

Action and Reflection:

A guide for monitoring and evaluating participatory research

Karen McAllister and Ronnie Vernooy

International Development Research Centre

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A guide for monitoring and evaluating participatory research

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Introduction: six basic questions¹

This guide outlines an approach for monitoring and evaluating participatory research. It is intended to provide support to people involved in 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.² 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? (Chapter 2)
- **FOR WHOM** will we monitor and evaluate? (Chapter 3)
- **WHAT** will we monitor and evaluate? (Chapter 4)
- **WHO** will monitor and evaluate? (Chapter 5)
- **WHEN** will we monitor and evaluate? (Chapter 6)
- **HOW** will we do it? (Chapter 7).

Examples of tools to operationalize **HOW** will be given in each of the five preceding chapters. It will be useful to supplement this guide with resource books on participatory research methods since many of these methods may also be used for monitoring and evaluation. For those interested in more details about specific tools, a selected bibliography is presented in Chapter 7.

How to use this guide

This guide contains several different types of information:

1. Text which explains the main concepts and issues behind participatory research, (participatory) monitoring and evaluation.

¹ We would like to thank Stephen Tyler and John Graham for their valuable contributions to this guide.

² See Annex 1 for a description of the main terms used in the guide.

2. Two kinds of monitoring and evaluation tools (printed on coloured pages):

- Guiding questions and indicators to assess various issues.
- Tools for monitoring or evaluating certain issues.

3. References to literature and other sources.

▶ This is the first version of the guide and therefore should be seen as a document in progress. We would like to add examples from project experiences to the different sections and therefore invite readers/users to provide us with feedback and suggestions.

▶ This guide will be most useful if users flip back and forth between the sections they need when designing and implementing a monitoring and evaluation strategy. Although the chapters are presented in a particular sequence which has proven useful when preparing a monitoring and evaluation plan, these can easily be arranged differently.

▶ The “Tool” pages can easily be copied and adapted for use in the field.

1. Issues which influence participatory research

In order to think about monitoring and evaluating participatory research, it is important to be clear on what we are talking about. This chapter provides a brief overview of participatory research, the different types of participation in research, and the issues which influence the research process that are of specific concern to assessing participatory research.³

1.1 About participatory research

Participatory research is a term that is used very loosely to describe different levels and types of local involvement in and control over the research process. It also encompasses different methods, tools and approaches. It includes such methodologies as Participatory Rural Appraisal (PRA), Participatory Action Research (PAR), and Farmer Participatory Research.

The rationale for using participatory research may be **functional**, to encourage community participation in order to improve the usefulness of the research to local people. For example, to help develop farming technologies more suited to the local area and needs or to improve reach and speed of adoption of new methods and technologies.

Another reason may be for **empowerment or social transformation**, to strengthen local people's capacity in decision-making, in research, and in management of local resources, in order to improve their awareness of options and to strengthen their ability to act on their own behalf (Ashby 1996:16-17). Often participatory research is both functional and empowering.

1.2 The nature of knowledge and information

Knowledge exists in different forms which are equally valuable and legitimate. A combination of “popular”, “local” or “indigenous” knowledge and scientific knowledge is important in order to improve natural resource management decisions at the community level.

Different groups in the community and different stakeholders have different knowledge about natural resource management and may have different priorities, and there are many “explanations” or “theories” for a given body of facts. It is therefore very important to speak with different social groups in the community (women, men, poor, landless, different ethnic and social status, etc.) in order to understand their different perspectives. It is also important to be conscious that information and knowledge are not value free, and to be aware that the selective choice of information or knowledge may empower some people and disempower others.

The knowledge and information generated from participatory research activities are constructed by the context in which the research takes place (local culture and society, resource issues and rights), by the participatory research methods used and who participates, by the attitudes and abilities of the researchers and by the nature of the research question. Awareness of the different social factors which can influence participatory research can help researchers better understand the results of their activities.

1.3 Types of participation

Participatory research involves a variety of different approaches to community participation, such as consultative participation in which researchers consult with local people in order to make decisions about community needs and to design interventions, active involvement of farmers in conducting on-farm experiments, involvement of

³ These questions and the topics presented in the following chapters are further elaborated in K.MacAllister’s report “Understanding participation: Monitoring and evaluating process, outputs and outcomes,” Ottawa: IDRC, 1999.

communities and user groups in decision-making about new management practices and resource boundaries, multi-stakeholder processes involving different scales of resource management, and so on. These different approaches to participatory research have different evaluation requirements.

For evaluation purposes it is useful to differentiate between different levels and types of participation in order to understand how this influences research results. Community participation in research can be differentiated according to the level of community control over the process (who sets the agenda), when (at what stage of the research) local people participate, and the level of representation and differentiation of different stakeholders and community groups in the process.

There is no right or wrong amount of participation. However, it is always important to be honest and open to the community about the purposes of the research. If the goal of the research is social transformation, it is important to give local people as much control as possible over the research process.

A useful way of thinking about different types of participation and control in research is outlined in the following table.

Table 1: Different types of participation in research

Type of local involvement in the research	Who* controls and makes decisions?	Who undertakes activities?	Who benefits from the results?	Are the process & results separated by social group?
Investigation & problem identification				
Setting of research priorities & goals				
Choosing options, planning activities and solutions				
Taking action and implementing activities				
Monitoring of activities				
Evaluation				

* “Who” can either be interpreted as distinguishing between researchers and local people, or between different subgroups in the community who may have different interests in the research.

1.4 Influences on the results of participatory research

Participatory research needs to be understood within the context in which it occurs. Various parameters define what is appropriate and feasible in a participatory research project. These guide what we can realistically expect from the process and results of the research, and therefore need to be considered in monitoring and evaluation.

Factors which affect participatory research include:

- the social aspects of natural resource management,

- the nature of the research question,
- the initial “capacity” of the community (social capital) and the capacity and experience of the researchers undertaking the study,
- the values and motivations for using a participatory approach, and
- external contextual factors which enable or constrain participation.

These factors are briefly outlined in the following sections.

► It will be useful to reflect on these at the *very start* of the research process.

1.4.1 Social issues in natural resource management

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, and so on, can influence access to and use of natural resources.

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. These different groups need to be involved in problem-solving and decision-making about natural resource management issues which affect them.

Representation of “community interests” and “knowledge” in participatory research processes for natural resource management are often produced in the context of struggles over resources through which different parties defend interests and advance claims.

Power differences between different community groups and between the community and outside groups influence interaction and negotiation between them and can influence whose “interests” are represented in participatory research. Participatory processes provide an opportunity for less powerful groups to contest existing power relations and resource rights, but also may enable more powerful or politically aware groups to assert preferential rights over resources. Here it is important to consider if the government is supportive of participatory processes.

It is often especially important to be aware of the differences in social power and resource rights between men and women, that is, to specifically incorporate **gender analysis** into the research process.

1.4.2 Attitudes of researchers

Interaction between researchers and local people, and the attitudes and personalities of researchers have an influence on what local people say, how they feel about the research, and how willing they are to participate. Researchers’ understanding of community dynamics, gender and social-relations within the community will affect how well researchers can understand and deal with different community interests and underlying power dynamics.

1.4.3 Community perceptions of the research

Previous experience of local people with research and development projects, as well as perceptions of potential benefits can influence community motivation to participate in new research activities, as well as bias their responses.

Methodologies for encouraging community participation can influence the information and priorities which result and the decisions which are made, because of

who is present and because of how freely different individuals and groups are able to express their interests.

Local people may be inhibited to let researchers know what they truly think, may give “correct” or “expected” responses, or may present needs which they feel fit the agenda of the researchers. Their responses may be based on their perceptions of what they can gain or lose by providing certain information, as well as suspicions about how the results will be used. Research activities may be perceived as both foreign and highly formal by local people, especially when more powerful stakeholders are present.

Local involvement in participatory research activities is often time consuming, and takes people away from their normal livelihood activities. Sometimes, individuals who have important perspectives on the project are not able to participate in participatory group activities because they are busy with making their living. This is often especially true for women.

It is important to recognise the value of local people’s time, and to design research activities so that they are most convenient for local people. It may also be necessary to specifically seek out the perspectives of the very poor who may not be able to spare time to participate in organised activities (go to the people, instead of have the people come to the researchers, for example - interview women in the fields where they farm), so that their important perspectives are included in research decisions.

1.4.4 Characteristics of the project

Characteristics which are specific to the project and the project location may influence participatory research, affect local people’s willingness to participate, and influence the appropriateness of different approaches.

► It is recommended that the team carrying out the project reflect *in a team-session* on the following questions.

Nature of the research question:

- **Objectives:** Are they focussed or broad? Is the emphasis on diagnosis or on transformation? Is the goal to change people's behaviour and attitudes, to help them develop new technologies or management approaches, or both?
- **Sector:** Does the project deal with fisheries, forestry, agriculture, or a combination? With individually or collectively managed natural resources, or a combination?
- **Dimensions:** Does the research involve economic, social, ecological, political, issues or a combination?
- **Scale:** Does the research problem affect the local, regional, or national scale or a combination?

Capacity of the community and of the researchers:

- What are the researcher skills and experience with participatory research?
- What are the researcher skills and experience with community facilitation, understanding of social and gender dimensions of research, and their capacity for adaptability and flexibility?
- What is the capacity of the community in terms of level of education and skills, level of organisation, forms of natural resource management, approaches for managing conflict and making collective decisions/taking collective action? What is the existing capacity to deal with problems which the research intends to address?

Values and Motivation:

- What are the motivation and underlying values for becoming involved in participatory research, of the community, the researchers and the donor agencies which support the research?
- What are the researcher and research institution's commitment to a participatory research approach? Is there a commitment and flexibility to allowing the community to redirect the process? What are the attitudes and

values regarding local knowledge and local people? Does the project focus on empowering or functional goals of participatory research?

- Why are the community and subgroups, and possibly other stakeholders motivated to participate in process? Are local people aware of the problems the research is directed towards? Are local people committed to addressing these problems?
- What is the past experience of the local community with participatory research or other projects? What are peoples' expectations for benefiting from the project?
- Does the local culture support participation in decision-making? What are the local values of hierarchy, respect, and of equity? What are the differing interests in negotiating access to resources or power?
- What is the funding institution's acceptance of fluid research processes, openness to alternative forms of accountability, and time-frame flexibility?

2. WHY do we monitor and evaluate?

2.1 Objectives

The first question to address deals with the goals of monitoring and evaluation. In general, these goals can be outlined as follows (Estrella and Gaventa 1998:5):

To assess project results: to find out if objectives are being met and are resulting in desired changes.

To improve project management and planning: to better adapt to contextual and “risk” influences such as social and power dynamics which affect the research process (as described in Chapter 1). Aspects that can be considered in evaluation within this context include:

- **Relevance and effectiveness of participatory tools and methods:** This includes the stage at which the tools are used, the flexibility of the research process to adapt to the context and to various emerging realities, the adaptation of methods when necessary to enable representation of different perspectives, and so on.
- **The “quality” of participation:** This considers the identification and representation of important stakeholders, and the appropriateness of the “scale” of participation in order for the research to be effective.
- **Scope for social transformation:** This can be assessed by considering community ownership of research process, local learning and capacity building from the process, community involvement in identifying research priorities, in defining solutions, and in activities to change conditions, and so on.
- **Trustworthiness and validity of the research findings:** Are measures being taken to ensure the validity of the research findings?

To promote learning: to identify lessons of general applicability, to learn how different approaches to participation affect outcomes, impacts and reach, to learn what works and what doesn't, and to identify what contextual factors enable or constrain participatory research.

To understand different stakeholders' perspectives: to allow, through a direct participation in the monitoring and evaluation process, the different people involved in a research project to better understand each others views and values, and to design ways to resolve competing or conflicting views and interests.

To ensure accountability: to assess whether or not the project is effective, appropriate and efficient in order that researchers can be accountable to donor agencies.

Usually, a monitoring and evaluation plan includes a combination of these goals, but it may be necessary to give more emphasis to one of them, depending on available resources, skills and time, and the point in the project life-cycle during which the monitoring and evaluation will be done.

2.2 Efficiency, effectiveness and relevance

Reasons for **WHY** to evaluate are frequently framed in terms of effectiveness, efficiency and relevance or appropriateness.

- **Efficiency** refers to the amount of time and resources put into the project relative to the outputs and outcomes. A project evaluation may be designed to find out if there was a less expensive, more appropriate, less time consuming approach for reaching the same objectives.
- **Effectiveness** describes whether or not the research process was useful in reaching project goals and objectives, or resulted in positive outcomes.
- **Relevance (appropriateness)** describes the usefulness, ethics, and flexibility

of participatory research within the particular context and for the particular research question.

Combined, these criteria enable judgement about whether the outputs and outcomes of the project are worth the costs of the inputs (time, resources).

For the purposes of this guide, effectiveness, efficiency and appropriateness are considered for the different methods, tools and approaches of participatory research for natural resource management, rather than questioning the value of the participatory research approach as a whole.

In this context, the **efficiency** of a particular method or approach can consider factors such as the time involved for local people balanced against the value of the information gained and whether this information was available through other means, or whether or not the accuracy or the detail of the information gained from the research method warrants the extra time taken. For example, is exact information on soil quality needed for decision-making, or are farmer estimates sufficient.

Effectiveness of particular participatory methods can consider whether or not the approaches or methods allowed representation of different local interests, whether they were able to generate desired results, whether or not they encourage strengthening of local individual and organisational capacity, and whether or not they encourage farmer experimentation.

Relevance or appropriateness relates to the flexibility of the process to adapt to the local context and emerging needs, whether or not the tools are suitable to the capacities of the researchers and community, and whether or not the approach is reaching stakeholders at the scales relevant to be effective for addressing the research problem.

It is important to define from the outset what weight will be given to each of these dimensions.

2.3 Accountability and causality

There is an assumption in the design of participatory research projects that there is a causal relationship between the participatory research activities, outputs and desired outcomes. That is, that the research activity “caused” or “contributed” to the desired changes in the community or ecosystem. This provides a conceptual framework for research design and a point of reference for understanding progress.

There are two basic strategies for monitoring and evaluation of changes resulting from a project:

- Comparing a group affected by the research to itself over time, by measuring how certain factors change over the duration of the project. This approach does not necessarily establish causal relations.
- Comparing a group affected by the research to a group which is not affected. This “quasi-experimental” approach helps establish causal relations (Margoluis and Salafsky 1998:115).

Evaluators sometimes spend a lot of time trying to establish causal linkages between project activities and outcomes for accountability reasons. However, in the case of participatory research for natural resource management, the process of community change is complex, often transformative and subject to a multitude of contextual influences beyond the control of the research. It is therefore extremely difficult to validate a causal relationship between the research process and outcomes in evaluation.

Some researchers have tried to demonstrate causality by using “quasi-experimental” evaluation designs using a similar community as a control group (see Chapter 2, Tool 1.). However this approach is imperfect and is likely not ethical for evaluation of participatory research. It is more feasible to monitor changes within the

research site over the duration of the project and to present credible and logical linkages between the participatory activities, outputs and outcomes, through monitoring and evaluating the process and defining simple **indicators**⁴ to measure progress or change. Logical Framework Analysis can be a useful planning tool for working through the anticipated connections between research objectives, activities, outputs and outcomes and can provide guidance for monitoring and evaluation. (See Chapter 2, Tool 2).

⁴ Annex 2 defines and discusses indicators. This annex can be referred to throughout the guide.

TOOL: Quasi-experimental evaluation design

Quasi-experimental evaluations attempt to determine what changes are the result of the activity by estimating what would have been the state of well-being in the absence of the activity compared to its actual state (Herdt and Lynam 1991:8).

Some attempts at “quasi-experimental” evaluation designs compare research versus non-research situations, and have used a community similar to the research site as a control group for comparison (Pomeroy et al. 1996; Olsen et al. 1997). Although imperfect, this approach may be acceptable for considering biological changes. However, it is ethically questionable to involve a “control” community in time-consuming participatory evaluation or survey activities to evaluate social changes when there is no mandate to consider the community’s interests.

Furthermore, this approach entails significant demand on human and financial resources. An alternative approach which uses non-participants or “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 influence on the non-participants.

Isham, Narayan and Pritchett (1995) have outlined a process for establishing causality with subjective data to show that participation improves project performance, by quantifying qualitative information from different participatory projects through a system of coding, and feeding this into statistical and econometric analysis. Their process takes into account different levels of participation and contextual influences

TOOL: Logical Framework Analysis

A simple form of **Logical Framework Analysis** (LFA) can provide a matrix for outlining the assumed relationships between participatory research activities, outputs, outcomes and impact goals, and for an initial definition of the intended reach and local involvement. This can be used 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.

However, log frames can become a “strait jacket” and an impediment to the adaptive learning which is necessary for effective participatory research unless it is made clear that these are intended as a planning tool which can be adjusted as the research proceeds, rather than a strict framework for which participatory research projects are accountable.

3. FOR WHOM do we monitor and evaluate?

Monitoring and evaluation require a clear set of objectives. Defining the objectives implies answering WHAT to evaluate together with FOR WHOM we are evaluating. This chapter deals with FOR WHOM.

The main clients interested in monitoring and evaluating participatory research include donor agencies, programmes, researchers, research institutions, policy-makers, government units, and “communities”. A coherent definition of the clients is important because different users or stakeholders often have different interests and therefore have different information and evaluation requirements. For example, researchers may be interested in monitoring in order to make decisions about research design, while donors may be interested in accountability: did the project accomplish what it planned to, and if not, why not?

Changes resulting from participatory research projects can be considered for various types of stakeholders who have been involved in and affected by the research process:

- for researchers and research institutions: Has their research capacity improved? Do they have a better understanding of participatory processes?
- for community and groups within the community: Are they using more equitable decision-making processes? Are their natural resource management systems improved? Have their livelihoods improved?
- for policy makers: Have their attitudes and behaviours towards local involvement in resource management changed? Are they more open to involving local people in decision-making?

► It is recommended to define who the main client is/clients are, in terms of:

- What monitoring and evaluating questions do we want to answer for whom?
- What changes are important to measure for whom?

In the following chapter, the possible answers to these questions are further discussed.

4. WHAT do we monitor and evaluate?

The choice of “WHAT” to monitor and evaluate is closely linked to the question of “FOR WHOM” are we monitoring and evaluating, and these should be defined together.

4.1 Basic concepts: introduction

Understanding the condition of the community before the project was initiated is useful in order to provide a point of comparison for monitor and evaluating changes which occur during the project and to understand how the research process contributed to these changes. **Participatory baseline analysis**, conducted at the beginning of the project, can provide a point of reference for comparison and for understanding change in the community.

When considering WHAT to look at in an evaluation, it is useful to distinguish between the different kinds of results generated from the research - the outputs, processes, outcomes, impact and reach. These can be briefly defined as follows:

- **Outputs** describe the concrete and tangible products of the research, as well as the occurrence of the research activities themselves.
- **Processes** describe the methods and approaches used for the research.
- **Outcomes** describe the changes which occur within the community or with the researchers which can be attributed, at least in part, to the research process and outputs.
- **Impact** describes overall changes which occur in the community, to which the research project is one of many contributing factors.
- **Reach** describes who is influenced by the research and who acts because of this influence.

The features of each of these which are important to consider for monitoring and evaluating participatory research are presented in the following sections. In practice,

differentiating between process, output, outcomes and reach can be difficult. For example, an output such as a community plan can become an input to the establishment of a community organisation, which can be considered either as an output of the research, or an outcome of the plan. It therefore is important to consider the proper time line when looking at “What?” to monitor and evaluate.

4.2 Participatory baseline analysis

Participatory baseline analysis is an important part of any participatory research project. It is also an important part of evaluation because it provides a point of reference for monitoring and assessing changes in the project site as the research proceeds. Repeating similar or more simple baseline exercises periodically over the course of the research will give an idea of the direction of environmental and social changes in the community which have occurred since the start of the project.

Participatory baseline analysis can be used to initiate a process of social transformation rather than merely as a method to gather information from local people about their situation. It can be used as a means to increase local awareness and to mobilise local people to prioritise the problems they are facing. It can help local people to identify their existing organisational capacity to deal with the problems and to plan solutions and act towards change. This strengthens local capacity and mobilises for behavioural change at the local level. It also contributes to local empowerment.

From the perspective of local people, participatory baseline analysis will only be useful if it provides them with new information or new ways of presenting and organising information which can help them to develop new insights and approaches to problems. When designed with this in mind, participatory baseline analysis can help local people to analyse information they already have, provide tools to help them identify needs, and enable them to identify key information which will be useful for them to monitor and evaluate changes in their situation in which they are particularly interested (Davis-Case 1989:23-24).

From the perspective of assessing participatory research in projects, important questions for evaluation include (see Chapter 4, Tool 1):

- Who is involved or represented in the research?
- Who has been influenced positively or negatively by the research?
- What was the starting condition or trend before the research was initiated (see Chapter 4, Tool 2)?

To answer these questions, it is important that baseline analysis includes information about who might be influenced by the research. We need to know what different community groups and stakeholders are likely to be affected by the research in order to monitor whether or not these groups are participating in research activities and how, and because it might sometimes be necessary to establish methods to include the perspectives of those who don't participate (Chapter 4, Tool 3). This information will also be useful to help decide when it will be important to separate different stakeholder or interest groups in participatory activities (such as decision-making, etc.) to ensure that people are able to openly express their interests.

Information about differences in community well-being is important in order to understand whether or not the least powerful or very poor groups are benefiting from the research. This is especially true if the research is concerned with improving production and decreasing poverty.

Warning!

The information, research priorities and planning established during participatory baseline activities is influenced by the “type” of method used, who is represented, and who is able to articulate their interests. Researchers need to be careful not to base community consensus on the most vocal or on the leader's definition of community needs since this often will not reflect the needs of less-empowered groups. It is sometimes necessary to intentionally bias in favour of the least powerful and most vulnerable groups in the community.

TOOL: Relevant information to include in a baseline analysis

1. Identification of the individuals and groups in the community and other stakeholders who are likely to be affected by the process, and therefore need to be involved or at least consulted in the research. Social groupings may be based on gender, occupation, socio-economic status, age, ethnicity.

2. Analysis of power, cultural and social relations between the groups (such as debt or dependency relations) which may prevent certain people or groups from being open about their interests in a group setting.

3. Analysis of cultural norms which influence who is perceived to have knowledge about certain issues.

- Is it appropriate for all groups to speak in public?
- Who regularly frequents the location of planned participatory activities?
- What are the livelihood constraints to participation of different groups during different seasons or different times of day?

4. Analysis of existing social capital in the community.

- What is the existing organisational and institutional capacity?
- What is the community history of acting collectively?
- What are the relationships between local institutions? What are the strengths and weaknesses of existing systems? etc.

5. Analysis of social relations governing access to and control over natural resources (and distinctions made between different types of resources)

- What are the local tenurial relations, land ownership, tree ownership, etc?
- What is communal and what is private?
- How do kinship or other social linkages influence access to resources?
- What are the local dependency relations and market linkages? etc.

6. Analysis of the relationship between the different groups and stakeholders and natural resources, especially determining conflicting interests between these different groups, because of different resource uses, occupational roles and livelihood strategies.

7. Analysis of well-being.

- Who is worse off and who is better off?
- What are the local criteria for wealth and well-being?
Indicators of well being may include criteria such as ownership of certain assets, type of house, ability to purchase certain goods during seasonal lows, ability to access loans, etc.. Well-being analysis can be differentiated according to gender, ethnicity, occupation, and so on.

8. Identification of existing leadership and decision-making authority, and basis for authority and accountability

9. Analysis of social and ecological trends in the community before the initiation of the research (dynamic approach to baseline information).

METHOD: Trend analysis in baseline studies

Most baseline studies portray the community at a given point in time. However, in reality communities are constantly changing to adapt to external forces such as fluctuating global markets, immigration, land erosion, deforestation, etc. It is often useful to consider a more “dynamic” approach in order to understand the “trends” or “directions” of environmental and social changes already occurring in the community, and interpret how the participatory research is influencing the direction of changes which are already occurring. This can be done using retrospective participatory analysis to determine what conditions were like at different time intervals before the research began, using PRA exercises such as historical mapping, social and resource mapping, ranking well-being and preferences, transect walks, individual life story interviews, oral histories, and so on.

METHOD: Dis-aggregating information in baseline analysis

Dis-aggregating impact and output: PRA methods such as social mapping and well-being ranking exercises can be used as part of baseline analysis to identify stakeholders and understand differences in well-being. Ranking of well-being can help identify the marginal groups in the community and establish local criteria for what makes them vulnerable. Dis-aggregated baseline analysis at intervals during the project can help determine differentiated impact as the project proceeds.

METHOD: Options for measuring change without baseline information

Ideally, monitoring and evaluation processes have been integrated into the research strategy, and baseline analysis provide relevant information from which to measure subsequent changes. However, ongoing projects may not have incorporated monitoring and evaluation methods into the research strategy, and may not have collected the information needed for evaluation, or used different methods to collect this. In addition, it is difficult to compare projects which have used different methodologies and collected different information in baseline studies. This makes it valuable to consider baseline-independent methods for evaluating and comparing participatory research projects.

Simple retrospective methods can be used to qualitatively measure community perceptions of change over the period of project implementation, which can establish an idea of baseline information. Pomeroy (1996) uses a method for ranking using 'ladders', which asks local people to rank on a ladder their perceptions of how local conditions have changed. Although this method is imperfect because it is based on community perceptions and memory, it gives a sense of perceived direction of change. This method can also qualitatively illuminate community criteria for what was successful in a project, which may be completely different from researcher perception of success, and can be used as a basis to measure project impact from the perspective of the community.

4.3 Outputs

Outputs describe the concrete and tangible consequences of participatory activities, as well as the occurrence of the research activities themselves (the steps in the process). Therefore, participation can be seen both as a process for meeting research objectives and goals, as well as an output of the research itself (Cummings 1997:26; Rocheleau and Slocum 1995:18-19).

Outputs include information (organized in a report, for example) such as baseline information about the community, information from community monitoring of biodiversity or of changes resulting from the project, documentation of indigenous knowledge of plant species or local management practices, and so on. Outputs also include tangible products, such as new techniques or technologies developed through farmer-researcher experimentation, new management regimes for common resources, the creation of community institutions and organisations, community development plans, etc. Tangibles such as the number of people trained, number of farmers involved in on-farm experiments, and number of reports or publications of the research are also considered to be outputs.

For evaluation purposes, it is important to move beyond assessing the “production” of outputs (whether activities occurred or certain products materialised), and consider also the “quality” of the outputs (what was the nature of the activities, were all those interested in the project able to participate, are the outputs useful and for whom, and so on). Guiding questions for assessing the quality of outputs which commonly arise from participatory research are outlined on the next page (Chapter 4, Tool 5).

GUIDING QUESTIONS: Assessing the quality of common outputs of participatory research

Information on community situation (environmental and social), indigenous knowledge of the environment.

This information may have been documented in the form of social or resource use maps, reports or pictorial charts and graphs. Questions which may illustrate qualities of these outputs which will reflect on the participatory process include:

- Whose knowledge and perspectives have been documented?
- 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?

Identification, prioritisation and analysis of problems, and plans for how to address these.

How were local people involved at these different stages, and who in the community was involved?

- Whose knowledge and perspectives have been documented?
- What was the research context in which the knowledge was generated?
- How were issues prioritised and plans made - whose perspectives do they represent and how was this negotiated?
- How were conflicting interests managed?
- Were important stakeholders identified and were their perspectives adequately considered in the plans?

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

- Are these based on priorities identified by local people and were local people involved in the development or experimentation process?
- Are these still being used or adapted by local people?
- Have local people adapted the experimental approach for other areas of their

- livelihood (evidence of improved capacity)?
- Has the innovation been taken up by other people who did not participate in the study (evidence of reach)?
- Have people been teaching each other?

Community-level institutions or organisations created or strengthened

- Who is actively involved and how did these people participate in the research?
- 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).
- Are the organisations and leaders accountable to the community? Are they representative of important stakeholders? Are they legitimate in the eyes of the community? What is the motivation for involvement? How are conflicts resolved? How are decisions made?

Community-based management systems

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

4.4 Process and methods

The participatory processes and methods developed through the research can be considered an output of the research, as well as a process for generating research results (Chapter 4, Tool 6). Monitoring and evaluating participatory methods and processes during the research is important in order to:

- Improve understanding of how different participatory methods, levels or scales of participation and representation shape research results.

- Encourage observation of signs or indicators of intermediate outcome and reach, and improve understanding of the processes which contribute to intangible outcomes such as capacity building or empowerment.

- Provide systematic information for improving project performance and strategy.

- Strengthen researcher capacity for using participatory methods by:
 - increasing critical understanding of the limitations and benefits of the tools;
 - nurturing explicit observation and awareness of the power and social relations which underlie participatory processes and influence whose perspectives are presented; and
 - improving awareness of how participatory methods and context in which they are used, construct resulting information and actions.

- Improve researcher ability to choose and adapt appropriate participatory research methods, to encourage participation of special groups in the community, and to adapt to or take advantage of enabling or constraining influences.

The main participatory “process” issues which need to be monitored and evaluated include:

- The **“quality” of the information, participation and representation**, including the effectiveness of the methods and tools for enabling participation, representation, community capacity building and ownership of the process, and for generating the desired research results (see 4.4.1).
- The **relevance of the participatory approach** to the goals of the research, including the type of participatory research and level of community control over the process, the scale of who participates, and the ability of researchers to apply and adapt the methods according to the local situation and needs (see 4.4.2).
- The **potential of the process to lead to results which are trustworthy and reliable** (see 4.4.3).
- The **potential of the participatory process to lead to local “empowerment” or social “transformation.”** (see 4.5.1)

METHOD: Monitoring and documenting the process

Monitoring and documenting the research process is important in order to keep a record of research activities and to help understand the results of the participatory exercises. It can be useful to identify a specific individual to observe, monitor and document the process, or a particular participatory activity. It is best if this individual is perceptive and has an understanding of social and gender relations, and is not biased in favour of any group. It is important to identify relevant information which should be documented so that the amount of information is manageable and can be analysed quickly. The criteria for assessing the process which are outlined in this guide provide some guidelines for the types of information which will be useful to monitor. However, ultimately this will depend on the specific research context and activity.

4.4.1 The quality of participation and representation

The quality of participation can be assessed by considering the level of social analysis which informed the research, including the tools used for identifying key stakeholder and interest groups. This includes consideration of the usefulness of the research methods for managing conflict, for negotiating priorities between groups of disparate power, for involving different scales of stakeholders, and for enabling articulation of marginal interests when necessary (Chapter 4, Tool 7).

Not all stakeholders, community groups or individuals will want or need to have the same level of participation in the research (Chapter 4, Tool 8). However, those who will potentially be affected should at least be consulted or they may resent the research, withdraw from the process or actively undermine it. The appropriate amount of representation of the different subgroups in the research process can be assessed early on, based on “risks of non-representation” as well as on their stake in the outcomes of the research, and can be reassessed as the research proceeds.

Representation and “genuine” participation of different stakeholders can be monitored and documented for group participatory activities. Indicators for representation can include quantitative information such as “how many people” or “who” attends meetings. However, monitoring should also include selective and relevant qualitative information such as who is vocal, a brief critical description of the social dynamics of the event (especially conflicts), descriptive information of how decisions are made, how conflicts are managed and whose interests are served through the research process (Chapter 4, Tool 9).

It is sometimes useful to seek opinions of local people who are likely to have an interest in or be influenced by the research but who are not actively involved. This can reveal why people choose not to participate, and whether or not non-participants feel adequately represented in the research process. Interviewing people who are not involved can help researchers understand why people choose not to participate -

whether this is because of the participatory methods being used, because the research does not seem relevant, because they are not customarily involved in certain social activities, or for some other reason. This information will help researchers adapt the process to accommodate the needs of special groups in the community.

Researchers can carefully observe which participatory tools and methods are effective for enabling representation and for generating relevant information and results. Local people participating in the research can also provide important feedback about which tools they find understandable, with which they feel comfortable, and which enable them to articulate their perspectives. Participatory methods such as ranking exercises can be useful in identifying preferable and effective methods from the perspective of the community, and can provide important insights for adapting these methods for other areas. Such assessment can be dis-aggregated by social group in order to consider different perspectives, and will be useful for adapting the research to make it more effective and representative (Goyder et al. 1998:18).

GUIDING QUESTIONS: Assessing the quality of participation and representation

Stakeholder identification and evidence of social analysis

- Have important stakeholders and community “interest” groups been identified?
- Has there been an effort to understand and deal with power and social dynamics which construct the relationships between these stakeholders or groups?
- Has there been an attempt to understand the link between resource use and entitlements and relationships between different community groups and stakeholders?

Possible indicators: evidence that researchers are dis-aggregating methods when dealing with conflicting or sensitive issues, baseline information includes evidence of social and gender analysis, identification of different interests in the community and the relationships between these groups and natural resources.

Level of representation and dis-aggregation appropriate for the research

- Have different interest groups at least been consulted?
- Are those who wish to participate able to participate?
- Are important views being articulated?
- Are the methods being dis-aggregated when necessary to ensure that all groups affected by the research (including less powerful people) are able to express their perspectives?
- When appropriate, are perspectives of different stakeholders differentiated in decision-making, in conflict management, in needs assessment and planning, etc.?

Possible indicators: different community groups are aware of the research and informed about the objectives, different groups are aware that they can participate, different groups have been consulted and their specific interests have been documented, different groups feel that their interests have been adequately considered, etc.

Scale of participation and representation appropriate to the research

- Is the “scale” of participation appropriate to the research question? (I.e. Is there participation of relevant stakeholders at different levels of governance or interest in the resource when this is appropriate? (NGOs, companies, government, etc.)

Possible indicators: awareness of the local government of research process and goals, evidence of consultations with government or NGOs, involvement of different scales of stakeholders in negotiation of solutions, special focus on bringing local interests into negotiation processes at higher levels.

METHOD: Some methods for assessing representation in group activities

Semi-structured, open-ended interviews with different groups or individuals who have a stake in the research about why they do or do not participate, or why they have stopped participating can provide important perspectives on how people view the research, and whether or not they feel they are adequately represented in the process. It is important to also interview local people who are affected by the research but who are NOT participating in order to understand their reasons and if it is because of the methods and process being used.

Participatory matrix ranking methods can be used to ask participants to compare participatory methods and score the level of participation of different social groups for different research activities and when different methods are used (Bandre 1998:47). These can also be used to help participants prioritise which methods they like best, which allowed them to say what they were thinking, and which they found the easiest to understand or the most confusing.

Branching tree method for assessing group differentiation in the research process

One method which has been used for assessment of how extensively researchers have identified stakeholders and whether they have encouraged participation of different groups for 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). In addition to determining which social groups were included in different research activities, this method can be used to determine WHY these different groups were chosen to be involved, and therefore can help establish how distinct groups are interested in or affected by the research problem.

GUIDING QUESTIONS: Sample of questions which might be useful for semi-structured interviews with local people in order to understand their perceptions of the research process
(Adapted from Pomeroy 1996 et al.:24)

1. Do you feel that you or any of the other local people had an influence on planning the research, on identifying research priorities, etc.?
2. Do you feel that you or any other local people could influence changes in the research after it began?
3. Did you attend any training sessions? Why? Why not? If yes, what was the topic and length of the training? (If training was part of the project).
4. Did you attend any meetings where the research was discussed? Why/why not? If yes, how many?
5. Are you involved in any of the organisations which were developed during the research, or which were involved in the research? Why? Why not?
6. What were the goals of the research project?

4.4.2 Relevance and appropriateness of the participatory approach

Relevance or appropriateness of the participatory approach implies that the process is flexible to adapt to the local context and emerging needs, that the tools are suitable to the capacities of the researchers and community, and that the methods and tools allow the different groups affected by the research to express their perspectives and interests. It also implies that the researchers make an effort to include the scale of stakeholders necessary for the project to be effective (e.g. involving government officials if changing their policies is important in order for the research to have an influence).

Several issues are important in order to assess the appropriateness of the participatory approach to the research question and situation (Chapter 4, Tool 10). These include:

- **Type of participatory research and level of community involvement in and control over the research process.**
- **Transparency of the research:** Important for ethical reasons - to help ensure that local people's consent to participate in the research is informed and based on realistic expectations of possible outcomes.
- **Motivation of local people and other stakeholders participating in the process:** In order to understand local people's motivation for participating in research, it is important to know whether participation is truly voluntary or if it is coerced (for example, the village headman may tell people they must attend the participatory exercises). Are people mobilised by the issues which the research intends to address? If not, perhaps the issues which the research is focussing on are not relevant to the local situation or are not locally defined. Do local people perceive realistic benefit from participating in the research?

Local motivation to participate is also related to transparency. Are local people motivated to participate in the research, but at the same time realistic about what they can gain as a result?

GUIDING QUESTIONS: Assessing appropriateness of the participatory approach

Type of participation

- What is the level of community involvement in and control over the research and is this appropriate for the goals of the research?
- Is the community benefiting from the research and who in the community?

Transparency of the research process

- Are the researchers transparent about the limitations and scope of the participatory research activities?
- Are local people aware of these limitations or do they have unrealistic expectations?
- Are local people aware of the overall goals of the research and do they understand these goals?

Possible indicators include: local people are aware of the purpose of the research, participants are realistic about what they expect to gain from the process.

Motivation for participation

- Are local people participating and how?
- Why are people motivated to participate? Is participation voluntary or compliant?
- Do local people perceive that they are benefiting from their participation in the research?
- How is the research process benefiting from community participation?

Possible indicators include: *Quantitative:* number of people participating, number of representatives of different social groups which will be affected by the research participating. *Qualitative:* local people are animated about the research and process, local people articulate what they expect to gain from the research

Relevance of the methods and approaches to the local context

- Is there a process for local feedback into the research design?
- Is there a systematic mechanism for occasional reflection and interaction between researchers and local people?
- Are the “results” from community participation informing the research design?
- Are the research goals and methods being redefined and adapted as the research proceeds?
- Are the methods and tools effective for encouraging participation and representation? For strengthening local capacity? For enabling community-ownership of the process? For reaching objectives and goals of research?
- Are field workers making use of information sources such as field notes, informal observations, etc., rather than relying on participatory tools to gather the same information?

Possible indicators include: regular information sharing meeting between researchers and community groups, evidence that researchers are changing research strategy according to information from participation, evidence that researchers are adapting pre-existing methods and making strategic choices between PRA tools, evidence that researchers take local people’s time into consideration

4.4.3 Contribution of the process towards trustworthiness of the 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. Key issues include:

- 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 researchers did not construct (create) 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 are outlined on the following page (Chapter 4, Tool 11).

TOOL: Process indicators of trustworthiness of the research findings

(adapted from Pretty 1995:178)

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.
2. 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.
3. Peer or external review of results and research process.
4. Documentation of the research process, and keeping of daily diaries reflecting on the 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.

4.5 Outcomes (short term impacts) and impacts

Outcomes describe the intermediate impacts which can be attributed, at least in part, to participatory research, and over which the research has some control. Outcomes result both from meeting research objectives (outputs) and from the participatory research “process” itself. They can be negative or positive, expected or unexpected, and encompass both the “functional” effects of participatory research, e.g. greater adoption and diffusion of new technologies, changed farming practices, changes in institutions or management regimes and the “empowering” effects, such as increased community capacity, improved confidence or self-esteem, and improved ability to resolve conflict or solve problems.

Desired outcomes of participatory research for natural resource management projects generally involve “social transformation” - changing people’s behaviour to manage resources more sustainably, improving their capacity to make informed decisions about resource management and to adapt to external pressures, and increasing their ability or “power” to carry out their decisions.

Many outcomes of participatory research for natural resource management are diffuse and long-term, and notoriously difficult to measure or to attribute to a particular research project or activity.

Impacts describe overall changes in the community, negative or positive, and may include overall social and development goals. It is difficult to attribute the contribution of a participatory research project to impact since it is only one of many factors which influence community change. Desired impacts or goals of participatory research for natural resource management include sustainability of livelihoods and natural resources, empowerment of communities, decreased poverty, improved equity, etc. Because overall development impacts are often observable only in the long term and are influenced by many factors external to the project, it is more realistic for evaluation purposes to consider outcomes as “intermediate” signs of impact.

4.5.1 Assessing social transformation

For most participatory natural resource management projects, an important goal is changing how people interact with their natural environment - that is, changing people's behaviour. This is a form of social transformation, and requires that the research strengthens local individual and institutional capacity for managing and using resources productively and sustainably. Demonstrating community capacity to manage resources sustainably will also help increase legitimacy of local governance over resources in the eyes of the state.

Participatory research is thought to catalyse social change by increasing local awareness of problems and issues, encouraging them to collect, organise and analyse information relevant to their situation, mobilising them to develop their own options and plans for dealing with problems, and strengthening local capacity and options 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 marginal groups within communities and between the community and governments (Selener 1997).

The goal of social transformation implies that the central issue for participatory research is not the tools, but control over the process of knowledge generation and use. Researchers must consciously promote the gradual shift of control over the research process into the hands of the community. When considering the "transformative" potential of the research, it is also important to consider "representation", in order to understand how the research has contributed to shifting power dynamics within the community.

Social transformation involving local "empowerment" and strengthening of community capacity is an important objective of participatory research for natural resource management (Chapter 4, Tool 12).

Empowerment can be measured by the degree to which local people or a specific group have:

- Improved capacity (knowledge, problem solving skills, etc.) to deliberate about choices of action;
- Broader options for concrete action; and
- Increased autonomy in engaging in these options.

An important component of “empowerment” at a community level is strengthening “social capital”. This includes improving the networks between people within the community as well as between community members and outside groups (such as the government, NGOs, other communities) as well as strengthening local organisation and institutions so that communities are better able to act collectively.

Capacity building can be defined as “*nurturing of and building upon strengths, resources and problem-solving abilities already present in individuals and communities*” (Robinson et al. 1997:807). Capacity can be considered for individual, group, institutional or community levels. Stages or steps of capacity building are not linear, but interactive. These steps include increasing awareness, mobilisation, planning and organisation, learning and development of new knowledge, diffusion of knowledge and institutionalisation of knowledge and action. The resilience of strengthened capacity involves creating new behaviours which persist over time because they become institutionalised and become part of local norms and values (Robinson et al. 1997:807).

Participatory research methods can be monitored and evaluated based on their contribution to strengthening community capacity in order to establish how different participatory activities generate awareness, knowledge, attitudes and skills, whether this learning is locally retained, the influence of the learning on those not directly involved in the activity, and whether or not the learning changes local behaviours and norms for how things are done, and the resilience of these behavioural transformations (Robinson et al. 1997:812) (Chapter 4, Tool 13, Tool 15).

Donor agencies are often interesting in how the research process has affected researchers and research institutions, as well as local communities. The transformative effects of participatory research can also be considered at the researcher level, by considering whether or not researchers' capacity to work with communities has increased, whether or not their attitudes towards local knowledge have changed, whether they are integrating participatory approaches into other research activities, and so on (Chapter 4, Tool 14, Tool 15).

GUIDING QUESTIONS: Assessing the potential of participatory research to result in social transformation

Strengthening local awareness of issues and options

- Is the research process increasing local awareness of issues and facilitating them to develop local options for improving their situation?

Possible indicators: local people are aware of environmental and social problems, local people can identify options for solving these problems

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

- Is the participatory process facilitating local involvement in decision-making and action to address problems?
- Who in the community is involved and whose perspectives are being represented?

Possible indicators: research decisions are being made by local people, farmers are determining research needs, different community groups feel that they have been involved in planning and decision-making, community groups are enthusiastic about plans and actions, community groups are motivated to act, local people relate the research to identified needs

Perception of “ownership” of the process

- What is local perception about who the research is for?
- Who controls the research questions and agenda, and to what extent are the issues and questions defined by the researchers?
- Are local people involved in identifying and defining research priorities and plans? In data collection and analysis? In defining solutions and actions? In

monitoring results of their activities or experiments and in defining their own indicators and criteria for success?

Possible indicators: Local people refer to “their” plan or activity (not researchers’ activity), local people understand goals and purposes of the research, local people act independently of researcher facilitation or encouragement

Strengthening existing individual and organisational capacities

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

Possible indicators: Local people are aware of their abilities, evidence of increased confidence (becoming more vocal, organising to deal with problems), increased awareness of local problems.

Creating linkages between stakeholders

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

TOOL: Levels and indicators of different stages of community capacity development

(modified from Robinson 1997:816)

Level 1: Mobilisation

- Increased local awareness about linkages between local behaviour and local problems, for example connection between deforestation and soil degradation
- Expressed interest in developing solutions.
- Identification of problems and issues, and exposure to new ideas for how to manage them.

Level 2: Planning and organisation

- Prioritisation of problems
- Planning of activities to deal with problems (possibly development of a community activity plan)
- Undertaking activities or organising to deal with problems (implementation of plan)

Level 3: Learning

- Development of new knowledge, skills, attitudes by those participating in the research process (e.g. improved ability to monitor environmental change, improved understanding of the situation of other groups within the community, improved ability to manage conflicts, etc.)
- Change in individual or group behaviour because of the learning (new farming processes adopted, change in common property resource use, greater consideration of marginal groups in community decision-making),

Level 4: Diffusion (Reach)

- Dissemination of awareness of issues among non-participants, beyond scope of research activity
- Influence on attitudes and behaviours of other individuals
- Change in the way things are done (diffusion of new technologies among farmers not participating directly in the research, increased adoption of participatory approaches among other researchers)
- Evidence of farmers learning from farmers,

Level 5: Institutionalisation

- Change becomes institutionalised - becomes integrated into local norms and traditions.

TOOL: Levels and indicators of different stages of researcher capacity development (modified from Robinson 1997:816)

Level 1: Mobilisation

- Awareness of and desire to learn about and use participatory research methods, awareness of the importance of indigenous knowledge and perspectives.

Level 2: Planning and organisation

- Planning research activities with community, planning iterative research processes, integrating participatory approaches and social analysis into research proposals, etc.

Level 3: Learning

- Development of new knowledge, skills, attitudes by those participating in the research process (e.g. greater respect for traditional knowledge, improved ability to select appropriate participatory research tools, greater understanding of when and why to dis-aggregate social groups,)
- Change in individual or group behaviour because of the learning (researchers learn to adapt methods in order to encourage representation, researchers make effort to use participatory methods in other research projects)

Level 4: Diffusion (Reach)

- Dissemination of awareness of participatory approaches and social analysis to researchers not involved in the project (presentation at conferences, etc.)
- Influence on attitudes and behaviours of other individuals (participatory methods become more accepted by the research institutions, researchers incorporate participatory approaches into curriculum)
- Change in the way things are done (increased adoption of participatory approaches among other researchers)

Level 5: Institutionalisation

- Change becomes institutionalised. Participatory methods and social analysis become standard components of certain projects.

GUIDING QUESTIONS: Assessing “empowerment” and “capacity building”

“Empowerment” and capacity building at the community level:

- Is there increased awareness of issues, problems and options to address these?
- Are local people better able to make informed decisions about natural resource management?
- Are they able to formally monitor change?
- Is there an improvement in their ability to make collective decisions and to “equitably” resolve conflicts between different groups in the community?
- Is there an increased ability to act collectively for community interests?
- Do they have an increased understanding of different needs in the community?
- 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?
- Have local organisations or institutions been strengthened?
- Have social networks been strengthened?
- Are local people aware of and better able to access outside resources and assistance?

Indicators of capacity building: Increase in decision-making, involvement of marginal groups in community decision-making, ability to access government funds, strengthened ability to assert rights over resources, improved understanding of local social and environmental conditions, improved ability to manage conflict

Capacity building at the researcher level:

- Are researchers more conscious of social relations and how this affects the research?

- Are they better able to adapt participatory tools and approaches to fit the context and the information needs of the research and the people?
- Are they better able to facilitate participatory processes to enable different perspectives to be articulated?

4.5.2 Sustained change

“Sustainable” use of natural resources is a key goal for participatory research for community based natural resource management projects. In order to address this, it is important to think about WHAT it is that we want to “sustain”, and “how” do we know if we are moving towards this.

Communities are positioned in a quickly changing global and natural environment with new and evolving external and internal pressures on their resources. The key to encouraging local sustainable use and management of resources, therefore, is to build local the capacity to measure and assess change and to make informed decisions based on this information, to sharpen the understanding of biological and social issues relevant to sustainable natural resource management, and to improve or create local institutions and organisations to manage the resource base. The ultimate goal is to support local, sustainable and equitable resource use in the current context, while at the same time improving local capacity to adapt to changing conditions and pressures in a way which continues to support sustainable and equitable resource use in the future.

In this context, “sustainability” requires the establishment of resilient and self-sustaining local organisations and institutions which collectively manage natural resources, which support representative decision-making, which can manage conflicting interests, and which are locally accountable. Ostrom (1991) has provided a framework for assessing local resource management organisations or institutions (see following page, Chapter 4, Tool 16).

TOOL: Framework for assessing durability and sustainability of local management institutions (adapted from Ostrom 1991)

Framework for successful community organisations for natural resource management:

1. Clearly defined boundaries and membership
2. Rules which are appropriate to local conditions
3. Potential for collective modification of the rules by those affected
4. Self-monitoring by users
5. Conflict management mechanisms and evidence of successful conflict resolution
6. Recognised user rights to organise
7. Graduated sanctions
8. Nested management units
9. Evidence of participation of all stakeholders when appropriate
10. Demonstration of necessary skills by all relevant stakeholders
11. Evidence of user community or other local community demonstrating empowerment.
12. Evidence of no more than acceptable levels of non-compliance with resource use controls
13. Evidence of ability by the stakeholders to control speed and direction of change.

In addition to this, enabling contextual factors for successful operation of sustainable local resource management institutions include:

1. Acknowledgement that participation in natural resource management is legitimate and desirable by all stakeholders
2. Participatory resource management scheme approved by the user community and key power groups, and evidence that governments and powerful groups respect the local management system

4.6 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 (for example, the number of farmers attending a workshop who adopted the learning into their own farming systems) (Chapter 4, Tool 17).

Reach is closely related to the concept of equity. Participatory research is assumed to improve reach to disadvantaged groups and communities by including them in defining research priorities and in capacity-building activities, and by mobilising them to act in their own interests, rather than treating them as passive objects intended to benefit from the research results.

METHOD: Method for establishing spatial reach

One method which has been used to determine the spatial reach of a project is to measure outcomes at increasing distances from the initial research site or implementation, e.g. for understanding how wide-spread adoption of new agricultural practices has spread to determine if farmers are applying or modifying these methods at different distances from the initial implementation or experimentation, or for understanding the spread of awareness about different environmental issues. Pomeroy (1996) used this method to determine the spatial reach of community-based coastal resource management projects by measuring change in communities located at varying distances in concentric circles from where the project was implemented.

4.6.1 Integrating Stakeholder and community analysis into evaluation

Projects that are carried out at the “community” level require a careful analysis of which people make up the community and in what ways. It is useful to think about the following kinds of people:

- 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);
- 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
- Individuals or groups who are ready or able to play a leadership role in natural resource management, social and environmental monitoring, problem solving and conflict management, co-developing new farming systems.

Local people will organise and divide themselves differently around different issues, based on commonly held interests. These groups are often, but not necessarily, based on social identities such as gender, ethnicity, wealth, occupation, and so on. Although it is useful to keep these criteria for difference in mind, it is often important not to assume cohesiveness according to pre-determined lines of difference.

Different stakeholders (within and outside of the community) will have different perceptions of project outcomes, which outcomes are most important and how they are affected positively or negatively by the research. These different groups often have different indicators and criteria for project influence depending on their values, interests, level of involvement in the research and the extent to which they have been directly affected (Chapter 4, Tool 18).

When assessing participatory research, it is important to ask whose perspectives are needed in order to understand the outcomes of the research and in order to answer specific evaluation questions. If the purpose of the evaluation is to understand how participatory research contributes to social change and to progress towards social and gender equity, empowerment and/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.

For evaluation questions relating to reach and equity, it is important to define and understand the perspectives of the different interest groups on how they participated in the research, how they have been influenced and what the project outcomes were, and to disaggregate this information according to social group.

Understanding outcome from the perspective of different groups requires an open-ended, qualitative approach which does not limit evaluation to pre-defined indicators (Chapter 4, Tool 19). The process of getting a comprehensive understanding of the outcomes of a participatory research project may call for involving various stakeholders and community groups in negotiating the terms of reference and indicators for the monitoring or evaluation process.

A comprehensive process of representation of different groups in evaluation is not always necessary or cost effective, depending on the nature of the natural resource management project and the goals of the evaluation. If the goal of the evaluation is to consider improvements in farming systems from experimentation with farmers, 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 need to be consulted.

METHOD: Identifying different stakeholders or user groups by using a “contrast” or “maximum” variation sampling procedure

One approach for determining how local people divide around a resource-use issue and to ensure that important groups are identified is to ask each individual to identify another user who they think will have the most different perceptions about resource issues than their own. This can be done at the end of an interview, once the individual is comfortable with the researcher. The process of interviewing and identifying new respondents with contrasting views and interests is then repeated until it becomes redundant or 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 are 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 identified. 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.

METHOD: Using well-being ranking to differentiate between community groups

Identifying stakeholders and understanding differences in well-being can be accomplished using PRA methods such as social mapping and ranking exercises. Such exercises can be used to differentiate between villages, households and individuals. Ranking exercises to identify local “hierarchies” of well-being in the community will also enable an understanding of local indicators of well-being (based on local values) which can subsequently be used for monitoring and evaluation. Community indicators for well-being are not static and will change as community socio-economic and environmental conditions change (perhaps as a result of the project), and as the community is exposed to external value systems.

Participatory baseline analysis of well-being can help identify who the marginal groups in the community are, and establish local criteria for what makes them vulnerable. This can help establish stakeholder groups to be targeted by the research, as well as provide a social “map” for subsequently being able to differentiate the impacts and benefits of the project as the research proceeds and after the project is finished. Therefore, this information is important in order to understand how the project has influenced “equity” and to disaggregate research outcomes for different groups (Which groups in the community participated and/or were influenced by the research? Was the target group influenced and involved? Who benefited from improvements from the project? How have gender relations been affected? Were the most “marginal” groups reached?

Possible uses of well-being ranking include:

1. Poverty programming and targeting
2. Establishing level and trends of socio-economic equity

3. Understanding local dimensions and indicators of wealth and poverty. What characteristics and social relations enable or hinder prosperity? What characteristics intensify poverty?
4. Providing basic social information which will be useful to assess who is benefiting from the project and disaggregating outcome by social and gender identity (important when evaluating desired impacts such as equity, empowerment, and decreased poverty and improved livelihoods among marginal groups).

Documentation of the reasons and criteria for defining categories as being different and for mobility between categories is as important as the ranking of the priorities and factors. Documentation from participatory ranking exercises often focuses only on the “order” of the items (people, households, food items, etc.) but disregards the more important rationale for **why** the “items” were ranked in these groupings.

5. WHO monitors and evaluates?

5.1 Role of researchers

During the project, systematic monitoring and evaluation of participatory research can be carried out by researchers, who can directly learn from the results and use this to adapt research design. The information collected can help researchers track the participatory research process - who is participating and who is being influenced directly by the research - and to track intermediate signs of output and outcome. This helps researchers know the direction of change initiated by the research and to know if the research is moving towards meeting the objectives. Information from monitoring can be fed back into project design to help improve and adapt the methods and research strategy and to improve project management. This approach is known as “adaptive management.”

5.2 Role of the community

It is often important for researchers to involve the community in monitoring and assessing the research process in order to capture local perspectives on the intermediate results, on the usefulness and representativeness of the participatory research tools, and to involve local people in research design. Participatory monitoring and evaluation (PM&E) provides useful tools and methods for involving local people in monitoring and evaluation.

PM&E can be used to help local people develop monitoring and evaluation skills for measuring social and environmental change and can contribute to strengthening local resource management capacity by giving local people the tools to monitor the effects of their management practices and change them accordingly. This is important for community empowerment and for encouraging local sustainable resource use and management by enabling local people to make more informed management decisions.

Researchers should take care to be selective about when and how they involve local people in monitoring and evaluation, since this does not necessarily benefit the people directly and has an opportunity cost in terms of local people's time which should not be undervalued. If local people are involved, it is important that they clearly understand the objectives of the PM&E process, that they help define indicators which are meaningful to them, and when possible, that they experience direct benefits from their involvement.

5.3 Role of external evaluators

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 in order to capture community and special group perspectives and to understand issues of representation. The results of participatory monitoring and evaluation can complement and enhance external evaluations. 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 be an entry point for encouraging more systematic monitoring and introducing an adaptive management approach in the research.

It is now possible to compare the answers to the For Whom? and Who? questions and start defining concrete tasks. This brings us to the next chapter.

6. WHEN do we monitor and evaluate? (the project cycle)

Participatory research can be monitored and evaluated at different stages of the project cycle, and different stakeholders may be involved in each stage. We normally distinguish three phases in a project cycle: pre-project, in-project and post-project.

6.1 Pre-project phase: proposal development stage

Participatory research at the stage of proposal development can be assessed by examining the context (environmental, social, political) and purpose of the project in order to roughly anticipate what level and scale of participation and representation is appropriate or feasible. The main issues to consider for this include a) institutional and researcher capacity and motivation, b) appropriateness of the participatory methodology, c) contextual constraints and associated risks, and d) ethical issues. These are described in detail in the following sections (Chapter 6, Tool 1).

6.1.1 Institutional and researcher capacity and motivation

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. For example, If this is the researchers first experience using participatory methods, it may be more appropriate for them to use more “consultative” methods rather than trying to facilitate capacity building, empowering or decision-making processes with the community because of the possible risks to the community if these are not handled carefully.

GUIDING QUESTIONS: Pre-project assessment of the capacity and motivation of researchers and institutions

- What past experience have the researchers and institutions had with participatory research projects , with using participatory research methods and with social and gender analysis?
- What kind of training have the researchers had? Have they had training or experience in social or gender analysis, participatory tools such as PRA, evaluation, community group facilitation?
- Are social scientists (anthropologists or sociologists) represented on the research team? Does the research team include female researchers?
- Is the structure and management of the research institution supportive of participatory approaches?
- What types of participatory research approaches is it realistic for the research team to apply effectively?

6.1.2 *Appropriateness of the methodology*

The quality, appropriateness and feasibility of the proposed participatory methodology can be assessed for its relevance to the stated research objectives, for its suitability given the social, environmental and political context, and according to the capacity of the researchers and institutions. Guiding questions for the assessment of the approach and methodology are presented on the following pages (Chapter 6, Tool 2).

GUIDING QUESTIONS: Pre-project assessment of the participatory approach and methods

1. How do the researchers understand “community”, “gender” and “participation” in the project proposal?

The proposal should reflect an understanding of community heterogeneity, gender and social relations, and power dynamics. Project Officers should be wary of jargon - of broad uses of the terms “gender”, “PRA”, “community”, if these are not defined and especially if there seems to be no integration of the concepts behind these in the research rationale and the methodology.

2. Why is the participatory process needed?

3. What types, level and scale of participation is useful or feasible in the context of the research?

4. How will the research, and importantly local people benefit from participation?

The proposal should demonstrate a clear link between the participatory processes, research objectives and intended outcomes. There should be appreciation of the different scales of stakeholders (community, NGO, government) who may need to be involved in order for the research to be effective, and a mechanism for how to involve them in the research. If the research is intended to be transformative, the proposal needs to be explicit about how the participatory research process will be used as a mechanism for increasing community awareness of their problems, participation in problem solving, and there should be a clear mandate for encouraging community ownership over the research.

5. Is there an attempt to identify the stakeholders or resource user groups in the project, and which stakeholders/community groups need to be involved in order for the research to be equitable and effective? How has this been decided?

6. What scale(s) of stakeholders need to be involved in order for the project to have the desired outcome?

7. Have the influences of gender and power relations been considered?

The proposal should outline a process for identifying and negotiating the interests of different stakeholders who will be influenced by the research or who need to be included for the project to be effective. Bias should be given to the priorities and needs of the marginal groups and communities.

8. Is there an intention to assess the micro-political context and relations power in the local community as part of the baseline analysis?

9. How are these relations likely to influence the research methods?

10. How do the researchers plan to address this? (e.g. through disaggregation of methods)

11. If the process plans to involve stakeholders of different scales (community representatives, government, etc.), how will power differences be handled?

The proposal should show awareness that while not all groups will be able to participate in the research, special measures may need to be taken in order to access the perspectives of certain individuals or groups who are likely to be affected by the research.

12. Does the project strategy include a mechanism for feedback of information from participation?

13. Is there flexibility in the methodology to adapt methods if they are not effective in allowing representation and participation of certain groups?

The proposal should include a process for systematic monitoring and “feed-back” of information from the community and researchers into the research in order to adapt goals and methods as the research progresses. As part of this, there should be a mechanism for communication between local people, researchers and other stakeholders who the project needs to reach to be effective (government, NGOs)

6.1.3 Contextual constraints and associated risks

Although participatory research can result in significant benefits for local people and marginalised groups, there are certain risks associated with this approach. Risks concerning participatory research can be considered from two perspectives:

- risk that the research will not be able to meet its goals, and
- risk that the research (in meeting the objectives or through the process) will unintentionally cause harm to the community or to specific groups within the community.

For example, research aimed at sustainable community management of common resources may be manipulated by more powerful stakeholders and may unintentionally neglect representation of marginal groups or women. In consequence, these groups may lose access to important resources.

The social risks of participatory research need to be carefully anticipated during proposal development and monitored throughout the project to ensure that specific groups are not significantly disadvantaged by the research. Careful anticipation of social risks involved in the research can help establish the need for care in identifying the different groups who might be affected by the research and disaggregating methods when necessary. Potential risks from participatory research and from “not” recognising and involving stakeholder groups can be anticipated before the project begins, and can be ranked (high, low, likely, unlikely, etc.) (Sawadogo and Dunlop 1997:601) (Chapter 6, Tool 3).

GUIDING QUESTIONS: Risk assessment of participatory research in the context of the social and political environment of the project

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? (because of national politics and governance, community leadership, local patronage relations which place certain groups in subordinate positions, etc.) How will the project handle this?
3. Are there political and security risks both to researchers and 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”? 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? 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.
5. What are the potential risks to the community resulting from the misuse of participatory research methods by inexperienced researchers? Examples of such risk could include:

- a. Exacerbating or initiating conflict in the community by making power relations explicit or by unknowingly 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, by not recognising them as important stakeholders to include in the process,
- c. Accidentally aiding elite members of the community in increasing their power, access and rights over resources through legitimising their claims through “participatory” activities such as boundary and resource mapping, tree-planting which may effectively lead to land privatisation.

6.1.4 Ethical issues

Creating unrealistic expectations for concrete development interventions at the community level is a common problem for participatory research projects, and causes disappointment and suspicion in the community. This can also have negative consequences for future work of the research institutions by affecting their acceptance in communities. This issue should be addressed in the proposal. There are several possible ways dealing with local expectations. These include:

- The participatory research project should ideally be linked with a development initiative which has the mandate to provide concrete services to the community. However, this is not always an option.
- Researchers should be clear in the proposal about how they will be transparent to the community about the goals of the research and what the community can realistically expect to gain.
- The proposal should demonstrate a mechanism for generating some small concrete livelihood benefits to the community early on in the research process, such as small rotating credit schemes, helping establish seed banks, etc. so that local people see benefits from the time they have given to participate in the research.

Confidentiality of information and security about how information gathered from community participation will be used is important because often researchers discover activities which would be illegal according to the state (for example, capturing of endangered species or logging in protected areas). Furthermore, information on resource ownership can be used by the government to extract taxes. It is important that the researchers address this issue in the proposal, and that they ensure that the identities of informants are concealed in their research notes and reports. One way of doing so is by using numerical codes for interviewees, and keeping their identities separate from the research documents. In addition, aliases should be used in reports

which will be made public and which include anecdotal information from specific individuals or groups.

Informed consent from local people and groups for participation in participatory research is not as simple as it seems, and in many cases, gaining genuine informed consent for community involvement in the research process is difficult. Obstacles include:

- The concept of informed consent is not always clear among researchers, let alone among community members. Researchers may not respect or understand peoples' wish NOT to be involved.
- The risks of involvement in the research process may not be apparent to either the researchers or community - therefore it's difficult to "inform" about the costs and benefits of participation.
- Power relations between researchers and community, and within the community itself may result in "coerced" consent. Individuals may feel they can't refuse involvement because of pressure from village leaders or government officials. In addition, cultural/social relations of respect for researchers may make it impolite or socially unacceptable for local people not to agree to participate.
- Anticipation and expectation of benefits by community members from their participation in the research process may lead people to participate, even if the limitations of potential benefits has been articulated by the researchers.

Informed consent is related to transparency of the research process. Researchers should address the informed consent issue in the proposal, and make it clear how they will be transparent about the purpose of the research so that local participation will be based on their understanding of the goals of the research and the limitations of what they can expect to gain (Chapter 6, Tool 6).

GUIDING QUESTIONS: Pre-project assessment of ethical issues

Creating expectations:

- How will the research strategy deal with creating community expectations for concrete development interventions arising from their 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 hope for practical benefits. It is important to have a mechanism within the research strategy to meet certain practical needs early on in the process.

Informed consent:

- Does the research proposal outline a process for gaining informed consent?
- Is the meaning of “informed consent” defined in the proposal?

Confidentiality:

- Does the proposal outline how the researchers intend to assure confidentiality of research results when necessary?
- How will researchers protect the identity of individual informants when this is necessary?

6.2 In-project phase

Participatory research will be improved if monitoring and evaluation are integrated into the research process. There are several considerations for monitoring and evaluation in an on-going participatory research project. These include:

- Collection and analysis of baseline information and identification of community priorities using participatory methods in order to understand starting conditions, define priorities, etc.
- Monitoring and evaluation of the research process, methods and tools in order to adjust them to make them more effective; and
- Monitoring and evaluating intermediate outputs and outcomes in order to track progress, observe who is being affected by the research, and detect unintended negative results.

The results of regular monitoring and assessment of intermediate project results and processes can be an important way to learn about what is working and what is not working in a research project. This information can be used to improve the research approach and strategy as the project proceeds. This is often referred to as **adaptive management**.

6.2.1 *Timing of in-project monitoring and evaluation*

The **timing** of in-project monitoring and evaluation activities depends on the information needs. In some cases, monitoring may be **on-going** (daily, weekly, etc.) such as when considering physical changes (soil quality, number of animals, etc.) and assessment or evaluation of this information may be at regular and pre-defined intervals.

Occasional simple evaluation exercises to look at project progress and intermediate outputs and outcomes **before key decisions** are made may help

researchers and the community decide on direction of the project or just to maintain an understanding of the direction in which the project is heading. Alternatively, regular evaluation sessions might be scheduled into the project strategy as part of the planning and management process. It might be decided to hold evaluation activities in response to a special problem or crisis which the project is confronting (Davis-Case 1989:40).

6.3 Post-project phase

External, post-project evaluations are useful to establish conceptual lessons from case studies of successful or less successful participatory research approaches for natural resource management. Learning what methods worked well or less well in each particular context, and what did not work at all after the project has been completed provides important lessons for future research. Using qualitative and participatory evaluation methods to gain an understanding from different stakeholders, including community subgroups, will enable an understanding of different perspectives on project results.

In addition, evaluation after the project has been finished for a period of time can give an understanding of the longer-term results of the research - the resilience of behaviours and institutions initiated during the research in the face of changing conditions, the sustainability of the resource use practices initiated (Are the environmental conditions better? Are people still applying the techniques?) and so on. This could provide useful insights because of the lengthy time period for certain benefits (such as improved sustainability or productivity) of participatory research for natural resource management to be observable. However, it becomes increasingly difficult to attribute such outcomes to the research as time passes.

7. HOW we monitor and evaluate

7.1 Selecting tools

In the preceding chapters we have presented a number of tools and lists of guiding questions that can help in obtaining the relevant information. In this chapter we will briefly indicate a number of tools currently used for doing participatory monitoring and evaluation, but without providing details -these details can be found in more specialized articles or training materials for which we will provide a reference list. It is also important to mention that new tools are being developed continuously in this relatively new field of expertise.

When selecting tools, it is crucial to reflect on WHAT is important to assess and FOR WHOM the information is intended, and to also consider available time and resources, and last but not least, the skills of the users of the tools. For example, it makes no sense to use written forms for illiterate people; pictorial diagrams may be more appropriate for them to use.

7.1.1 Tools

Many of the Participatory Rural Appraisal tools can also be used for participatory monitoring and evaluation. Examples are:

- community or (micro)watershed resource maps
- farm maps
- transect maps

- transect walks
- transect plots

- seasonal diagrams
- historical lines

- social maps
- Venn diagrams

- ranking diagrams of various kinds
- Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis
- pictorial diagrams
- impact diagrams and matrices
- group brainstorming exercise
- focus group discussion
-
- drawings, posters, photographs
- theatre
- roleplays
- games

In addition, tools from “traditional” social science research can be used, such as:

- direct measurement
- direct observation

- informal conversation
- interviews of various kinds
- questionnaires
- surveys
- self evaluation forms

- personal journals

7.2 References: Selected readings

Journals:

- Indigenous Knowledge and Development Monitor
<http://nufficcs.nl/ciran/ikdm>
- Participatory Learning and Action Notes, 1995-1999
- Rapid Rural Appraisal Notes, 1988-1994

Books, reports, proceedings, papers:

Abbot, J; Guijt, I. 1998. Changing views on change: participatory approaches to monitoring the environment. SARL Discussion Paper 2. London: IIED.

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- Lusthaus, C., M.H. Adrien, G. Anderson and F. Carden 1999. *Enhancing organizational performance. A toolbox for self-assessment*. Ottawa: The International Development Research Centre.
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Pretty, J.N., Guijt, I., Thompson, J., Scoones, I. 1995. A trainer's guide for participatory learning and action. London: IIED.

UPWARD. 1997. Self-assessment: participatory dimensions of project monitoring and evaluation. Los Baños, Laguna, Philippines.

Van Veldhuizen, L., Waters-Bayer, A., De Zeeuw, H. 1997. *Developing technology with farmers. A trainer's guide for participatory learning*. London: Zed Books.

Woodhill, J.; Robins, L. 1998. Participatory evaluation for landcare and catchment groups. Yarralumla, Australia: Greening Australia.

7.3 Other sources

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 (for information, contact: 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.

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. IIED also offers the Participatory Learning and Action CD-rom. For information, contact: **Claudia.Sambo@iied.org**

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**).

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>

Annex 1. Glossary

This appendix clarifies central concepts and terms which are used throughout the guide.

Monitoring: The systematic or periodic collection and occasional analyses of information to measure changes over a given period of time.

Evaluation: The analysis of the effectiveness and direction of an intervention or research project, and is concerned with making a “judgement” about progress and impact. The main differences between traditional approaches to monitoring and evaluation include frequency of observations and types of questions asked. However, when monitoring and evaluation are integrated into the research strategy as a project management tool, the line between these becomes blurred.

Assessment: The combination of monitoring, evaluation and diagnosis.

Formative evaluation: Has the goal of strengthening or improving the project being evaluated (help form it), and is undertaken while the project is on-going. This type of evaluation includes needs assessment, implementation evaluation, and process evaluation. The purpose of formative evaluation is that the people implementing the project learn from the evaluation in order to make the project better.

Summative evaluation: Examines the effects or outcomes of the project after it is completed (summarises it). This is useful for providing lessons of what works or doesn't work for future projects, and includes outcome evaluation, impact evaluation, cost-effectiveness/cost-benefit analysis, secondary analysis, meta-analysis.

Indicators: See Annex 2.

Adaptive management: A process of experimentation and systematic monitoring of the results in order to adjust and improve the process to get the desired outcomes. This

approach was originally designed for managing natural resources in large-scale ecosystems, however it has recently been adapted for research and development projects. At the project level, adaptive management provides a framework for testing assumptions, learning and adapting the research by integrating project design, management and monitoring processes.

Participatory research: Participatory research for natural resource management is broadly understood, and describes a range of levels of local involvement in and control over the research process, different methods, tools and approaches and different research goals. The term is used to describe such different approaches as consultative participation from which researchers make decisions about community needs and interventions, active involvement of farmers in conducting on-farm experiments, involvement of communities and user groups in decision-making about new management practices and resource boundaries, multi-stakeholder processes involving different scales of resource management, and so on. These different approaches to participatory research have different evaluation requirements.

The rationale for using participatory research may be **functional**, to encourage community participation in order to improve the usefulness of the research to local people (for example, to help develop farming technologies more suited to the local area and needs, improve and hasten adoption of new methods and technologies, etc.), or may be for **empowerment or social transformation**, to strengthening local capacity in decision-making, research, and management of local resources to improve their awareness of options and ability to act on their behalf. Often participatory research is both functional and empowering.

Participatory monitoring and evaluation (PM&E): A systematic 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 about the results 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. For this guide, we define PM&E as the partnership between communities and researchers in monitoring and evaluation of the project.

Monitoring and evaluation of participatory research: Involves monitoring and evaluation of the process and results of participatory research projects. This is the main focus of this guide. Monitoring and evaluating participatory research is different from participatory monitoring and evaluation, although will likely involve participatory monitoring and evaluation in addition to other types of evaluation approaches.

Annex 2. About indicators

Indicators are easily measurable or observable criterion which provide information about changes in specific conditions which may not be easily measured or observed in themselves. **Proxy indicators** substitute for indicators which can't be measured or assessed directly (for example, when it is difficult to obtain information about exact household income, number of cattle may be a proxy indicator if it is known that people invest their income in cows).

Two general principles should be followed when defining indicators:

1. Optimal ignorance: Knowing what is not worth knowing and prioritising the issues to be evaluated, limiting the collection of data to answering questions which are most relevant to understanding these issues (Chambers 1991). Carefully select one or two questions through which crucial information can be understood. Key questions can serve as indicators. If the community is to be involved, it's important that they choose the questions and their own form and methods of measurement and expression (Davis-Case 1989:25).

2. Appropriate imprecision: Not gathering data with more accuracy than is needed to understand the priority issues for evaluation (Chambers 1991).

A good indicator is:

Measurable - able to be recorded and analysed either qualitatively or quantitatively

Precise - Defined the same way be all people.

Consistent - Not changing over time so that they are always

Sensitive - changing proportionally in response to actual changes in the condition or item being measured.

It is best to identify a package of indicators for measuring progress towards any one goal, and to identify both qualitative and quantitative measures which reinforce each other. This increases the rigour and relevance of the evaluation, and ensures more reliability of the results (Allen 1997:639-640). In some cases, open-ended questions with key stakeholders will be more revealing than measuring pre-defined indicators. This is especially true for the special capacity-building and empowering outcomes of participatory research. Furthermore, since evaluations can rarely pretend to know the main issues before project effects make themselves known, it is sometimes not good to identify indicators in advance (Freedman 1997:771). In either case, it is important to prioritise the issues to be evaluated and to distinguish between what is and what is not worth knowing, thus limiting the collection of data to answering questions which are most relevant and not gathering data with more accuracy than is needed.

Other issues to consider when defining indicators include:

- Develop one or more indicator for each information need.
- Different community groups and individuals will have different indicators. **Choice of indicators** for measuring progress, changes, success and failure will be influenced by perceptions of what is “progress”, “success”, etc. The criteria for “success” or “failure” may be defined differently by different stakeholders, and therefore the definition of the indicators to measure this will depend on who chooses these.
- Negotiating indicators in a participatory way with a variety of stakeholders is a time-consuming process. Too much focus on defining indicators may side-track the project, using up resources and time at the expense of other activities which may be more productive. Depending on the purposes of the monitoring and evaluation, open-ended questions may provide sufficient information with flexibility to allow different values and views to be articulated.
- Indicators are often site specific and seasonal, and are also transitory and need to be continually reassessed within the duration of a project to ensure that they are still a valid measurement of the change being studied.

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