develop their skills. They organise networking fora from time to time to share ideas. They prioritise their needs and assess what resources are available to initiate new activities like forest-based income generation activities.

			
Innovative ideas for CF management	Absent	Starting	Many
			
New skills of CF	Absent	Starting	Many
			
Income Generation Activities	Absent	Starting	Many
			
Innovative ideas for CF	Absent	Starting	Many

**Figure 1 Pictorial self-monitoring and assessment of FUG - learning and skill development**

### User-generated pictorial decision-making M&E

Another PM&E method was developed to increase women's participation by encouraging them to assess their involvement in forest use and group activities. This method was tried in two FUGs where women had been attending a literacy class using REFLECT techniques<sup>1</sup>. By the end of the literacy class, the women had become skilled in developing pictorial formats to assess their involvement in household and community level activities, such as who makes the major decisions in, for example, buying and selling livestock.

Similarly in forest-related activities, women use the visual formats to assess their involvement at the community and household level in activities such as: who makes

decisions about harvesting different forest products and who does the actual work (see Figure 2). This process is helping women to see more clearly their level of participation in different aspects of forest management. With careful facilitation to make the link between literacy classes and forest management, women can develop their own monitoring and evaluation system and change their role in decision-making. Of course it not easy to separate the effects of developing the monitoring tool and of the literacy classes. However the women have become considerably more vocal in the FUG. They have also established a group to give them greater autonomy over their income generation and savings activities. They are considering further development of their M&E tool to cover more that just decision making. But they have not yet used it to reassess their situation.

### PM&E in information management

The project team soon realised that simply providing tools and methods in a project context was unlikely to work. They

<sup>1</sup> REFLECT stands for Regenerated Freirean Literacy through Empowering Community Techniques which combines PRA methods and Freirean Literacy principles. It was developed by Action Aid. (See David Archer in *PLA Notes* 23 and forthcoming issue of *PLA Notes* in June 1998).



recognised that monitoring and evaluation had to be linked to the present situation, to goals, and to action plans. Therefore, interactive workshops became a key strategy for effective PM&E. The main purpose of the workshops was to develop the users' understanding about participatory monitoring and evaluation based on linking PRA methods to collective action. Through repeating this workshop annually, we are able to compare the current condition of forest resources and forest product needs against the goals that were set. To date, this is a pilot process within one district.

Analysis of the current situation is the first step. This is achieved by creating a resource and social map. The forest users completed this task, also identifying scarce resources, resource-rich, and resource-poor households. Then they discussed what the ideal situation would look like and made another resource map based on this ideal scenario. The two maps were compared by considering:

- How are resources distributed in the community?

- What new resources need to be developed to fulfil demands?
- What activities need to be performed to generate resources in the community and to reach the ideal situation?

This activity helped users to reflect on their existing resources, and to make a list of activities needed to reach their goals. Prioritising the many identified needs then followed, using pair-wise ranking. During this process, the users analysed each activity, old and new, in terms of how they were affecting, or would make an impact on, resource availability. This process also helped forest users to identify where outsider support would be needed. For example, if forest users prioritised the plantation of fodder trees to fulfil the demand for fodder, they can contribute with the provision of labour and even seedlings, but they might require technical support in determining the correct spacing between the trees.








	 Household head	 Male	 Male/Female	 Female
 Collection of Grass				
 Collection of Fuelwood				
 Collection of Poles				

Figure 2. Users generated pictorial decision making monitoring and evaluation

Venn diagrams were used next to help the users reflect on the nature of co-ordination between user groups and other organisations. These helped them to identify which organisations would be able to help them. Again the 'ideal scenario' concept was used so that the group could develop guidelines as to what they wished to achieve institutionally. The idea with the PM&E process is that they return to the Venn diagrams periodically and reflect on trends in the changing relationships. As the workshop only occurred recently this is yet to happen.

Finally, a seasonal calendar is used as the basis for the operational forest management plan. The user group members depict their activities throughout the year pictorially in a calendar, alongside the seasonal availability of various forest products. Pictures of the various activities are also placed on the map, in the appropriate forest block. This helps reinforce the idea of how forest management plans will differ for different forest conditions and for the provision of different products.

### **The user generated self monitoring system**

The latest development within the project area uses the basic format of the health check, whilst incorporating learning from the other processes. The process was developed through joint discussion and planning by the project team with a FUG. To ensure the fullest incorporation of perspectives in developing the monitoring system, the FUG was divided by *toles* (or neighbourhoods according to castes), with each tole initially developing their own indicators and assessing the FUG's current status as described below.

The toles initially consider what the 'ideal' FUG would be, or where they should be in 10 years time. These goals form the basis for indicators for their monitoring system. The indicators are then coded as pictures by the users. Illiterate users proved to be as adept as their literate neighbours in producing pictures to represent the indicators. Discussion arises on how to capture the real issue as the picture is shown to the other users and adaptations are

made. Using pictures allows full participation of the users, and, as they develop the pictures themselves, they become the owners of the system and refine the indicators as discussions proceed.

The indicators are then arranged in a matrix to be scored on a four point scale of moons. Through using phases of the moon rather than sad, content and happy faces, there is less implicit criticism of the FUG; i.e. a crescent moon implies the indicator is currently absent rather than the users are unhappy. Furthermore, a four points scale forces discussion beyond a compromise middle score which is often allocated in a three score system.

The indicators from the different toles were combined and categorised by the facilitators, with exact repetitions being removed and gaps identified. The categories identified were: forest management and condition; forest products; group management; communication; community development activities and income generating activities. The tole assessments were then compiled for each category.

This was presented to a forum of the FUG committee and representatives from each tole. Under each category, the indicators were reviewed and negotiations took place over the exact meaning for each picture and whether new ones should be added where gaps had been identified by the facilitation team. Overall, however, it was striking that the list of indicators was so complete.

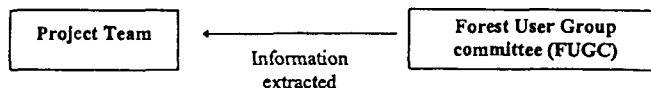
By contrasting the tole assessments, different perspectives became apparent. In future the indicators need to be ranked to strengthen the link into planning and the apparent differences between toles need to be addressed. As the FUG uses their monitoring system, they may need to begin to quantify some of the indicators to make them more sensitive to change and less open to bias during assessment.

The strength of this process was in the high level of ownership and self realisation that it developed within all households. The

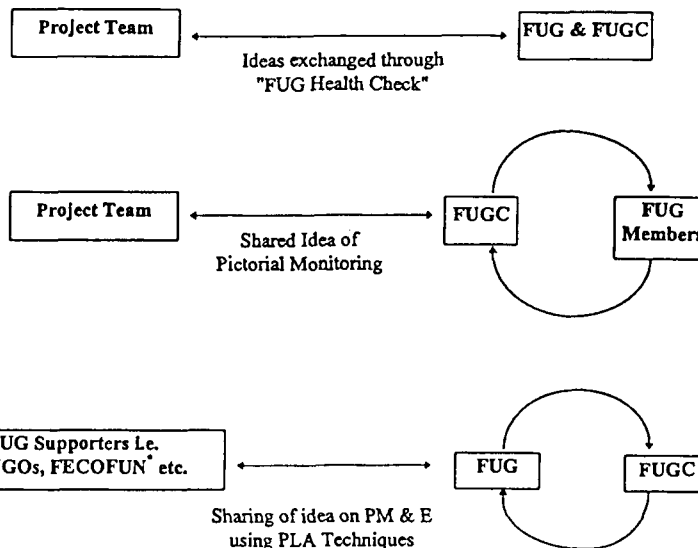
disadvantaged groups had as strong a voice as the elites. Due to the simplicity of the process it takes little time to develop confidence in facilitation. In the final meeting, the process

was evaluated very positively and the FUG is keen to share their experience widely.

The traditional monitoring and evaluation system:



Introducing Participatory Monitoring and Evaluation Processes:

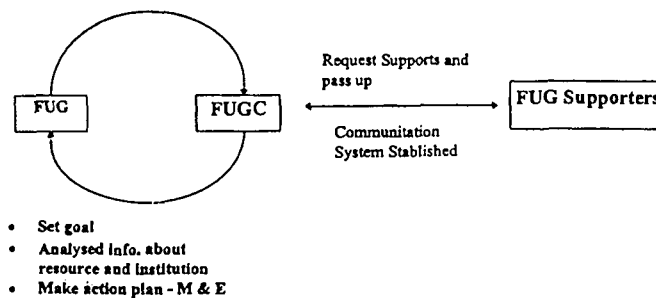


**Improvement in management of:**

- Final target (Goal setting)
- Information
- Communication
- Operational Plan

Federation of Community Forestry User Groups Nepal.

Ideal situation:



**Figure 3. Implication of Participatory Monitoring and Evaluation (PM&E) process in the role of different actors**

- **Lessons learnt from the process so far**

The project team are clear that the developing PM&E process is an important strategy for making forest users more aware of their situation, and for encouraging learning-oriented FUGs and thus more sustainable institutions. This will in turn help them to manage better their forest resources. By being involved in designing and adapting their own monitoring and evaluation systems, the users develop a stronger sense of ownership over it.

Monitoring and evaluation should not be separate from other aspects of identifying and implementing a development process. We have linked the M&E to goal development, analysis of local resources and institutions and action plan formulation. This integration will, we expect, also allow the users to change and adapt the methods as they monitor and evaluate.

Finally, we have found that the roles of different actors involved in the Nepal-UK Community Forestry project are shifting in the monitoring and evaluation process as a result of greater participation (see Figure 3). Initially M&E focused on performance evaluation and was an extractive process with no direct involvement of FUG members. As community forestry workers came to value local forest knowledge, monitoring and evaluation aimed more at combining

outsiders' knowledge with that of local forest users.

Ultimately, forest users are, in fact, the evaluators of a project's success and failure. We are now seeing stronger links within the FUGs and more sharing of information between different groups. Ideally we would like to see the FUG committee and its members operate independent PM&E systems, and only seek advice from others, like ourselves, when necessary.

- **Raj Kumar Rai**, Nepal-UK Community Forestry Project, Kathmandu, c/o BAPSO, Lazimput, PO Box 106, Kathmandu, Nepal.

**ACKNOWLEDGMENTS:**

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## C. PM&E Training Manuals and Handbooks

*This section provides a brief, annotated list of selected PM&E training manuals and toolkits that may be of interest to CBNRM researchers.*

Ashby, Jacqueline A. 1990. **Evaluating technology with farmers: a handbook.** Cali, Colombia: International Center for Tropical Agriculture (CIAT). 95 pages.

The goal of this handbook, published as part of the IPRA (Participatory Research in Agriculture) project, is to provide techniques for conducting evaluations of new technology with the end users: the farmers. The book is divided into ten chapters: Chapters 1 and 2 deal with the objectives and benefits of farmer evaluations; the three following chapters discuss the skills required to manage social interaction in farmer evaluations; Chapters 6 and 7 explain key aspects of planning farmer evaluations; Chapter 8 describes several techniques which can be used in an evaluation interview; Chapter 9 discusses group evaluations; and the concluding chapter summarizes the key guidelines for carrying out effective farmer evaluations. Three so-called instructional units accompany the handbook, dealing with open-ended evaluations, preference ranking, and data analysis. Can be ordered at CIAT: [ciat@cgiar.org](mailto:ciat@cgiar.org)

Bhatia, Anupam, Chandra K. Sen, Gopa Pandey, Judith Amtzis (eds) 1998. **Capacity-building in participatory upland watershed planning, monitoring and evaluation. A resource kit.** Kathmandu, Nepal: International Centre for Integrated Mountain Development and Participatory Watershed Management Training in Asia Program/Food and Agricultural Organization. 180 pages.

This resource kit consists of three sections: a trainers' manual and related context or background papers for trainers (one of the nine sessions deals with the underlying principles of PM&E), and an annotated bibliography related to participatory watershed management, monitoring and evaluation, PRA, planning, gender and community forestry. Can be ordered at ICIMOD: [icod@icimod.org.np](mailto:icod@icimod.org.np)

Davis Case, D'Arcy 1990. **The community's toolbox: the idea, methods and tools for participatory assessment, monitoring and evaluation in community forestry.** Bangkok, Thailand: FAO/Forest, Trees and People Programme community forestry field manual No. 2. 146 pages.

This is a popular manual on participatory assessment, monitoring and evaluation (PAME) applied to the field of community forestry; it includes a section on concepts (what is PAME and where will it work?); a section on the methods for determining the ways in which data can be analyzed and presented; and a section with 23 tools such as mapping, group meetings and ranking/rating/scoring. Guidelines for choosing the most appropriate tools are given as well. (See also Davis-Case, 1989, in Section D)

Earl, Sarah and Fred Carden 1999 (in press). **Outcome mapping: a method for reporting on results.** Ottawa, Canada: The International Development Research Centre. 36 pages.

Outcome mapping is a novel methodology that characterizes and assesses the contributions that development initiatives make to the achievement of outcomes. Outcomes are defined as changes in behaviour, relationships, activities and/or actions that the project, program or organization was helpful in bringing about. The methodology has four parts or components: intentional planning, performance monitoring, outcome monitoring, and strategic evaluation. Will soon be available at: <http://www.idrc.ca/evaluation>

Feldstein, Hilary Sims and Janice Jiggins (editors) 1994. **Tools for the field. Methodologies handbook for gender analysis in agriculture.** West Hartford, Connecticut, USA: Kumarian Press. 270 pages.

This handbook presents 39 cases illustrating a range of gender analysis techniques. Of special relevance to PM&E are Part II: Research planning, on-farm experimentation, and trials assessment, and Part III: On-going diagnosis and special studies.

Gosling, Louisa and Mike Edwards (1995) **Toolkits. A practical guide to assessment, monitoring, review and evaluation.** Development Manual 5. London, UK: Save the Children Fund. 254 pages.

This guide discusses the underlying principles of and approaches to assessment, monitoring, review and evaluation. Among the tools presented are PRA, surveys, SWOC (Strengths, Weaknesses, Opportunities and Constraints) analysis, and logical framework analysis.

Herweg, Karl, Kurt Steiner, Joep Slaats 1998. **Sustainable land management. Guidelines for impact monitoring. Toolkit and Workbook.** Berne, Switzerland: Centre for Development and Environment (CDE). 128 + 79 pages.

This very useful two volume set presents a seven step sustainable land monitoring procedure and a single-leaf design toolkit with tools for mapping and monitoring soil/land, crop and water-use related processes. Can be ordered from: Karl Herweg, e-mail: [cde@giub.unibe.ch](mailto:cde@giub.unibe.ch) or from Kurt Steiner, e-mail: [kurt.steiner@gtz.de](mailto:kurt.steiner@gtz.de)

IIRR (International Institute for Rural Reconstruction) 1998. **Participatory methods in community-based coastal resource management.** (3 volumes) Silang, Cavite, the Philippines: IIRR. 84 + 290 + 262 pages.

This is a practical, three volume set specifically adapted to coastal resource management. Volume one contains an introduction to community-based coastal management, community organizing and participatory tools. Volume two presents a series of tools, including purpose, material requirements, possible use, strengths and weaknesses and ideas for variation and adaptation. The third volume deals with (P)M&E and provides guidance on assessment and monitoring tools (mangrove assessment, monitoring of marine sanctuaries, fish-catch monitoring, mangrove reforestation monitoring). In addition, it has sections on resource enhancement strategies, education and extension, advocacy, documentation and cross-cutting themes. Can be ordered from IIRR: [iirr@cav.pworld.net.ph](mailto:iirr@cav.pworld.net.ph)

IUCN (International Union for the Conservation of Nature) 1997. **An approach to assessing progress toward sustainability - tools and training series.** Prepared by the IUCN/IDRC International Assessment team and pilot country teams in Colombia, India and Zimbabwe. Gland, Switzerland and Cambridge, UK: IUCN. 95+44+19+21+35+18+15+30 pages.



This is an eight volume series presenting a methodology for assessing progress toward sustainability, including methods of system assessment (people and the ecosystem), methods of self-assessment (for organizations and communities to examine their own attitudes, capacities and experiences) and tools (barometer of sustainability, community-based indicators, questions of survival). Can be ordered from the IUCN, e-mail: [mail@hq.iucn.org](mailto:mail@hq.iucn.org)

Lusthaus, Charles, Marie-Hélène Adrien, Gary Anderson and Fred Carden 1999.  
**Enhancing organizational performance: a toolkit for self-assessment.**  
Ottawa, Canada: The International Development Centre. 129 pages.

This guidebook presents an innovative and thoroughly tested model for organizational self-assessment, relevant to natural resource management settings as well. The methodology presented integrate techniques of formative assessment, in which the assessment team becomes involved in helping its organization become more effective in meeting its goals. Also available in French. Can be ordered from IDRC: [evaluation@idrc.ca](mailto:evaluation@idrc.ca)

McAllister, Karen and Ronnie Vernooy 1999. **Action and reflection: a guide for monitoring and evaluating participatory research.** Ottawa: the International Development Research Centre. 97 pages.

This guide outlines an approach for monitoring and evaluating participatory research. It is intended to provide support to research and development projects using a participatory research methodology, in particular at the community level dealing with natural resource management issues. The guide is **not** a blue-print, but addresses issues that are at the heart of making an art of monitoring and evaluating participatory research. The guide is organized around six basic, interrelated questions that need to be answered when doing monitoring and evaluation. These questions are: **WHY** do we monitor and evaluate participatory research ? **WHAT** will we monitor and evaluate ? **FOR WHOM** will we monitor and evaluate ? **WHO** will monitor and evaluate? **WHEN** will we monitor and evaluate ? And **HOW** will we do it ?

The guide contains two kinds of monitoring and evaluation tools (printed on coloured pages): guiding questions and indicators to assess various issues, and methods for monitoring or evaluating certain issues. The guide can be found at:  
[http://www.idrc.ca/cbnrm/documents/doc\\_index\\_e.cfm](http://www.idrc.ca/cbnrm/documents/doc_index_e.cfm)

Maine, R.A., B. Cam, D. Davis-Case 1996. **Participatory analysis, monitoring and evaluation for fishing communities. A manual.** Rome, Italy: Food and Agricultural Organization.

This hands-on, easy to use manual presents 26 participatory monitoring tools for use by local field staff and community members engaged in fishing activities and projects (makes ample use of drawings and diagrams). The examples given relate to fishing communities, but could be adapted to other ecosystems as well.

Narayan, Deepa and L. Srinivasan 1993. **Participatory development tool kit: training materials for agencies and communities.** Washington D.C: The World Bank. 65 pages.

This is a tool kit designed primarily for project staff working in the field of water and sanitation. It contains 25 participatory activities or tools including mapping, charting, gender analysis, and poverty ranking. See also Narayan, 1993.

Pfohl, J., S. Buzzard, D.S. Pietro 1989. **Participatory evaluation. A users' guide.** New York. PACT. 81 pages.

One of the first manuals presenting a participatory evaluation approach (key concepts, framework, indicators, tools and training techniques). Can be ordered via the PACT website: <http://www.pactworld.org>

Pretty, Jules N., Irene Guijt, John Thompson and Ian Scoones 1995. **A trainer's guide for participatory learning and action.** IIED Participatory Methodology series. London, UK: International Institute for Environment and Development. 270 pages.

A useful and practical guide for the facilitation of training events dealing with the use of participatory methods. It includes: sections on the principles of adult learning; the skills necessary for effective training; group dynamics and how to build interdisciplinary teams; the process of training; suggestions for the organization of workshops; and 101 interactive training games and exercises. Can be ordered from IIED: <http://www.iied.org/bookshop/pubs/6021.html>

Swiss Directorate for Development Cooperation 1991. **Mirror, mirror on the wall: self-evaluation (SE) in development cooperation.** Bern. Switzerland: SDC. 61 pages.

This guide provides useful conceptual and practical guidance for the analysis of a project's or program's own activities and results - hence the focus on self-evaluation. Eighteen examples or case studies are given together with an analysis and valuation.

Stephen, A. and K. Putman 1988. **Participatory monitoring and evaluation: handbook for training fieldworkers.** Bangkok, Thailand. FAO regional office for Asia and the Pacific. 51 pages

This is a general guide to PM&E based on the experiences from the FAO's Small Farmer Development Program.

UNDP (United Nations Development Program) 1997. **Who are the question-makers? a participatory evaluation handbook.** New York: UNDP.

This to-the-point guide is divided into two parts. Part one provides a brief description of the evolution of the participatory approach, a comparison of participatory and more conventional evaluation approaches, a discussion of the role of participation in the UNDP and a framework for doing participatory evaluation. Part two consists of a training module which can be used in a workshop setting to introduce what participatory evaluation is all about. The module makes use of a case study entitled "Money and mambas," and focuses on a water supply and sanitation project. It could be used in conjunction with another UNDP publication: **Empowering people: a guide to participation**, 1998.

## D. Bibliography

*This section provides a very selective list of annotated/abstracted references.*

Abbot, Joanne and Irene Guijt 1998. **Changing views on change: participatory approaches to monitoring the environment**. London: IIED-SARL Discussion paper 2. 96 pages.

This is an excellent review paper of the major issues related to PM&E, illustrated with ten case studies. The paper also identifies the major gaps in our understanding of PM&E. Can be ordered from IIED, see: <http://www.iied.org/bookshop/pubs/6140.html>

Chaudary, Anil and Rajesh Tandon 1988. **Participatory evaluation: issues and concerns**. New Delhi, India: The Society for Participatory Research in Asia (PRIA). 80 pages.

One of the "earlier" publications on participatory evaluation (PE). The volume has three sections. Section I deals with the questions of what is PE, why use PE, and how is PE conducted? Section II presents eight case studies from India. Section III contains a review of the experiences and lessons learned. Contact address: PRIA, 45 Sainik Farm Khanpur, New Delhi 110 062.

Chaudary, Anil, Suneeta Dhar, Rajesh Tandon (comps) 1988. **Report of the International Forum on Participatory Evaluation, 1-5 March 1988, New Delhi**. New Delhi: PRIA. 82 pages.

Proceedings of an international workshop that brought together people from India, Sri Lanka, Bangladesh, the Philippines, Senegal, Mexico and Nicaragua (one or more case studies from each country are included). The concluding chapter contains a valuable and still relevant discussion of a number of key issues, among them, the nature of participation, the role of gender, stakeholders and unequal power relationships, methods and their application and the importance of facilitation. Much of the current debate follows in the shoes of this discussion held eleven years ago. See the previous reference for the contact address.

Davis-Case, D'Arcy 1989. **Community forestry: participatory assessment, monitoring and evaluation.** Community Forestry Note 2. Rome, Italy: Food and Agricultural Organization. 150 pages.

Outlines the concepts, approach and techniques for participatory assessment, monitoring and evaluation (PAME), with emphasis on tools to facilitate the involvement of local people in community forestry activities. Also has an annotated bibliography. See also Davis-Case, 1990, in Section C.

Ellis, Patricia 1997. **Gender-sensitive participatory impact assessment: useful lessons from the Caribbean.** *Knowledge and policy: the international journal of knowledge transfer and utilization*. Volume 10, No. 1/2, pp. 109-122.

This article draws attention to (the need for) a gender sensitive approach to PME, highlighting that men and women often experience project results in a different way.

Estrella, Marisol and John Gaventa 1998. **Who counts reality? Participatory monitoring and evaluation: a literature review.** Prepared for the "International workshop on participatory monitoring and evaluation: experiences and lessons" held at the International Institute for Rural Reconstruction (IIRR) campus, Cavite, Philippines, November 24-27, 1997. IDS Working Paper 70. Sussex, UK: Institute of Development Studies. 76 pages.

This useful literature review is divided into three main sections: Purposes of PM&E, Principles of PM&E and Themes and issues for further discussion and future research. The chapters are illustrated with examples of the applications of PM&E. The report also includes a bibliography including manuals and toolkits. Can be ordered from IDS, see: <http://www.ids.ac.uk/ids/particip/index.html>

Estrella, Marisol, Jutta Blauert, Dindo Campilan, John Gaventa, Julian Gonsalves, Irene Guijt, Debra A. Johnson and Roger Ricafort (editors) 1999. **Learning from change. Issues and experiences in participatory monitoring and evaluation.** Ottawa/London: the International Development Research Centre/Intermediate Technology Publications. (Available: November 1999)

This book, based on the workshop referred to in the previous reference, provides an overview of the common themes and experiences in participatory approaches to monitoring and evaluation across different sectors and institutions. Includes case studies and discussions. To order: <http://www.idrc.ca/booktique/index.htm>  
See also IIRR, 1999, in this Section.

Feuerstein, Marie-Thérèse 1986. **Partners in evaluation: evaluating development and community programmes with participants**. London, UK: MacMillan. 196 pages.

One of the first major, very well-written hand-books on participatory evaluation, with a focus on health programs. Illustrated with examples from practice. Recommended.

Freedman, Jim 1997. **Accountability in the participatory mode**. *Canadian Journal of Development Studies/Revue canadienne d'études du développement*. Volume XVIII, pp. 767-784.

This article, part of a special issue dedicated to results-based performance reviews and evaluation, offers a review of participatory evaluation through a critical examination of its meaning, with the aim to re-appraise the idea after its transformation from rogue idea to standard procedure and to see it afresh.

Guijt, Irene 1998. **Participatory monitoring and impact assessment of sustainable agriculture initiatives: an introduction to the key elements**. London, UK: IIED-SARL Discussion paper 1. 112 pages.

This excellent paper introduces the key concepts and a methodology for developing a participatory monitoring system. Steps in the process are illustrated with experiences from a research project in Brazil. Can be ordered from IIED, see: <http://www.iied.org/bookshop/pubs/6139>

Hambly, Helen and Tobias Onweng Angura (editors) 1996. **Grassroots indicators for desertification: experience and perspectives from Eastern and Southern Africa**. Ottawa: the International Development Research Centre. 168 pages.

This book aims to demonstrate, through a series of case studies, the usefulness of grassroots indicators for monitoring environmental change over time and spatially. Published online, see: <http://www.idrc.ca/books/>

IIRR 1999. **Participatory monitoring and evaluation: Experiences and lessons. Workshop proceedings**. Silang, Cavite, the Philippines: IIRR. 131 pages.

This publication presents the outcomes of an international workshop held in the Philippines that brought together PM&E practitioners from around the world. Case study findings are presented by region, but also from a sectoral perspective (agriculture and natural resource management, integrated development, and health), and from an institutional perspective (community-based, non-government, government and donor

organizations). In addition, the publication includes a chapter on concepts and methods. Can be ordered from IIRR: [iirr@cav.pworld.net.ph](mailto:iirr@cav.pworld.net.ph)

Jackson, Edward T. and Yusuf Kassam (eds) 1998. **Knowledge shared. Participatory evaluation in development cooperation.** West Hartford, Connecticut, USA: Kumarian Press. Ottawa. The International Development Research Centre. 252 pages.

This book presents a collection of articles dealing with the theory and practice of participatory evaluation around the world. Part I focuses on issues, strategies and methods, and addresses, among others, the ethics of participatory research. Part II presents a series of case studies from fields such as health care, rural development and water management. Can be ordered, see: <http://www.idrc.ca/booktique/index.htm>

Margoluis, Richard and Nick Salafsky (1998) **Measures of success. Designing, managing, and monitoring conservation and development projects.** Washington DC/Covelo, California: Island Press. 363 pages.

This practical, well-organized guide presents a methodology for the improvement of the focus, effectiveness and efficiency of community-oriented biodiversity conservation and development projects. The text has eight chapters that follow the structure of a planning process from design to completion and the chapters are linked by four scenarios that serve as teaching case studies. Numerous examples from these scenarios are given to illustrate the use of tools. Recommended. Can be ordered at: [info@islandpress.org](mailto:info@islandpress.org)

Narayan, Deepa 1993. **Participatory evaluation tools for managing change in water and sanitation.** Washington, D.C: The World Bank. Technical Paper No. 207. 122 pages.

A useful guide dealing with water and sanitation projects. Contains an Introductory Chapter, chapters on "What is participatory evaluation?", and three chapters on key Water and Sanitation Indicators (sustainability, efficiency and replicability). Illustrated with numerous examples from projects around the world.

Noponen, Helzi 1997. **Participatory monitoring and evaluation. A proto-type internal learning system for livelihood and micro-credit programs.** *Community Development Journal*. Volume 32, Number 1, pp. 30-48.

In this article, the author presents an approach to PM&E in which the participants are not only data gatherers, but data analysts and archivers as well. The application of the approach focuses on group-based savings and credit programs with poor women, based on field experiences with the involvement of three NGOs in India. The approach makes use of simple pictorial diaries of change or so-called "learning diaries" for poor women.

Rugh, Jim 1986, reprinted in 1992. **Self-evaluation. Ideas for participatory evaluation of rural community development projects.** Oklahoma, USA: World Neighbors. 42 pages.

This useful and practical handbook is one of the first publications explaining how to do PM&E by focusing on the questions of: why evaluate; evaluation for whom; evaluation by whom; levels of evaluation; when to evaluate; what to evaluate; and how to evaluate. The manual pays special attention to the need to consider the viewpoints of a wide range of groups within a community as well as external people involved in project implementation. Illustrated with examples from two case studies.

Salmen, Lawrence 1987. **Listen to the people. Participant-observer evaluation of development projects.** Oxford: Oxford University Press/The World Bank. 149 pages.

This book - the title reflecting a principle now widely accepted in participatory research - describes the experiences and lessons learned by a World Bank social scientist working in South America on the evaluations of two urban sewage and water projects funded by the World Bank in the cities of La Paz, Bolivia and Guayaquil, Ecuador. The book also describes the "challenge of transferability": the application of the insights and method to other World Bank projects in Thailand, Brazil and Bolivia. Recommended reading.

Uphoff, Norman 1992. **Learning from Gal Oya. Possibilities for participatory development and post-Newtonian social science.** Ithaca, New York: Cornell University Press. 448 pages.

Another influential book, in which Uphoff describes in detail an innovative participatory action research and monitoring methodology used in a large-scale irrigation program in Sri Lanka. Although lengthy, recommended reading.



UPWARD (Users' Perspectives with Agricultural Research and Development). 1997 **Self-assessment: participatory dimensions of project monitoring and evaluation.** Los Baños, Laguna, the Philippines: UPWARD.

This volume is a collection of papers drawn mainly from a session on the institutionalization of PM&E held during the UPWARD annual conference and a post-conference workshop about the same theme. The chapters cover both UPWARD projects and non-UPWARD projects: together they present a synthesis of the strengths, constraints, and challenges of introducing and institutionalizing PM&E. Contact: cip-manila@cgiar.org

Woodhill, Jim and Lisa Robins 1998. **Participatory evaluation for landcare and catchment groups. A guide for facilitators.** Yarralumla, Australia: Greening Australia. 53 pages.

This simple and to-the point guide presents a four step M&E model for adaptive management and evaluation, covering design, the collection of information, the analysis of information, and the use of the conclusions. The guide includes a short description and illustration of twenty PM&E tools. Can be found at the NRM\_Changelinks website: <http://nrm.massey.ac.nz/changelinks> (see Section F).

## **E. Obtaining Documents Listed in the Bibliography**

### **IDRC Document Delivery Service**

The IDRC library offers a document delivery service **to all Centre-funded projects only**. Any project staff member may request, from the IDRC library, copies of journal articles or excerpts from books free of charge. The IDRC library will send these documents to the project via regular mail. Please note that whole books cannot be copied or loaned and only one copy of any journal article can be provided per project.

### **Procedure**

Send a request via e-mail, fax or regular mail (address below) to Marjorie Whelan. The request must include a minimum of information in order to be processed.

For a Journal Article please include: Author, Title, Date, Journal Name, Volume, Issue and Pages.

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## F. Websites and Other Sources of Information

*This section presents selected websites and addresses related to participatory research and monitoring that offer useful resources for CBNRM researchers.*

### On PM&E and M&E

#### **ELDIS website on PM&E**

<http://nt1.ids.ac.uk/eldis/hot/pme/htm>

This is an excellent source of information about PM&E, with sections and direct links to other sources on background and PM&E concepts, methods/tools and manuals, indicators, case studies, other issues and discussion lists and bibliographies. ELDIS (<http://www.ids.ac.uk/eldis/eldis.html>) is a gateway to information on development and the environment, providing access to databases, full text materials, library catalogues and discussion lists.

**MandE (Monitoring and Evaluation) News**, edited by Rick Davies  
([rick@shimmbir.demon.co.uk](mailto:rick@shimmbir.demon.co.uk))

<http://www.mande.co.uk/news.htm>

A useful news service focussing on developments in monitoring and evaluation methods relevant to development projects. Includes: coming events, new documents, editor's opinion, wanted (information, consultants), books noted, newsletters.

#### **The IUCN Monitoring and Evaluation Initiative**

<http://www.iucn.org/themes/eval.index.html>

A new site contributing to the IUCN Monitoring and Evaluation Initiative. Includes (will include): announcements on new materials related to the M&E Initiative, information about the approach/methods and tools used in the "Assessing progress toward sustainability" project, tools for M&E, and M&E workshop reports.

**PREVAL:** the Latin American program for strengthening regional capacity for evaluation of poverty reduction projects

<http://www.fideamerica.cl/preval.shtml>

An entirely Spanish language source of information, reporting on project and training activities supported in Latin America.

**The IDRC Evaluation Unit home page**

<http://www.idrc.ca/evaluation>

Offers a description of what the unit does, and presents program and project evaluation highlights (research findings), publications and resources.

### **On PM&E and Participatory Research**

**NRM\_Changelinks**

<http://nrm.massey.ac.nz/changelinks/>

This is a very useful and readable on-line resource guide for those seeking to develop sustainable change in the way we manage our natural resources. It has a large number of interesting pages on: capacity building, collaborative planning and management, participatory monitoring and evaluation, conflict management and other issues. The PM&E site contains articles, and references to projects and programs and to other reading materials. The site is authored by Wil Allen and hosted by Massey University's Natural Resource Management Program, New Zealand.

**The PRA Bibliography of the Institute of Development Studies**

<http://nt1.ids.ac.uk/eldis/pr/prbib.htm>

This site includes references, not found in mainstream literature, related to participatory rural appraisal and includes unpublished material such as discussion papers, field reports and conference papers. Also included is a search facility which is helpful if the user seeks to view documentation related to specific countries or regions.

**The Participatory Research and Gender Analysis Program**

<http://www.prgaprogram.org/prga>

This program, one of the so-called CGIAR (the Consultative Group for International Agricultural Research) systemwide programs, aims to assess and develop methodologies and organizational innovations for gender sensitive participatory research and to promote their use in plant breeding and in crop and natural resource management. Assessment of participatory methods and tools is one of the program's areas of research.

**The IIED Resource Centre**

<http://www.iied.org/resource>

The resource centre houses, among others, the Participatory Learning and Action collection including over 1700 documents on participatory approaches and tools from around the world.

**The Participation Group at the Institute of Development Studies (Sussex)**

<http://www.ids.ac.uk/ids/particip/index.html>

This group, working at IDS in Sussex, UK, supports participatory approaches to development. The group is involved in research about: participation in policy and governance; the theory and practice of participation; and institutional learning. The site contains, among others: an information exchange page, a reading room, and listings of events and training activities. It also provides links to networks in over 50 countries. See on PM&E in particular: Issue 12, November 1998 of the IDS Policy Briefing (for information about the Briefing series, contact: [G.W.Barnard@ids.ac.uk](mailto:G.W.Barnard@ids.ac.uk)).

**The Society for Participatory Research in Asia (PRIA)**

<http://www.pria.org/index.html>

The PRIA is a non-profit voluntary development organization based in New Delhi, India.



## **RIMISP: the International Network for Farming Systems Research Methodology**

<http://www.rimisp.cl>

RIMISP, as one of its activities, is coordinating a small grants research program on methodologies for the monitoring and evaluation of projects for the management of natural resources in Latin America and the Caribbean. See:  
<http://www.rimisp.cl/mrncoci.html>