THE FOREST MANAGER'S GUIDE TO PARTICIPATORY FOREST MANAGEMENT: MODULE 3

The participatory process in forest management

A TOOLBOX

Forestry Policy and Institutions Branch, Forestry Department
FAO

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INTRODUCTION

This toolbox is primarily for middle managers involved in a participatory forestry management (PFM) initiative, and it provides some guidelines on the basic tools and the range of tools available. The purpose of the toolbox is to provide extra resources to assist in coaching those who will be involved in assessing, designing, planning, implementing, monitoring and evaluating PFM activities. Coaching may involve forestry department field staff, non-government organizations (NGOs) who have been contracted to assist with the participatory process, and consultants and technical assistance teams who periodically train those who will be supporting the partnership.

The information generated in a participatory process is quite different from information that is gathered and analysed in more traditional ways, such as questionnaires or statistical analysis. Understanding how the participatory tools work will provide an increased level of trust in the information generated, and an increased ability to nurture and support the participatory process.

The first part of the participatory manager's toolbox provides some definitions, as well as some guidelines and lessons gleaned in the past few decades of working with tools. There are also guidelines on how to choose tools. The tools are directly associated with the participatory process in the accompanying field manual, Participatory Planning for Community Forestry.

The evolution of tools in community forestry

There were many early warnings (as at the 8th World Forestry Congress: People and Trees, Putting the Last First, where problems were identified, and agencies set up units to deal with them) that the conventional plantation forest management practices taught in forestry education were becoming less and less viable. The need for forest products or land in some areas of the world has been so great that rules had to be ignored, and risks had to be taken. As a result, forest areas are continuously being encroached and illegal harvesting is endemic. Increasing the numbers of forest guards for protection has seldom been effective. People who lived in or near forests were seldom considered, except as threats to the management of the forest. Over this period, the tools that were available to manage forests were mainly conventional technical formulas and biological tools. Social dynamics were not a part of the equation, except in determining economic markets.

In response to the recognition that foresters were having difficulty managing the forest areas under their jurisdiction, and that communities were part of the equation, community forestry developed in the late 1970s. In the beginning, socio-economic surveys were the tools used for

information gathering. They were considered to be very enlightened, and the fact that they were designed to introduce social science methodologies in a rigorous technical area was quite a feat. As the recognition of the importance of people evolved, the socio-economic survey tool was replaced with rapid rural appraisal (RRA). This methodology was open to discovering new information through open-ended interviewing techniques and, by using a multidisciplinary team, to more broadly understanding communities and their use of the forest. Socio-economic surveys only quantified what was already known, but RRA was open enough to obtain new information. Still, local people were thought of only as the raw resource of information, and they were not brought into the analysis.

By the mid 1980s, it was recognized that the involvement of local people in the process of their own development was necessary. There was a flurry of international activity in all development sectors, within all agencies and NGOs. New tools emerged that involved local people in information gathering (baselines) and analysis for activity design, planning, research, negotiation, implementation, monitoring and evaluation.

Throughout the 1990s, along with myriad publications on the theory of participation, an amazing volume of tools, toolboxes, and toolkits, and countless sets of methodologies, were developed. Some have withstood the test of time, and are considered essential tools. Many are adaptations of the basic tools introduced earlier. The practice of community forestry, and the tools that are essential to the practice, are now common in both southern and northern countries. The theory and practice of community forestry is included in the curriculum of most forestry schools, and the majority of the development agencies and forest departments have units devoted to community forestry.

Now participatory planning is used in many different situations, ranging from combating illegal logging to managing forest fires. Tools and methodologies are abundant. The pendulum is again swaying away from a focus on social forestry towards technical forestry and towards people's participation in silvicultural research. Farmers and others managing forest land want to know how to go beyond analysis to learn how to make their forest more productive and how to obtain the products that are in demand at present. This refers to the fact that the emphasis of forestry until recently has been on timber production. Now that emphasis is shifting to meet the needs of populations living in and around forests.

Defining community forestry

In this publication, the term 'community forestry' encompasses not only community involvement in collaborative or joint forest management but also includes:

production forestry;
plantation development;

combating illegal logging;
patrolling and protection activities;
revenue sharing;
protected area management;
biological diversity conservation;
non-timber forest products (NTFPs);
permanent sample plots; and
silviculture research.

How tools help the participatory process

Participatory tools can help build a sustainable base for PFM initiatives. When information is gathered and analysed in a participatory way, more appropriate interventions can be supported, and constraints can be recognized early. This is partly because the wisdom of the stakeholders has been factored in, and the real constraints have been highlighted. When all the stakeholders are involved in determining what will work and what is inappropriate, it is more likely that the activities will continue and evolve. As many of the tools highlight the real constraints, these can be dealt with before they become insurmountable.

Participatory tools bring out the indigenous technologies and traditional rules that can be worked with and complemented by more recent forestry knowledge. While traditional rules have had generational sustainability, time and circumstances may have eroded them. When there is a complementarity of rules and reasons, the stakeholders are working both with what is already known, and with some well-analysed new information. The chances that activities will continue are increased.

When tools are not appropriate

It is not always necessary to use participatory tools. For example, they are not appropriate when information is already available and when things are already going well.

When information is already available. Often, information has been collected in the form of census data, or by other agencies. In this case, it is more effective to obtain the information from those sources, and present it to stakeholders in an appropriate format. This is called collecting 'secondary data', and it is an exercise that forest department field staff undertake prior to entering communities. Secondary information can be compared, validated or refuted by community representatives. Census data generally yield a great deal of information about populations, ages, gender, occupation and, sometimes, economic status. Health data provide information about population and age, and often about household food security. Education data yield information about literacy rates and school enrolment, often disaggregated by gender.

When things are already going well. Tools are inappropriate if the stakeholders already have good two-way communication skills, and practise inclusion and transparency. In this case, there is no need to introduce a tool. The facilitator has to be truly sensitive and alert in order to introduce tools when necessary and leave them, or change them, when necessary.

Choosing tools

The selection of tools takes place against a backdrop of experience and cultural conditions. It is advisable to consider tools that are already known and creatively adapt them to the specific requirements of the method and the exercise.

The choice of tool depends upon the purpose. When the purpose is thought about and articulated, it is easier to choose the method and tools that will work. Various tools can be chosen, although not all will necessarily lead directly to fulfilling the purpose.

It can be advantageous to try new ways of using the tool that are more culturally acceptable. If creativity is encouraged, more time may be needed for trials and testing. Often, field staff or community members will successfully modify, or completely change a tool while they are using it. There should always be room to innovate and to further develop good ideas. It is also possible that field staff and community members will create their own tools. These tools and the process that the tools help to develop is the most fully owned by all participants.

Tools can lead to nothing, or can be misleading, unless the participants are comfortable with them. It is often more useful to choose simple tools that take a bit longer to use, rather than more elaborate, better-perfected tools that need time-consuming introductions or that may not even be properly used. For example, using simple chapati circles (see Tools and methods for stakeholder identification and analysis, Venn diagram) to assist in a stakeholder analysis is easier than using another, more complex, method. It is wise to test tools with colleagues, friends or family before using them.

The most efficient way to choose tools is to choose one that you know will work and is basic to the overall goals. In PFM, the mapping tool (see Tools and methods for participatory mapping) is critical, and it is wise to 'hang' as much information as possible on the map, using it as a reference point. For example, forest use cards (see Tools and methods for analysing forest use and users) can be employed with the map to indicate collection sites. Gender cards (see Tools and methods for analysing forest use and users) can be used with the map to indicate access and control over specific areas. The status of the forest products, from the users' perspective, can be overlaid on the map (see Tools and methods for analysing forest use and users).

Tools and communication

The purpose of using tools is to increase the quality and the depth of communication. If communication is not improved, then new ideas and avenues for communication need to be explored. If the tools don't work, review the purpose, and think of ways that might make it work better. Innovation has to be encouraged, it does not come about all by itself. It is important to learn to use tools step by step, but it is also important to innovate, if necessary. Do not be afraid to innovate.

The important thing is that using a tool increases the chances of a real sharing of knowledge. The better the sharing of knowledge, the more effective is the forest management plan and agreement, because it has involved the needs and opinions and knowledge of all the forest users, including all those affected (secondary users). It determines the best possible technical guidelines for the forest, and brings all this together in the agreement.

Often, the focus is on the forest users, especially those who use the forest for subsistence. But there are also the collectors, whose income is solely or partly from the forest, and those with small businesses, who use forest products to manufacture another product to sell. There are also those users who require forest products to manufacture another product, such as dried fish.

Forest uses include:

- subsistence consumption;
- commercial collection;
- primary uses (e.g. by furniture builders, house builders and carvers); and
- secondary uses (e.g. by brick manufacturers and fish dryers).

In many cases, forest users are the more marginalized groups. The forest is their last resort, and the source of most of their livelihoods. They are often landless, or they are women who are the single heads of households with children to support. They may also be children who cannot attend school because they have to work for the household, looking after livestock or collecting, or children who attend school and are also responsible for fuelwood collection.

Lessons

It is well accepted now that our best lessons are learned from making mistakes and seeing them as learning opportunities. In the past two decades, a great deal of experience has been acquired though use of the basic set of tools. Box 1 shows some lessons that have been learned.

Box 1. Lessons learned through using tools

Using a tool does not automatically mean participation

One of the most important lessons learned through using the tools is that what makes participation a reality is the way the tools are used. Simply using a tool does not automatically mean participation. There has to be commitment to the quality of listening and learning on the part of the facilitator and the partners. There also has to be a belief that all the partners are capable and willing to be involved in their own development process. The lesson learned is that tools can assist the participatory process but they are not, in themselves, the process.

Information needs of all partners and stakeholders should be fulfilled

Handling of the information has also yielded some lessons. For example, local people involved in transects (see Tools and methods for analysing forest use and users, Transect walk) can seldom interpret the 'cross-sections' of their surroundings. Systems and processes, therefore, have to be established to keep the data in the community, and also to collate them for the benefit of the managers. There is a strong tendency to immediately reconfigure and store the data to fulfil the needs of the supporters. This takes empowerment potential away from the partners. But there are ways that the information needs of both stakeholders can be fulfilled, using participatory information gathering and analysis tools.

Another lesson that has been learned is that often information is collected but is not incorporated into decision-making, nor is it put to any use except to fulfil a 'participatory obligation' set by supporters. The time that it takes the community and field staff to collect and analyse information suggests that the information should be <u>useful for and used</u> primarily by them, and secondarily by the supporters.

Lessons in report writing have also been learned. Often, a report that states a situation realistically is not acceptable. But realistic reports are important, as the forestry partners are frequently transferred, and it is critical that there should be an institutional memory of the information collected and analysed.

Sabotage and corruption should not be ignored

Sometimes the fact that the information coming from the partners might have been manipulated by the local elite, or by the partners themselves, is ignored. It is an imperfect world. There are often things happening under the surface. Many may have a vested interest in certain activities, and they may push to swing the information and analysis a certain way. Some effective ways have been found to cross-reference information so that this is less likely to happen.

Sensitive Information should not be ignored

It has been found that the information and analysis from participatory tools is often highly sensitive, and tends to be ignored. The lesson learned here is that if the sensitive information is crucial to the success of activities, a strategy must be found to deal with it. A striking example of this arose on a PFM project in South Asia, where participatory tools brought out the information that the local elite and foresters were extracting sharecropping rents from the people who had acquired land through the PFM agreement. There are ways to deal quietly with the realities of a situation if those realities are confronted.

The focus should be both on insiders and on outsiders

There was, in the early development of tools, the idea that communities (insiders) knew everything and that the role of the outsider was minimal. However, more and more, it is being realized that it is the partnership of the insiders and outsiders, rather than one or the other, that makes for effective and sustainable development.

Resistance to change should not be ignored

In the past, participation was seen as carrying out the participatory rural appraisal (PRA) set of exercises and then carrying on with a top-down development delivery system. An important lesson learned from this is that participation has to permeate the entire development delivery system. This means real, rather than cosmetic changes for everyone involved in development delivery.

TOOLS AND METHODS FOR PARTICIPATORY MAPPING

Four levels of mapping

The following four levels of mapping can be used in the participatory process.

- **Area base map** This shows the overall district, with villages, towns, roads, rivers, major forest boundaries and forest areas. It may have to be compiled from two or three topographic maps. It does not have to show a great deal of detail, as it is used by the middle manager and field staff simply as a reference.

- **Whole forest map** When the forest areas in which PFM are likely to take place are identified, you will need a reference map for that specific forest area. Again, it does not have to be too detailed. These maps are often at the sub-offices, and can be compiled from two or three topographic maps and can be roughly drawn. This map will show the whole forest area, or whole watershed.

- **Village area map** This is done by villagers and field staff. It can show the village as well as the forest area, or there may be one map for the village and one map for either a whole forest, or a portion of a whole forest (a village forest area), if there are many villages that use the whole forest.

- **Village social map** This is done by villagers and field staff. It shows roads, shops, water points, schools, clinics, homes, points of interest and places of worship.

Area base map

As field staff generally have a collective knowledge of the overall area, an area base map is highly effective in encouraging them to share and discuss their knowledge. The discussions could focus on site selection (shortlisting the villages and forests with which they will work on PFM) and technical guidelines for forest management. Area base maps have also been used with topic and issue cards to initiate discussion on key issues, such as illegal harvesting areas, local political issues, important economic forest use and areas of pressure or deforestation.

Description

This is an important first tool, as it helps field staff and middle managers make their first collective decision. In the past, field staff may not have had a say in which initiatives would take place, or where.

Area base maps may already be present in the forest department. They may be district forest maps, showing the areas of forest and perhaps

including topography. They often show forest cover and forest boundaries, and sometimes also indicate roads and villages located near the forests. As the participatory process involves villages located around the forests, the area base map may need to include village sites and towns. Once the area base map has been developed, field staff from particular areas might begin to discuss the potential of PFM in their area, asking what are the possibilities for PFM, and what are the constraints.

The map is used as a focus of discussion, and many decisions can be made on the basis of the map, such as answers to the questions: Where are we going to work? Which villages do we work with, and why? Using the area base map, it is possible to deal with issues such as the availability of field staff, the traveling distance to sites and overall forest status. For purposes of shortlisting sites, these maps are almost always adequate.

Variations

If time is sufficient, the field staff can develop their own area forest map, which may better serve their needs. This can highlight forest areas, villages and sub-villages, and include information on the status of forests. The field staff's own numbering or naming systems can be used. This is a good 'warm-up' if field staff are scattered, and do not see one another often. It will take about two hours, and needs large flip chart paper of good quality, and wide-nib coloured pens.

Whole forest map

Description

In site selection, during field visits, the whole forest map can assist in identifying possible transect walks (see Tools and methods for analysing forest use and users, Transect walk), as a tool to encourage local guides to talk about the area and/or to confirm the boundaries on the current map. The whole forest map can be a very rough map, or, if the forestry department has a map of the specific forest, this can also be used. There will be an opportunity, after the sites are chosen, to work more closely with a broad range of community members and forest users to explore the forest in more depth and detail. Especially if the forest is large and has the potential to be managed jointly with a number of villages, the whole forest map is a first look at the physical area as a potential area for PFM. The whole forest map can also be used to explore other topics and issues, and to discuss the parts of the agreement that deal with the whole forest.

In planning, if the forest is to be managed as a whole unit, under one agreement, there will be a need to have a good whole forest map. This will not be very detailed, as the details are available in the village forest area maps, and the sum of these makes the whole forest.

Whole forest maps used for site selection

For site selection, which is done mainly by middle managers and field staff and perhaps by other stakeholders (such as NGOs), a whole forest map that is produced by the forest department will suffice. However, if it is found that these are confusing to local guides in the transect walks, develop a whole forest map that works for them. First, ask local guides to draw the whole forest and, if it looks anything like the forest department map, then this map can be useful. Even if it does not look like the forest department map, it also provides useful information, and the differences can be highlighted; for example, areas of agriculture encroachment may have eroded the borders sufficiently to change the shape of the forest.

Whole forest maps used for forest management planning and agreements

Whole forest maps used in the planning process may be forest cover maps with some forest boundaries, or these maps may be used as the basis for a whole forest map that the stakeholders create for themselves. In the process of creating, they discuss, agree and learn to understand one another's perception. It then becomes 'their' map, rather than the map of the forest department. On these maps, at the beginning, it is best to have a limited amount of information, perhaps showing the communities, the forest and some key points of reference. The main thing is not to add too much detail, as one of the purposes of the map is to allow the stakeholders to discuss and add the details in their own way.

Village area map

This type of map is generally part of a whole. It is often done by the village planners for each village (and sub-villages), and is then used by the whole forest planners. It is a relatively detailed map used to help them determine specific answers to questions such as where forest users operate, which areas need treatment, and which areas are under most pressure and need management, closure or close patrolling. A village forest area map often accompanies the whole forest map in the final agreement, as the sum of the parts (village forest management plans) makes the whole (forest management plan).

Description

Village forest area maps are generally done by the planning team for each village. They may be use forest cover maps, cadastral maps, road maps, forest boundary maps, compartment maps, park boundaries, topographic maps, aerial photographs or even data from remote sensing. These maps are basically concerned with the section of the whole forest that a village (formally or informally) considers itself to have traditional use of within boundaries within the forest. These boundaries can be in Reserve Forest or Protected Forest areas, and are often based on (pre-colonial) traditional village forest boundaries.

In making a village forest area map, as in most mapping, begin with the boundaries, then add the points of reference (e.g. bluffs, rivers, creeks, sacred areas and villages on the periphery). Then begin to show the kinds of forest, and the uses of the forest. Because the forest users are part of the planning team, they will be able to discuss the status of particular resources in particular areas.

This is an excellent tool to use to begin the planning process, as the stakeholders present are the teachers, and it begins with their knowledge. When their cumulative knowledge is shared and discussed, better decisions and less conflict are the result.

Variations

Topic cards, forest use cards, gender cards and status cards have all been effectively used with this level of mapping.

The outputs from participatory mapping can augment an already existing baseline, or provide a baseline in itself. The map and the discussion around it are presented to the whole community for clarification and for discussion of the preliminary decisions of the planning team. At any evaluation points, the map can again be presented, and it provides a basis on which to discuss the different treatments, interventions or activities in certain areas, and how they are progressing.

Some of the kinds of information that can be discussed around the village forest area map are listed below. These can be put on topic cards (written or visual) and stakeholders can determine whether or not they want to address the particular topic or issue. It is important to add the topics and issues that are specific to the area, and to leave blank cards for some topics or issues that are raised during the meetings.

Topic cards can represent the following topics or issues:

- highly used areas;
- degraded areas;
- high quality forest areas;
- sensitive areas (slope, deforestation, fire, erosion);
- encroached areas;
- forest use areas;
- conservation areas;
- access to areas by gender or by specific groups (for example, for spiritual purposes);
- plantations and newly forested areas (successful and unsuccessful attempts);
- areas of special interest for tourism;
- areas used as animal corridors (for migration);
- areas used by migratory people (e.g. nomadic herders);
- external threats (e.g. possibility of roads or dams);
- spiritual or ritual areas;

- surrounding areas that may be affected by the proposed PFM; and
- forest inventory (Is it required? How is a forest inventory done?).

Village social map

Participatory social mapping of the village provides an excellent opportunity to identify different social groups, using locally defined criteria, assessment of the distribution of assets (e.g. livestock or land) across social groups, identification of potential focus groups and key informants, and identification of local innovators.

Description

This is a commonly used tool of PRA, and it is described in detail in most PRA manuals. In forestry, as well as providing a good overview of the community structure and socio-economic situation, a village social map is very useful for identifying businesses associated with secondary forest products.

The village social map is generally begun the same way as other mapping. First it shows the village boundaries, then points of reference such as schools, roads and rivers, and then general areas and homes. In some instances, the village and the forest area may be so closely associated that one map will suffice for both the village and the forest.

Variation

Village social mapping can be used together with forest use cards to explore village locations of forest users. Linkages to businesses and markets can also be explored by using forest use cards. For example, the collection of honey may have two important linkages in the village: One might be a 'buyer' who exports raw honey to the centre, the others might be the beer brewers and sellers in the village.

WA village social map is only a snapshot of the present. To begin exploration of the past, if this does come up, or if it is an issue, try a historical timeline, or even mapping of what the village was like in the past, and how it has grown.

Benefits

Mapping is one of the more popular tools in participation. It is an excellent way of beginning participation in a community because it is concrete, because the area is known intimately by those who live near it and use it, and because their sharing of their knowledge helps to build trust and begin two-way communication. Maps are of interest to almost everyone in the community, as everyone has knowledge, can contribute and be involved. As PFM is land-based, the map becomes a valuable

asset for planning, raising and focusing discussion, and presenting forest management plans to the broader community.

Mapping has also been used very successfully in PFM to collect information and stimulate discussion. For example, by using forest use cards with a map, variables such as forest use, collecting areas, status of the resources in different areas, and forest management zones can be highlighted for discussion. Gender cards stimulate discussion about areas that are restricted to men or women, and why they are restricted.

Mapping can be done in a large area involving a number of villages, with one village, or with sub-villages. It will depend entirely on the context. Foresters are generally fluent in mapping and levels of mapping, and transforming these skills to serve a participatory process comes easily to them.

There are many purposes in mapping. The most obvious purpose is to identify and agree on where things are. But within the process of creating the map, the community often learns to understand their environment in a different way, and this can increase awareness and exploration of options as to how to make things work better.

Past development in a village can be explored by means of mapping, using topic cards (e.g. Who built the school? Who built the clinic? Who decided on the sites? What were the effects? Did it work? Why? Why not? Where are the water access points located? How was this decided?) Bringing out the development achieved by community members in the past helps to reinforce their self-reliance, which is a good preparation for sustainable PFM.

How to facilitate mapping

- Announce a mapping activity at least one week in advance. Prepare by rehearsing the process with colleagues, family or friends, until it becomes familiar and comfortable.

- After the formalities and introductions, explain the purpose of the map, and define the ground or space in which it is going to be created. (if you have aerial photographs of the area, let people look at them and identify landmarks. Ask questions, so they become familiar with the idea that a map helps with identifying and analysing. Let them know that it does not have to be exactly in proportion). Let them know how long the exercise will take (approximately three hours to create and analyse).

- If you are doing a ground map, have a basket with objects collected in the area (e.g. sticks, leaves, nuts, old boxes, string, plastic bags and rocks). Objects that are familiar to the community are the best ones. If the ground is hard, you might want to have a basket of sand or dirt on hand. Be prepared to have a number of options.

- Choose a facilitator and two helpers from the group. Hand the community facilitator the stick. The community facilitator and helpers are to build the map; the community members are to direct them, and help if asked. It is often a pleasant surprise to see how relaxed and enjoyable this tool can be when everyone is involved and interested. The external facilitator can help guide the mapping process and ask probing or clarifying questions. Other field staff can be reflective listeners, sitting quietly during the mapping, but providing feedback of their understanding once the map is completed.

- Ask the community facilitator and group to start with the outside boundaries of the map. These may be the boundaries of the village, of the village forest area, or of the total forest. Identify north, south, east and west. Ask questions about traditional community lands: How long has the community been established? How it was established? Why are these the boundaries? Have they changed over time?

- Next, landmarks such as rivers and streams, roads and lakes are determined. The boundaries may change when these landmarks are identified. The advantage of having a ground map is that things can be changed easily. Staff may want to identify where the roads or paths lead, if they go beyond the map. Ask for some history of the roads or paths: When were they built and who built them? Who decided where they would go? Who maintains them?

- If you are doing social mapping, once the boundaries have been determined, the next to be identified are landmarks such as public and business buildings (e.g. schools, community centres and health centres) and other landmarks (e.g. burial sites, places of worship and grocery stores). When these are added to the map, the roads might become more defined or change a little. Ask about when and how the public buildings developed. Who built the community hall? How did the community decide on the places of worship? If the community is small, each house might be identified and a symbol (such as a matchbox) might be used. If the community is larger, areas where houses are concentrated may be identified and marked with an object from the

basket, such as round pebbles. There may be places where nomads or seasonal migrants stay. Ask questions: How is land for housing distributed? What do they do about new immigrants and growing families? Next, services such as water points, electricity and telephones might be identified. String can be used for this. Again, field staff and others are encouraged to be curious and ask questions. The agricultural land may be identified next, and then the community grazing land. Again, ask questions about the rules of access and management of grazing lands, and the general increase or decrease in the number of livestock over the years. The general condition of the grazing lands over the years might be explored.

- If you are doing forest mapping, at either the whole forest or village forest area levels, a logical sequence generally applies, although this is very flexible. The common landmarks, or distinguishing features of the forest, such as ritual space, common grazing lands or special heights of land, are identified. Then, perhaps, the areas of different kinds of forest species might be identified. These may be related to the height of the land, and the ground map can be built up by adding extra soil, or rocks. Remember there is no 'right' way to do this ground map, and community members will contribute all kinds of creative ideas.

- Identify collecting areas in the forest for different products. These can be shown on the map by small replicas of the products (e.g. a bundle of sticks to indicate fuelwood collection). Ask questions: Are there boundaries for different products? Why? Who collects from these areas? What is legal and illegal? Is the collection controlled in any way? What was the history of this forest area if it was formerly under traditional management? At times, you may run out of symbols; it is a good idea to have extra cards and wide-nib pens with you. The community members can generally identify an 'artist' among them, who can be directed to draw symbols.

- When it seems that everyone is content with the ground map and there are no more questions, the map is complete. Then, a member of the field staff who has been listening is handed the stick by the community facilitator, and he/she goes over the map as he/she understands it. Community members are encouraged to correct any mistakes. The 'listener' is also encouraged to ask questions or ask for clarifications about things they did not understand.

- At this point, as a closure, the facilitator reviews the reasons for doing the map, according to whether the map is a social

mapping of the village, a village forest area map or a whole forest map, and determines how it will be preserved for repeated use.

- Ideally, at this point, the ground map can be protected until the larger meeting in the evening, and can be used then. But if this is not possible, a few people, who have been chosen previously, can stay behind and can, with the help of field staff, reproduce the map on a large piece of paper. When this paper map is validated as reliable, it can then be painted on fabric, with fabric paints and brushes. This can be left with community members for them to complete. It is a task that frequently falls to the persons in the community who are known as artists, and they work under the guidance of some of those who were present at the map-making.

- The fabric map is left in the community. The field staff can photograph or reproduce the map for their files.

- The fabric map will be used frequently by the community throughout the project for further analysis and information gathering, for planning, for monitoring, for explaining their activities and rationale to visitors, and for evaluation.

Variations

Sketch maps

These are maps drawn with pens on large pieces of paper. They are good to use with a small group, and if people are comfortable handling pens and paper. A certain level of literacy is required of all community members. Follow the same general process as for the ground map.

Aerial photographs

If available, aerial photographs are much appreciated by community members. They can be a good introduction to the mapping exercise; people gain confidence by identifying landmarks, and are eager to create a larger map. One problem is that these maps cannot be left with the community, as they are generally part of a set used by forestry departments.

Participatory inventory

In some instances, the PFM agreements are prearranged and, under certain conditions, communities prepare themselves to meet the criteria that are set. Often, this includes a forest inventory and a forest management plan that has a very specific framework, because inventories and records of growing stock (mean annual increment) as community benefits are linked to growth over a period of time.

Using mapping with other tools

Gender card

Cards with pictures of men, women, men and women together, and men and women together with children, are made and tested to make sure that everyone who is participating can identify the pictures on the cards. These cards are then handed over to be placed on the map to indicate where the different gender and age categories collect products from the forest. Use of this tool provides information about the numbers of men, women and children using the forest. It also gathers information about which gender uses different areas of the forest the most.

Forest use cards

Cards or symbols of the major products collected from the forest area are made and handed over to be placed on the map where the different non-timber forest products (NTFPs) are collected. Stones of different sizes (small stones signify 'not enough for ourselves'; medium-size stones, 'only enough for ourselves'; large stones, 'more than enough to share') can be put on the cards to signify the status of each particular use. Alternately, status cards can be used.

Household information

On a village map, each person or household at the meeting is given stones, beans or symbols to place on the map at their household site, in order to gather information such as the number of households that migrate to find work, or the number of households that go to the forest to collect forest products.

Historical data

Maps can be done to analyse the past, present and future of forest resources. Topics for discussion might include how the forest/community grew, what changes (good and bad) have taken place, and why these changes took place. Maps can be used for discussion of why some areas are more heavily forested: (e.g. because of proximity to roads and paths).

Planning, monitoring and evaluation

Maps can be used for planning and for discussion of different options and possible outcomes. They can be a community record of the promises that the project made at the meeting. The proposed activities can be put on the map, and they serve as a baseline for future monitoring and evaluation.

Lessons

- Producing the map is only the first step to using this tool to its full advantage. Unfortunately, producing a map has often been the only step, and this does not take full advantage of a really useful tool. The maps can be used over and over again to focus discussions, work on planning, and explain activities and their rationale to outsiders. Maps are essential In forestry, and they can be used in community forestry in the same way. In dealing with large areas, even though people know them well, it is easier to plan when the entire area can be seen. When an area has changed, this can be indicated on the map (on fabric maps, it can be stitched on) or another map can be done during evaluation sessions to show the changes.

- Maps should not be expected to look like those produced by cartographers, with excessive information and exact detail. This type of map may take too long to produce, and by the time a perfect map is produced, enthusiasm is lost. It is while the map is being produced that 'the music of participation' is fostered by the curiosity of the facilitator and the enthusiasm of the community.

- Aerial photographs, remote sensing, and geographical information systems (GIS) data are excellent as a reference point, or to initiate discussions before the map is produced. But they are often expensive and fragile, and they cannot be left in the community.

- The facilitator does not need to have a forestry background, but it can sometimes be very important. The type of curiosity and kinds of questions raised by a forester are unique.

- Maps are fragile. This is partly because the maps are large, to accommodate a large group, and they are put on paper, which gets torn and tattered. Ground models are vulnerable to rain, wind and animals (e.g. chickens eating the data). Transferring the map to fabric works splendidly, as the map can be easily stored and washed. It is impervious to damage by rain, and can be folded for transporting. The fabric (strong, high thread-count cotton) is generally available, but obtaining fabric paints and brushes can be problematic. In a culture that paints billboards or rickshaws, tin or wood and the paints used on them can be used, but it is more difficult to transport the map.

- It may take some time to find the appropriate materials to create the map/model. In Bangladesh, flour and seeds or beans were used, but this was seen as a waste of food by

community members. Then the field staff began to use quicklime (calcium oxide), but it got into children's eyes. It may sometimes take a bit of experimenting to find what works in an area, and it is important to keep trying until the right materials are found.

- A map may not be useful if the area is small and can be easily walked and discussed at the site. During site selection, production of a detailed map and analysis may raise expectations that the community will be selected. In this case, a very rough map or a transect walk (see Tools and methods for analysing forest use and users, Transect walk), might be more appropriate.

WMapping can be considered to be successful when many very different maps, with different symbols, are produced by the different communities. Mapping can be considered to be very successful if everyone in the community can explain the map and the analysis that was produced with the assistance of the map. If the maps all look the same, there may be a problem of too much direction from facilitators.

TOOLS AND METHODS FOR STAKEHOLDER IDENTIFICATION AND ANALYSIS

Stakeholder analysis assists field staff as well as community members, and stakeholders once they are identified. Any stakeholder analysis begins by brainstorming about all the many individuals, groups, businesses, organizations, concessionaires, government agencies and NGOs that have interests and/or will be affected by any change in forest management in the area. It should be remembered that, at the early stage, stakeholder identification and analysis, when done with field staff, is preliminary. But it is important as the first step in understanding the range of people who are likely to be involved to some degree, and in understanding where conflicts may occur.

Description

Purpose

This tool is used to identify and assess the 'interest' and 'influence' of different stakeholders in an initiative.

Materials

Flip charts, coloured markers, coloured poster paper, scissors, glue sticks.
Cut several circles of different sizes (at least six sizes) out of the coloured poster paper. Circles of the same size should be the same colour. Cut out triangles of different sizes (again, triangles of the same size should be the same colour). Prepare enough so that each group can have several circles and triangles of the different colours and sizes.

Time

2.5 hours

Doing the exercise

- Explain the purpose of the activity. Ask participants what they understand by the terms 'stakeholder', ('forest user', 'forest user groups') in the context of PFM. Clarify any confusion. A stakeholder is often defined as an individual or group who has something to gain or lose by the proposed intervention. Using this definition, the forest user and the forest user groups would be stakeholders, either individually or collectively. However, there are also other secondary stakeholders, such as those who buy forest products and who may be affected by any change to the forest management.

- Explain that participants, working in small groups, will undertake the following activities.
    - Each group first selects a forest area that they know well. Alternatively, the groups can be preselected by working areas.
    - They then discuss and list all the stakeholders or stakeholder groups within this area. Next, they use the coloured circles provided to represent each stakeholder group (by labeling the circle). They choose a circle size to represent the relative interest or stake by the group. To determine this stake, it is useful for them to consider how affected a group may be by the initiative or its outcome. The larger the circle, the bigger the stakeholder interest/stake.
        - Glue the circles to a piece of paper with the project initiative stated in the center. Use the distance from the centre and the distance between the circles to represent the relative 'closeness' (not geographical) of the stakeholders to each other, or to the initiative.
    - Once they are satisfied with the position of the stakeholder interest circles, they then discuss the relative influence or power that each group has in relation to the initiative. They choose triangles to represent the relative influence or power of each group in the initiative. The larger the triangle, the more powerful the stakeholder. Glue the triangle to the circle, not obstructing the name of the stakeholder(s).
    - At the end of the activity, each group will have a piece of flip chart paper for their project, with circles and triangles representing the stakeholder groups and their relative interest and influence. They then present and explain their results to the other groups.
- Divide the participants into groups. Distribute flip charts, circles, triangles and glue sticks to each, and ask them to begin the activity.
- At the end of an hour, ask each group to present their results briefly.
- Initiate a discussion around the following points:
- How useful was this activity in identifying and carrying out a preliminary analysis of stakeholders related to the natural resource initiative. (It is useful to see if people find the visual representation of stakeholders to be more effective than the more common matrix or table approach.
- What does this tell us about stakeholders and interests, power and influence?

- Do you think that this activity will be significantly different when it is done with communities?
- Remind participants that this stakeholder or interest group identification and analysis will be repeated throughout the participatory process.

Example: Maps used in a potato project - Pakistan

Working on a potato project in Pakistan, national and expatriate participants from headquarters produced very different pictures of their project and its linkages with other institutions. The staff from headquarters in Islamabad mapped a wide range of institutions with which they had regular contact. These included those at the international level (such as donors), national level (other government agencies and NGOs) and local level. The provincial staff closest to the centre knew more of linkages than those from other provinces, but did not know international linkages. The most remote staff indicated a very simple picture of institutional relationships, clearly illustrating their marginalization within the project. (IIED, 1995).

Benefits

The visual approach encourages discussion.

Variations

- If many stakeholders have been identified, break up the field staff or community members into smaller groups. Have each do a stakeholder analysis, and then compare results.
- As an alternative to the combination of Venn diagram and matrix (see Tools and methods for stakeholder identification and analysis, Venn diagram), a matrix or table alone can be done, with stakeholder groups identified on one axis, and with elements such as interest; impacts and potentials (either '+' or '-') identified on the other axis.
- Role play is a variation that successfully highlights the problems of not inviting, involving and informing stakeholders. This has been effectively done in coaching field staff as well as with community members. Before beginning, write the names of all potential stakeholders on small slips of paper. Introduce the role play by emphasizing that during the planning process stakeholders, or their representatives, have to be **invited.** Once they arrive, they have to be **involved**. And those who are not invited or involved have to be **informed** about what is being discussed by the planners. Next, choose three or four members of the group and call them 'the Planning Committee'. Seat them on chairs in a circle in the middle of the room, and have them start planning a fictitious forest (draw a map of this fictitious forest in chalk on the floor in front of the planners). Then hand out the slips of paper to all those who are not in the planners' circle. What happens is that not all the

stakeholders are invited, and they become restless, wanting to find out what is going on in the circle. Eventually (sometimes with a little encouragement), they storm the planners and ask at least to be informed! Debrief with the keywords: invite, involve, inform.

Things to keep in mind

At this stage, during the coaching sessions with field staff, stakeholder identification is only preliminary. Stress that there are other perceptions, other stakeholders that may not have been identified here. This is not to be used as a predictive tool, but as a tool to begin understanding.

VENN DIAGRAMS

Venn diagrams are also known as ‘institutional diagrams’, or ‘chapati diagrams’ (see below). This exercise is useful in monitoring individual farmer or group perspectives on the changing institutional context and relationships between organizations. To be effective, it is important to be precise about the topic, and about what types of organizations being discussed are related to the chosen topic.

Purpose

The purposes of this tool are the following.

- To identify potential partners for PFM, why they might become involved, and which stakeholders might be the source of potential conflict.

- To identify stakeholders. At a local level, there may be a number of user groups: such as NTFP collectors, hunters, herders and loggers who have different interests in the forest. Venn diagrams might work well in identifying them and the potential for conflicts and/or cooperation.

- To identify the main actors in the community, whether organizations or individuals, and to identify the links between these actors and community.

- To reveal inconspicuous sources of influence. For example, religious leaders and traditional midwives may have special knowledge of forest resources, but they do not usually have a role in PFM.

Venn diagrams are one of the methods commonly used in PRA to study institutional relationships. They are popularly known as chapati diagrams (chapati means ‘round bread’ in the Hindi and Urdu languages). This method uses circles of various sizes to represent institutions or individuals. The bigger the circle, the more important the institution or individual. Overlapping circles indicate interactions, and the extent of overlap can indicate the level of interaction.

Materials

Paper circles are the most frequently used material. Drawing on the ground is also used, although this does not allow the size or location of circles to be changed. Sometimes, after the circles are drawn, participants discuss the diagrams and want to change the size or location. They hesitate to do so when the Venn diagram is drawn, but if the circles are cut from paper, they are encouraged to make corrections.

- Separate circles work best because they can be moved around and changed. Three sizes are generally enough.
- Circles are drawn on a large sheet of flip chart paper. They can also be done in the dirt or on whiteboard or on a blackboard.
- Pens, paper and scissors are needed.

Prepare from 2 to 30 circles cut out of cardboard or thick paper. Make them the size of large dinner plates. The circles should be of equal size at the start. With key informants, identify the opinion leaders in the community. Write the names of these individuals on the cardboard cutouts. Then ask participants: How are these organizations or individuals related to forest development? Which ones work together? Which ones do not work together? Indicate the relative influence of actors in the community by reducing the size of the chapati to signify that influence decreases. Indicate the relative strength of actors' links to the community by decreasing the distance between the chapatis to show that the links get stronger. Finally, when consensus has been reached, discuss the diagram with other villagers to triangulate the information on the social relationships of the community. For example, ask the questions: Do women and men see the same groups and individuals as important? Do young and old people see the same groups and individuals as important?

Time

One to two hours

Doing the exercise

- Choose the topic. If the discussion attempts to deal with all aspects, individuals, and organizations involved in forestry, it can become confusing. Instead of discussing all of the organizations important for all aspects of community life, use Venn diagrams to discuss more specific topics such as 'individuals and organizations external to the community that are important to the management of our communal forest', or 'potential partners in PFM'.

- Place the key unit that is being discussed. Determine the important unit (or focus), and represent this with a circle (any shape will do, but the circle is most commonly used). Have a general discussion about this key unit in the circle, beginning to identify all the groups, individuals, institutions and organizations that relate to the topic.

- Represent each group with a circle. Represent each of the individuals, groups, institutions and organizations with a circle of its own, the size of which represents their relative importance for the topic being discussed. For example, if PFM is being discussed, then the local forest extension officer might be represented by a large circle, while a nearby sawmill is represented by a smaller circle, because it is less important, as most of the wood is used locally.

- Place circles in and around the central circle. The closer the circles are placed to each other, the more contact they are considered to have (Ensure that this is not confused with their geographical distance to the forest). The closer they are to the large central circle, the more input to the topic they have. So three things are being represented: relationship to each other, importance to the topic, and relationship to the topic.

- Discussion. The placement of the circles is just the beginning. The most important part of this exercise is to discuss why the situation is as it is. From this can come 'agendas, intents, purposes'. From this can come recognition of potential conflicts, if there are one or more important individuals, organizations, or institutions with different agendas. During discussion the circles may change. When they are arranged to suit everyone, then they can be copied onto a smaller piece of paper for filing.

Variations

You can study more than two variables in a Venn diagram. Coins or tiles can be piled on each circle to indicate relative income generated by each stakeholder.

Variables can be expressed in three dimensions.

1. Width, i.e. the size of the circle represents perceived importance. The bigger the circle, the more important the forest use.
2. Length, i.e. the distance from the circle that indicates the topic. The closer the circle to the centre, the more the individual, group, institution or organization is involved on a day-to-day basis.
3. Height, represented by coins or tiles. The higher the pile of coins or tiles, the more income is related to this forest use.

Benefits

Benefits include the following.

- Areas of conflict can be identified early.
- Partners can be identified and analysed.
- Changes in relationships over time can be shown.
- Local people's perceptions about institutions, individuals and programmes can be studied and understood.
- Valuable insights into power structures and decision-making processes are provided.
- The extent to which community institutions need to be strengthened can be ascertained.
- The relative importance of services and programmes can be studied.

Things to keep in mind

- The analysis should remain focused.
- This may be difficult to do with local people, as the concept is abstract. Sometimes it is easier to do a first Venn diagram that uses an economic example, such as production of fruit or any other marketable item, asking who the main people or groups involved are and how they relate. It is easier for people to think in economic terms and then to translate the exercise for PFM.

HISTORICAL TIMELINE

Historical timelines can be used in many instances. They serve to raise discussion on some of the historical issues that are essential to understanding, such as resistance to PFM, There may be resistance to PFM because for years local people have seen themselves as having satisfactorily protected their forests within their own rules, while deforestation has been the result of government policies that promoted harvesting. Given this kind of historical background, local people may not immediately believe that PFM will benefit them. In such cases, it will take a longer time for PFM to develop.

Description

Historical timelines are easily done, and require few materials. First, introduce the focus or issue of the historical timeline. Then draw a line that represents a time frame that it is useful to cover (e.g. the past 100 years, or from the time of land reform up to the present). Discuss the events that occurred within the time frame, and briefly record them. Then, the most important part of the tool is the discussion of what bearing this history has on the current focus or issue.

ANALYSIS OF CAPACITY OF LOCAL ORGANIZATIONS

The access rules laid out by traditional local authorities are an encouraging sign. However, their informal character hampers their effectiveness against 'external' interests.

ECAZ does not have the mandate to redress the current imbalance in stakeholders' '3Rs' (Rights, Responsibilities and Revenues/Returns).

Relationships

The striking feature of Table 2 is the prevalence of informal relationships between the local stakeholders. While informal rules can be very effective in regulating access to and ensuring sustainable use of natural resources, they usually lose much of their effectiveness when powerful 'external' interests come into the picture. Moreover, informal relationships lead more easily to mismanagement, especially when the commercial value of the natural resource at stake is high.

The relationships between stakeholders are generally good because of the general laissez-faire character of natural resource use in the area. However, this example illustrates the fact that good relationships do not necessarily lead to sustainable forest management.

In this case, the assessment of the '4Rs' was carried out through a series of interviews with different stakeholder groups, first separately, and then pulling together the results in plenary sessions.

Comparative analysis between different policy provisions

Table 3 is an example taken from the same study carried out in Zambia, where a Zambian study group carried out the comparison between different policy and/or regulatory provisions through a desk exercise.

Table 3: Policy statements and legislative provisions in relation to the '3Rs' - Zambia

Legislation and policy statements	Provisions in relation to the "3Rs"		
	Responsibilities	Rights	Revenues
Forest Act	Government	Government	Government and local people
Wildlife Act	Government and local people	Government	Government and local people
NEAP	Government and local people	Government	Government and local people
Water Act	Government	Government	Government and local people
Energy	Government	Government	Government and local people
Land Act	Government and chiefs	Government and chiefs	Government and local people
Local Government. and Housing Act	Government and landlords	Government and landlords	Government and local people

(Source: Adapted from Makano et al., 1997)

A strength and weakness analysis of policies on the basis of Table 3 would clearly show that:

- there is a lack of harmonization of the different regulations in terms of rights and responsibilities; and that
- there is harmony between the different policies as regards revenues (however, in this case, the policy statements do not correspond to reality, as almost no revenues return to the local level from the Central Treasury).

The '4Rs' as a criterion in project monitoring and evaluation

In 1996-97, a working group from Niger carried out a study (Ibro et al., 1998), in which the '4Rs' tool was used to evaluate a series of natural resource management projects. In this case, the gathering of information resulted from the analysis of questionnaires sent to village development committees, and was complemented by interviews of key informants within these committees. This led to two types of comparison.

- One comparison was between project objectives and results, in relation to the '4Rs', leading to one matrix per project, framed as in the following sample matrix for comparison between project objectives and results.

Sample matrix for comparison between project objectives and results

'4Rs'	Project objectives	Results (from surveys of community-based organization members)
Rights		
Responsibilities		
Returns/revenues		
Relationships		

- Another was a Strengths, Weaknesses, Opportunities and Threats analysis (SWOT) of the '4Rs' for each project, framed as in the following sample matrix for SWOT analysis.

Sample matrix for SWOT analysis

'4Rs'	Strengths	Weaknesses	Opportunities	Threats/risks
Rights				
Responsibilities				
Returns/revenues				
Relationships				

Use of the '4Rs' as part of a role negotiation/planning tool

The following example is taken from a negotiation and planning exercise that took place in 2000 in the context of the Department for International Development (DFID)-funded Mt Cameroon Project in Cameroon. At a two-day workshop, participants from the major local stakeholder groups assessed their current and future '4Rs' in relation to community forestry

activities. The '3Rs' were assessed separately from stakeholders' relationships.

Negotiating stakeholders' '3Rs' (Rights, Responsibilities and Revenues/Returns)

As regards the '3Rs', the participants added one characteristic that does not appear in Table 1, i.e. the relative ‘weight’ of each 'R' for each stakeholder group, as illustrated in Table 4 for half of the stakeholders. These scores allowed for the development of Table 5. This Table shows that the main beneficiaries of forest resources are illegal users; while those with most responsibilities and formal rights benefit very little.

On that basis, participants determined what the community forest should be like in five years’ time, and what the desired '3Rs' should be. The table produced formed the basis of the negotiation on what should be planned to achieve.

Table 4: Current rights, responsibilities and revenues table for 9 of 18 forest stakeholder groups

Stakeholder	Rights	Score	Responsibility	Score	Benefit	Score
Charcoal-burners	Partial access	2	Register with Operations Committee	2	Direct income	4
Timber exploiters	Partial Access	0.5	None	0	Direct income, timber	4
Firewood collectors	None	0	None	0	Direct income, resource	4.5
CDC (a parastatal plantation company)	Rightful leasehold owners	5	Ensure proper land management	1	None	0
Chiefs	Authorize access to all resources	3	Act as custodians; monitor	2	Fees; gifts	1
Farmers	Access to land; participation/decision-making	2	Implement land use plan (tree planting); Registration	1	Crop sales; crop consumption	5
MINEF (Ministry of Forestry)	Supervision; management	4	Control exploitation; collect government taxes; implement community forest procedure	2	Auction sales revenues; exploitation fees	3.5
BBNRMC (local management committee)	Management authority; negotiate on behalf of the community; sanction	3	Implement LUP; monitor and control; establish community forest	3	Allowances; training; gifts; informant fees	2
Traditional doctors	User right; participation	1	-	0	Consultation fees; treatment; herbs sales	5

CDC: Cameroon Development Corporation; MINEF: Ministry of Water and Forests; LUC: Limbe Urban Council (Source: Teckwe & Percy, 2000)

Table 5: Ranking of actors according to relative weight of '3Rs'

Rank	Greatest rights	Most responsibilities	Most benefits
1	CDC	MCP	Farmers / fishermen
2	MINEF	BBNRMC (local management committee)	Firewood harvesters / traditional doctors
3	MCP	MINEF / chiefs / elites / charcoal burners / LUC	Timber harvesters / charcoal makers
4	BBNRMC / Chiefs		

CDC: Cameroon Development Corporation; MINEF: Ministry of Water and Forests; LUC: Limbe Urban Council
(Source: Teckwe & Percy, 2000)

Stakeholders' relationships

Next, participants assessed the relationships between stakeholder groups on the basis of their 'quality', i.e. excellent, fair, poor and absent. This highlighted areas of problems and allowed for targeted recommendations on how to improve relationships. It also determined entry points for developing new relationships (e.g. one stakeholder group that has a good relationship with two other groups that have problematic relations was used as mediator between the two groups).

Lessons

Table 6 summarizes the main constraints encountered in administering the '4Rs' tool and provides suggestions on how to overcome these constraints.

For additional information about the '4Rs' contact:
Olivier Dubois, (olivier.dubois@fao.org)
www.iied.org/forestry/tools
www.fao.org/participation/ft_find.jsp_

Table 6: Main constraints in the use of the '4Rs' tool and suggestions on ways to overcome them

Main constraints	Suggestions on ways to overcome the constraints
x The tool tends to oversimplify the reality, especially at the expense of the diversity of uses of forest resources.	x Ensure that the tool is administered by a multidisciplinary team and that the essentially exploratory character of the '4Rs' tool is kept in mind
x The '4Rs' tool is often difficult to use with rural populations, in particular because : - it is difficult to visualize the '4Rs'; - in Africa, there is difficulty regarding rights, because of the use of both form and informal judicial systems; - sometimes there are difficulties in translating the '4Rs' into local dialects; and – there is the risk of introducing the '4Rs'in cultural environments not very familiar to those who administer the tool.	x Do not initiate contact with illiterate stakeholder groups using this tool. Translate the '4Rs' into locally accepted terms through a participatory exercise. Do not necessarily rely on matrices to visualize the results of the exercise with rural populations. Ensure common understanding of the meaning of each 'R' among all stakeholders. When relevant (e.g. in Africa) separate the formal and traditional judicial systems when analysing and negotiating the '4Rs'. If necessary, analyse each 'R' separately, before assessing their balance.
x As a consequence of the first two constraints, above, the use of the '4Rs' tool requires time and skills.	x Consider sustainable management of forest resources as a process, and therefore factor enough time for diagnosis and negotiation in the planning of activities; in addition ensure regular opportunities to question and renegotiate the '4Rs' if necessary.
x The '4Rs' tool can provoke or reinforce conflicts through increased frustrations in weaker stakeholders and increased fears in stronger stakeholders.	x * Favour issues and topics where negotiation seems more likely to result in consensual agreements. * If necessary, start by working with smaller groups and with each stakeholder group separately, as a first step towards public negotiation. * Do not force weaker groups to embark upon a negotiation process before they have gained enough bargaining power. * To that end, start by assessing stakeholders' relationships, as an indication of power disparity between stakeholder groups.
x The '4Rs' tool is not very effective in the identification of stakeholder groups to involve in the diagnosis and/or negotiation.	x Combine the '4Rs' tool with other tools used in stakeholder analysis, and in particular with those most useful in identifying/selecting stakeholders (e.g. Venn diagrams).
x Thus far, the use of the '4Rs' tool has privileged incentives by focusing on positive 'Rs' (i.e. what is or should be), at the expense of negative aspects of the '4Rs' (i.e. what is not or should not be).	x If necessary, also assess 'negative Rs'. This should allow for a better assessment of what the stakeholders would lose if they do not negotiate their '4Rs.
x Those administering the tool might feel that they own it, whereas the stakeholders should feel that they have ownership of the diagnosis and/or negotiation process.	x Promote ownership of the '4Rs' tool, and especially the diagnosis and/or negotiation process, by local stakeholders.

TOOLS AND METHODS FOR LIVELIHOOD ANALYSIS

WEALTH RANKING

This tool helps to better understand socio-economic differences within a community. It can be used to explore the differences in how various people in the community use resources and to understand their role in governance. The key to wealth ranking is that it does not ask about any individual's wealth, but rather assigns families anonymously to different groups in the village that are then ranked according to their relative wealth. It is then possible to ask about how these groups use resources, participate in governance, etc.

First, the facilitator leads a discussion that defines the local concept of wealth. Then the facilitator takes a pile of beans or stones that represents the whole village, and asks people to divide them into piles representing sub-groups, so that each pile represents the number of people having approximately the same level of wealth. Each pile, or sub-group, can then be discussed in turn. What does one group have that the other does not? Do the decision-makers in a community all come from one wealth strata?

FOREST SEASONAL CALENDAR

It will often be necessary to negotiate times that fit the schedules of both field staff and community members. A forest seasonal calendar, or basic seasonal calendar can help determine the times that are best for everyone. The calendar also provides information to all about the main crops and main economic activities of those in the community. Discussions of livelihoods and livelihood strategies can be included in the exercise.

Description

One of the more difficult parts of planning for meetings and activities is determining a time that is suitable to all stakeholders who are invited and involved. This type of calendar is also useful in determining when other stakeholders can most effectively be informed of what transpired at the meetings, or when activities will take place.

For field staff, the calendar should show the months and/or seasons, labelled with the term that is commonly used locally to describe them. Then ‘landmark’ dates, such as religious holidays, are added. Seasonal periods as they relate to

forestry, such as the planting season, fire season and propagation periods, are designated. Then all the prescribed events, such as quarterly report writing, training and study tours are put on the calendar. The time periods that are left are the times that field staff are free to hold meetings with community members. Does this relate to the seasonal calendar for community members? Compare the two calendars.

For community members, the calendar can be done in the same way as it is done by field staff. Forest users can put in high collection periods and slack periods. Forest use cards can be used to indicate the seasonal variation of the different uses.

This type of information will be useful for both field staff and community members in negotiating the times that are best for both to work together.

DAILY SCHEDULE

The times of day and the days of the week when meetings will be most convenient can be established by determining the best meeting times. Often these meeting times are determined by field staff, who work regular hours, and by local leaders, who are often male and relatively well-off. When it is necessary to inform a wider range of community members, further exploration of suitable times may be necessary, and the daily schedule is then useful.

A sampling of daily schedules of men, women and children can also give insights into daily activities that contribute to the livelihoods of members of the community.

Description

Different cultures perceive time in a different way, but most people wake up with the sun, and sleep after sunset. Hours of work, hours of eating, relaxing, travelling, and dealing with daily needs all make up everyone's day. But in most cultures there are very different daily schedules for men, women and children. It is naïve to assume that everyone has the same schedule, and often it is wise to invest some time in finding out which times are most suitable for meetings and/or activities.

To make a daily schedule, draw a line, and put in the days of the week. Mark the religious days. On the vertical axis, indicate the beginning of the day with sunrise and go through the hours until bedtime. Doing this for different people (women, men, forest users, local leaders, field staff) makes it easier to plan meetings that all can attend, and activities in which all can be involved.

In some countries, daily prayers are an important way of marking the passage of the day.

SEMI-STRUCTURED INTERVIEWS

Looking at livelihood strategies assists staff to understand the different levels of dependency of the different interest groups on forest resources. It also ensures that the poorest, in particular, are not further marginalized by the proposed forest management arrangements.

Semi-structured interviews can be conducted with both men and women from different ethnic and economic groups in the community. Through the interviews, staff can assist community members to look closely at livelihood strategies.

TOOLS AND METHODS FOR ANALYSING FOREST USE AND USERS

FOREST USE CARDS

Forest use cards are a wise investment, and can form one of the basic tools of participatory forest management. Developing them can become part of field staff training. First, all the commonly known forest uses in the area are identified, and 20 x 25 cm cards with pictures of the use are drafted by an artist, under the direction of field staff. These are tested twice in the field, and then made into two or three sets for future use. The forest use cards can be used for: identifying uses of a forest; clarifying or determining the importance of different resources and the status of the different resources; identifying collection sites; categorizing forest user and interest groups; and identifying collection and use by gender.

Purpose

Forest use cards are used to:

- stimulate discussion and shared knowledge about forest use;
- determine importance of different forest uses;
- compare forest use by gender;
- ascertain the status of different resources;
- identify major collection sites and areas of high pressure;
- categorize the forest users into forest interest groups;
- identify market linkages from each use; and
- identify uses of forest resources for subsistence and for income.

Materials

Prepare a list of the range of the forest uses for the area. For ready reference, some of these uses are shown in Box 3.

Box 3: Some common forest uses

Tree-based: resins, bark, roots, leaves, twigs, berries, gum, amber, fruits, nuts, lacquer, building timber, medicinal (such as Yew), prayer poles, fuelwood, carving wood, aromatic scents, special dimensional lumber (for boat building, temple building), etc.

Forest-based: bushmeat, perfumes, medicinal plants, rattan, insects, fodder, leaf litter, honey, etc.

Service-based: water catchment, direct feeding of village streams, source of water for livestock, source of water for domestic use, “brings rain”, regulates temperature, land for expansion of farm land in future, space for woodlot development, erosion control, grazing areas, space for tourists, amenity, burial grounds, ceremonial purposes, spiritual sites, etc.

Have field staff work with a local artist to present visually the uses chosen on 20 x 25 cm heavy cardboard cards. These should go through two or three drafts: one with field staff, two with community members under a range of conditions (women, men, young, old, literate, non-literate). The final drafts can be plastic-coated. Always have two or three blank cards on which to put uses that arise as the cards are being used. See the sample forest use cards in Box 4.

Box 4: Sample forest use cards

bushmeat	fuelwood	honey/beer	grazing (us)
timber	mushrooms	medicinal plants	grazing (nomads)

Time
30 minutes to 1 hour

Doing the exercise

Introduce the idea of the many uses of a forest area, and the idea that these cards represent some of them. Hand the cards around, and have the individuals who get them explain what they see in the picture; then the card is set down on the ground where everyone can see it. If there is much debate over what is seen in the picture, this suggests that another draft of the card is needed for clarity.

The cards can be used for a range of purposes. In each case, they encourage discussion, share information and analyse situations, as follows.

- Identifying forest users

  If working with forest users, those present can put stones or beans on what they collect. This gives an idea of whether or not those present reflect the range of forest users, and who is missing and why they are missing.

- Understanding forest use by gender

  Gender cards (pictures of men, women, and both men and women) can be introduced, and the use cards can be placed under the appropriate gender cards.

- Determining which resources are most critical to manage

  Forest use cards are ranked from most important to least important in terms of income potential and/or subsistence needs (non-commercial). When doing this, it is best to rank only the first three or four. It is also possible to rank importance by gender (men and women rank separately).

- Selecting sites

  Working with field staff, the forest uses can be distributed by ecological zones on an area base map, in case site selection criteria are to cover a range of ecological conditions. This also stimulates field staff's thinking beyond conventional forest uses.

- Determining sites of activities and forest management areas

  Forest use cards can be placed on maps (area base maps, forest maps, zone maps) to indicate areas where resources are collected. This can indicate areas of high and low use or pressure.

- Understanding marketing processes for different forest products

  For income-generating resources, forest use cards can be highlighted for discussion about markets and market information.

- Determining the status of a resource

  To understand the status of the resource from a local perspective, forest use cards can be used with status cards. Three categories are introduced: scarce ('not enough even for ourselves'); sufficient ('enough only for ourselves'); and abundant ('enough for ourselves, and many others'). People place the forest use cards under these.

- Determining which forest product to manage first

  The information from the forest use, ranked and then used with the status cards, provides information on which important forest uses are in decline, and, most importantly, also provides management guidelines.

- Monitoring change in forest use

  The forest use cards can be used to monitor changes in use over time. This also works well with the status cards to determine if there are any changes in use or availability.

- Forming forest interest groups

  Forest use cards can be used to identify forest user groups and forest interest groups. Do any of the forest users have enough in common to form a forest interest group, or are each of their agendas so separate that they cannot belong to one group?

- Determining which forest uses to ban, regulate, allow with a permit or allow unregulated

  Identify four categories (with cards or symbols): ‘causes high damage’, ‘causes some damage’, ‘causes little damage, ‘causes no damage’. Put each forest use card in the appropriate category.

- Determining the importance to different categories of people

  Identify four categories (with cards or symbols): ‘for richer people’, ‘for average people’ ‘for poor people’, ‘for the extremely poor’. Put the forest use cards in each category, and discuss.

- Ranking forest use by purpose

  Make two columns: one column indicates that the forest is ‘used for sale and income’, the other column indicates that it is ‘used for home purposes’. Put the forest use cards in the appropriate column.

Benefits

- Forest use cards are easy to use, especially in large groups with mixed educational levels.
- Those who know about use in an area (field staff or community members) have an opportunity to contribute and share their knowledge.
- One simple tool serves a variety of purposes.

Variations

- Writing the use on cards is possible, but does not work in all situations, and it is more difficult for people to assimilate and sort written cards when there are so many selections.
- Forest use cards can be used for a baseline. See if the forest use changes by repeating the same exercise two or three years into the participatory process. Change in forest use is often an effective indicator of success or failure, but is difficult to interpret because the scope and/or magnitude of the change may not easily be forecast.

Things to keep in mind

- When using the forest use cards, keep in mind that there is often more than one site, or more than one category with the same forest use. Have two or three sets of cards available at the same place.
- The cards may change as some perceptions differ and as people discuss the cards. Be prepared to make changes frequently. The local people will appreciate the fact that their input was heard and that the pictures on the cards were changed. At some point, with a little work, there will be a really effective set of cards for the area.

TRANSECT WALK/FOREST WALK

Although most field staff know the areas and the community members very well, sometimes they know them in a particular way, as advisors, enforcers or employers. To take a walk around a community, or through the forest, or around the watershed, with some community members leading the tour and explaining things, is often surprisingly enlightening.

Community members often perceive their landscape differently from foresters or resource managers. Often, they have not had the opportunity to explore and explain their perception to the field staff. A transect walk is very useful for site selection and is also useful before the beginning of participatory planning both at the village forest area level and the whole forest area level.

What is suggested is not the conventional transect walk traditionally done with participatory rural appraisals (PRRs), but a transect that is hosted and led by community members. A four-part matrix for remembering information has been found to be highly effective in these instances.

Purpose

The purposes of the transect walk are:

- to see the landscape through the eyes of community members;
- to ask exploring questions, and learn to listen; and
- not to raise the expectations of community members, nor bother too many of them, but to increase understanding of the area for decisions about site selection.

Materials

Water and snacks or a lunch for all.

Time

- Three to five hours, depending on the area to be covered

Doing the exercise

- Begin with a rough map, and an idea of how to see a good cross-section of the area/community/forest/watershed. This may mean travelling in vehicles to far places and walking into the area every so often. It could mean walking across the whole area, or through a valley bottom. Try to arrange it so that a good idea of the differences in the area can be observed.

- Brief with group. No notes are to be taken. This is a period of observing and remembering. The de-briefing at the end of the talk can be a time of note-taking. There are to be no question lists. Think in terms of categories in a matrix, and study the kinds of questions in each category. They are remembered easily when read and rehearsed in this way. Read out loud. Colour the areas; the question will be associated in the mind with the area in the matrix and with the colour.

- If the area is large, and there are a number of field staff, split up the area into smaller areas, and meet afterwards to de-brief and put it all together. A rough map will help in the de-briefing.

- Ask informal questions about whatever arouses curiosity. Do not hesitate to do so, even though you don't know the answer. Often experts only ask what they already know, so they can check if others know it, too. What is important here is to try to understand the landscape in a different way.

Box 6 is an example of a four-part matrix of questions that were found to be useful during a forest walk in Tanzania. These questions will work best if questions are developed by the individual(s) who are taking part in the walk and asking the questions. The questions are developed only to stimulate the curiosity of the individual asking them; they are not to be asked by rote and answered.

Box 5: Four-part matrix for a transect walk - Tanzania

Boundaries	**Management**
What is the extent of the area? Where are the local boundaries? Which villages does it join? Is this the same as the boundary of the village area? What marks the boundary: gullies, streams, paths? Is the boundary accepted or in dispute?	What is the history of the area? Who did it belong to? Who does it belong to now? If the area is within any village land, have there been rules about using it? What has happened to those rules now? If they have fallen into disuse, why? If the area is the responsibility of the government, is it guarded, or regulated in any way? How does local government deal with the area? Who could best look after the area, and why? If this area were managed by the local communities, what would happen?
Uses and users	**Condition**
Who uses the area today? Do the users come from nearby communities, nearby towns, or from very far away? Do women and men use the area in different ways? Do rich and poor use the area in different ways? What are all the different uses being made of the area? Which uses are most and least damaging? Which uses are confined to specific parts of the area? Which uses are new? Which uses are increasing, and which are decreasing?	What is the condition of the area in general, and in its different parts? Is it degraded? If so, why? How was the area different 50 years ago? What has changed and why? What will the area look like in 20 years if there is no change in the way it is looked after? Which areas are most used, what for, and why? Are any places used for a special purpose, such as grazing, medicinal plant collection or thatch collection? Are people living in the area? Where? How many? Are they scattered or in small settlements? Which areas need special action to enable them to recover? Which areas need most protection and why? If there is forest, is it in one piece or in patches? What name is the forest given locally? What kind of forest is it? Are there different zones with different types of forest and what is each part known as locally? Are there open glades or grasslands? Are there any special sites in the area? Are there springs?

Benefits

- Expectations are not raised.
- People like to talk about what they know, and explain to others why they know it.
- This tool takes the best of the transect walk (cross-section) and the semi-structured interview (informality), and focuses both on a specific area.

Variations

The conventional transect walk, with attendant diagrams, is a variation. But often more work is put into the diagrams (the output) and little into really trying to understand an area. If a conventional transect is done, it must have some value to the community members.

Things to keep in mind

If there is only one group, and one guide, the information is likely to be biased by the opinions of the guide. If there are many guides, and many groups, the de-briefing after the walk can either confirm information, or reserve it until more is known.

STATUS CARDS

Those who use the forest frequently are often quite aware of the status of the resource. Status cards, either visual, written, or using objects, give them a choice of three categories:

- scarce (‘ hardly enough for ourselves’);
- sufficient (‘only enough for ourselves, but none to sell or share’); and
- abundant: (‘enough for ourselves, and plenty to share’).

Given that one of the objectives of PFM is to manage the resource considering the users, it is more practical to manage forest products that are important to them and that are under pressure.

Purpose

The purpose of status cards is to:

- assess and discuss the status of the forest resources; and
- determine which products/areas are most critical to manage.

Materials

Develop status cards for your particular area that indicate how people would usually speak about and perceive the three categories. Test ideas before going to the next step of development, which may be visual or written, or use real objects. If cards are used, they should probably be no smaller than 12.5 x 12.5 cm so that they will be visible to large groups.. Make four or five sets of cards on strong cardboard. If they work well, consider having them plasticized. Note that each area will have to develop and test their own way to define these categories.

Box 6: Matrix for a status card

Status	Described as	Can be written as	Can be visualized as	Can be an object such as
Scarce	'Hardly enough for ourselves'	LITTLE		small rock
Sufficient	'Only enough for ourselves, but none to sell or share'	ENOUGH		larger rock
Abundant	'Enough for ourselves, and plenty to share'	LOTS		large rock

Time

30 minutes to 1 hour, depending on the amount of discussion

Doing the exercise

This tool can be used in a number of ways, generally in conjunction with another tool.

First, make sure that everyone (especially those who are not literate) understands the cards, and what is meant by them. This may take a while. If it takes too long, it may be that the written cards, the visual cards or the objects are not clear enough, and need to be redone**.**

Status cards can be used to:

- determine the status of a number of forest uses;

  The forest use cards and the 3 status cards are introduced. The status cards are laid down, and forest

users place the forest use cards in whichever of the three categories they feel they belong. This can be done in small groups, or groups of women and groups of men. What is important is to use the information to open discussion on why some forest products are scarce, and others are in abundance. Are some managed? What increased exploitation?

- determine the status of different forest uses in different areas of a forest;

  Using status cards with detailed maps (village forest area maps or whole forest maps) forest users can place status cards on the forest use cards that have been put on the map, thus indicating that pressure in collection oruse areas may differ considerably. The question of why this is the case can be raised. Using status cards with maps is most effective if done only with the three or four most important forest uses, as ranked by forest users.

- monitor change over time;

  The forest use cards and the status cards can be used over time to monitor changes that are anticipated, and perhaps to find changes that were not expected. If the status cards are going to be used in this way, it is important that they be documented over time. This is best done in the same way the information was collected.

- provide market information.

  Status cards can be used to compare different areas, and provide intramarket information. In some instances, one area will have little of an important resource, while a near-by area has more than enough. This may offer an economic or trading opportunity.

Benefits

The status cards are done from the perspective of the forest users, and although not quantitative, they can be connected to quantitative data. Their benefit lies in the perception of the users, who are making the management effort and expect to see positive results.

Things to keep in mind

Status is sometimes a difficult concept to explain. Ensure that the way the three categories are spoken about is clear, and that the cards are easy for everyone to grasp. Keep redoing the cards until they become easy to use.

GENDER CARDS

In almost all cases, in almost all countries, a good number of collectors and users of the forest are women. Often these women are the most vulnerable members of the community, and their livelihood may be totally forest-dependent. Gender cards can be a wise investment. They can be used throughout, and can be either introduced while using a tool, or used by themselves.

Description

Develop gender cards that are appropriate to the area or country. They can be cartoons or pictures. Generally, there are three types of cards: Men, Women, and Men and Women. In some instances, if children are frequent users of the forest area, pictures of children (both genders) may also be necessary. A good size for the cards is 12.5 x 7.5 cm as they can be easily handled, and are not larger than the other tools. Test the cards before duplicating sets for all field staff.

The following are some of the ways in which gender cards have been used.

- To identify stakeholders by gender

  When doing stakeholder analysis or Venn diagrams, bring out the gender cards and have people place them on the symbols or names of the institutions, agencies or groups, in terms of which gender is represented by the institution, agency or group. Do they employ mostly men, mostly women, or an equal number of both?

- To identify forest use by gender

  When using the forest use cards, put out the gender cards and have people sort the forest use cards in terms of which gender dominates a forest use. Ask why one gender dominates.

- To identify areas in the forest by gender

  There are many instances where access to the forest is by gender. Using the gender cards with the forest maps can

encourage discussion about access by gender and the reasons.

- To discuss village social mapping and gender

  During village social mapping, the gender cards can be introduced to encourage discussion about which businesses are dominated by gender, and why.
  Ask if there is an area in the village where women who are single-heads of households live, and if there are areas in the village where women or men are not allowed.

- To make a livelihood analysis by gender

  During a livelihood analysis, gender cards can be introduced to determine levels of relative wealth/poverty by gender.

Keeping the gender cards available at all times and encouraging their use will ensure that there is consideration of potential gender issues at each juncture.

Additional information

Some of the benefits of cards are that they are easy to pass to others, easy to carry, and help to focus the discussion. They can be kept on hand to be introduced when or if necessary, but they are not an overwhelming or flashy tool. This is especially so if the drawings are done by local artists and are well tested with local people. Good cards are familiar to the users.

Once a good set of cards is produced, they are easy to use, people understand them, and are familiar with them. Use of the cards focuses the discussion, reminds people of important issues, makes it unnecessary to carry notes, and helps in remembering questions.

Transect walks with the four-part matrix (see Example: Four-part matrix for a transect walk – Tanzania) require some practice, but they are well worth the effort. It helps if one person takes notes, because informal interviews tend to go all over the board, as one question or idea triggers another in another area. For example, during a discussion about boundaries, important information about traditional rules of access for other forest users might come up. With the four-part matrix, the writer/listener can put the information where it belongs as it emerges.

Many have found that it is not at all necessary nor useful to take notes while on a transect walk. Note-taking often detracts from the quality of the interaction. Tell your guide that you are interested in learning about the four topics (for example, boundaries, management, uses and users, and conditions). Some have found it

useful to carry four cards with the topics and review these with the local guide at the end of the walk, to see how much was remembered, and how correctly.

TOOLS AND METHODS FOR PREPARING FOREST MANAGEMENT PLANS

ACTIVITY CARDS

One of the ways to make work planning more participatory is to put all of the activities on cards, with the approximate amount of time that they require. One way to encourage participation in developing work plans is by shuffling the cards, ordering them, ranking them, and having people choose areas in which they feel most competent.

Description

Sharing the workload can be done in a way that encourages participation and allows field staff (and community members) to do what they choose, rather than what is assigned to them. Doing it in a participatory way generally results in increased commitment to the tasks.

Doing the exercise

Brainstorm and put on a flip chart all the things that have to be done within the established planning period, which can be from one week to one year. Make an exhaustive list, and then go through it to ca