

People's Participation and the Role of Governments in Conservation of Forest Genetic Resources

by

Lotte Isager, Ida Theilade and Lex Thomsen



Danida Forest Seed Centre

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Authors:

Lotte Isager¹, Ida Theilade² & Lex Thomsen³

¹Department of Ethnography and Social Anthropology, University of Aarhus, Denmark

²Danida Forest Seed Centre, Humlebaek, Denmark

³Team Leader - SPRIG, CSIRO Forestry and Forest Products, Australia

Cover photo: Involving local communities in management of forest often leads to more effective forest conservation. Ole Hein/Nepenthes, 2001

This publication can be requested from:

Danida Forest Seed Centre
Krogerupvej 21
DK-3050 Humlebaek, Denmark
Phone: +45-49190500
Fax: +45-49190258
Email: dfsc@sns.dk
Web Site: www.dfsc.dk

and/or be downloaded from the DFSC homepage:

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The guidebook will be volume 1 in a set of three guides on the conservation and management of forest genetic resources. The three volumes planned are:

Volume 1. Forest genetic resources conservation and management: overview, concepts and some systematic approaches.

Volume 2. Forest genetic resources conservation and management: in managed and natural forests and protected areas (in situ).

Volume 3. Forest genetic resources conservation and management: in plantations and genebanks (ex situ).

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Acronyms

CSIRO	Commonwealth Scientific and Industrial Research Organization, Australia
Danida	Danish International Development Assistance
DFSC	Danida Forest Seed Centre
FAO	Food and Agriculture Organization of the United Nations, Rome, Italy
FGR	Forest genetic resources
FORGENMAP	Forest Genetic Resources Conservation and Management Programme
GCF	Gene Conservation Forest at Khong Chiam
GIS	Geographical information systems
JFM	Joint forest management
NGO	Non Government Organization
RECOFT	Regional Community-Forest Training Centre, Thailand
RFD	Royal Forest Department
SPRIG	South Pacific Regional Initiative on Forest Genetic Resources
WWF	World Wildlife Foundation

1. Introduction

Millions of people representing a great variety of cultures and land-use practices live in or on the edges of tropical forests. Some groups practice crop rotation in permanent fields. Others sustain themselves through various forms of agro-forestry, sometimes in combination with other sources of income. Many are shifting cultivators who have for generations lived in and used the forest according to their particular fallow system.

Apart from the fact that they live in and adjacent to forested areas and depend to varying degrees on natural forest products, these people often do not have much in common. In recent years, however, a large number of them have experienced increased difficulties in gaining access to local forests and their products. These difficulties may arise due to deforestation, logging, population pressure or increasing government regulations including declaration of state forests, national parks, or wildlife reserves.

In many countries, plans to protect forest ecosystems in forest reserves and protected areas have failed to pay attention to the needs and knowledge of local people (Anan Ganjanapan 1996; Tuxill and Nabhan 1998; Wily 1997; Kumar 2000). However, it is becoming increasingly acknowledged that the participation of local people is essential for an effective conservation of protected forest areas. Local people's participation and efforts in the conservation of specific target tree species are less well documented. However, the same ideas and considerations can be applied whether the aim is conservation of particular priority species, protection of specific areas, or management of community forests.

With respect to forest conservation, participation is often associated with the concept of community forestry. Community forestry basically means that a forest is managed or co-managed by people who live close to the forest. Legal, political and cultural settings within which community forestry is practised vary considerably and accordingly, the term community forestry covers a range of different experiences and practices. Community forestry is often associated with South and Southeast Asia but community based forestry is also found in other regions (Wily 1997). Indeed, it can be argued that community forestry has always existed since, prior to the advent of modern forestry regulations and centralised administration, local people managed most forested areas. Even so, traditional ownership and management in the past should not be equated with community forestry practised today within the confines of modern nation-states characterised by comparatively higher pressure on forests due to increased local and global demand and by easy forest and market

access due to infrastructure development.

While local participation is important in almost all forest conservation, there are situations where it is absolutely necessary. For example, in areas characterised by high population pressure and resource use conflicts, in areas under communal ownership, and in smaller protected areas because of the vulnerability to surrounding human activities (see Roche and Dourojeanni 1984). In these cases conservation in the absence of local participation is almost doomed to fail. At the same time, it will be argued in this chapter that participation in itself provides no guarantee of success. This is because the outcome of participatory processes often depends on additional factors such as the institutional and legal backing provided by the State or on the education and interests of local people and other interest holders. As the case stories presented in this chapter show, governments and their agencies play significant roles in participatory processes by providing - or by not providing - the 'enabling environment' for these processes to fully develop. Indeed, many studies suggest that the optimum formula for conservation is joint control and management by the government and local people (e.g. Singh 1996; Hirsch *et al.* 1999).

Engaging in participatory processes and creating an appropriate legal and administrative environment for them to proceed are complementary aspects of forest genetic resource conservation. The present chapter deals with both participatory processes and with key elements of enabling environments - that is, appropriate institutional and regulatory framework provided or affirmed by the State, secure land tenure, and various forms of capacity building. The intention is to offer an overview of important aspects of the political and cultural context within which participatory processes inevitably take place. Accordingly, some practical suggestions as to how these processes can be directed and improved are presented.

The chapter describes a number of concrete participatory conservation processes currently underway in different parts of the world. None of these case stories are ideal in the sense that conflicting interests, social conflicts, or technical difficulties are absent. Even so, critics might rightly argue that the case stories presented in this chapter are far more positive than the majority of cases found in the world today. It is, indeed, a deliberate choice not to repeat well-known examples of participatory processes gone awry but, instead, to focus on how people through a combination of co-operation and political struggle have managed to deal with inevitable problems and conflicts in a constructive and innovative way.

2. What is participation?

The concept of participation originally grew out of a radical criticism of the mainstream development projects of the 1960s and 1970s. Critics asked why development projects often did not lead to the expected results and came to the conclusion that lack of people's participation was the problem. Too many projects, it was argued, were designed and implemented without debate and co-operation with people whose lives were to be changed by the projects.

Since then, participation has become one of the buzz words of development jargon. It seems ever present in project descriptions and plans, often because donor organisations for political reasons demand that projects use a "participatory approach". Unfortunately, project planners and implementers frequently use the word participation while they continue their traditional style of management without real involvement of others (Wily 1997). Nonetheless, real participation remains a goal worth striving for.

When developers and conservation planners use the term participation, they often mean very different things. Adnan *et al.* (1992) have defined three basic meanings of participation often encountered:

1. Participation refers to a process in which information about a planned project is made available to the public. This type of participation often involves only community leaders. These people are listened to, but the decision-making power rests with the outside planners and project implementers.
2. Participation includes project-related activities rather than mere information flow. This might involve labour from the community, or a longer-term commitment by local groups to maintain services or facilities or even to plan for their future use. Again, the initiative has come from the outside. People are involved, but not in control.
3. Participation means that a project is the direct outcome of people's own initiatives. A famous example of this form of participation is the Chipko movement which began in the Himalayas in the 1970s, when women mobilised themselves to protect the trees that were vital to their economy (Shiva 1988).

It should be noted that we find many intermediate forms between the three categories. Some people have therefore claimed that participation - covering so many different meanings - has in reality become a meaningless term, which too often serves to disguise a continuation of top-down planning (Rahnema 1992). Others have argued that it is not reasonable to describe a process as participatory if local people are merely asked to supply information or labour to a project already designed and decided by planners (cf. Gardner and Lewis 1996). In line with these arguments, we consider it real participation when people are involved in the planning, organisation and decision-making of a project from the very beginning in order that the project fits their needs and capabilities.



Photo 1. Participation is no guarantee for success. The outcome depends on additional factors such as the institutional and legal backing provided by the State. Photo: Ole Hein/Nepenthes.

Box 1

Joint Forest Management in India

In India about half of the states have endorsed a strategy of joint forest management (JFM) in which forestry departments and communities jointly manage forests and share responsibilities and user rights. The idea of JFM originated in West Bengal when a forest officer involved forest fringe communities in the management of sal (*Shorea robusta*) forests that had been reduced to bush by overexploitation. The result of community involvement was a remarkable rejuvenation of the sal forests. Analyses of Landsat images showed that the closed forest cover increased from 11 to 20 percent in Midnapore District alone. In southern West Bengal, despite continuous population growth in the past two decades, involvement of people in managing their forests has resulted in many square kilometres of degraded scrub forest being upgraded to open forest category.

Encouraged by this success the Indian Government has expanded the programme during the 1990s. Today, nearly 4000 km² of degraded forest is managed by more than 3500 forest protection committees and include 5.5% of the forest cover in India (Saxena 1999).

Under JFM the legal ownership of land remains with the Government Forest Department. Village committees are co-managers of the forest and are entitled to shares in forest products. Forest protection committees control access to the forests and manage them. These local community institutions are proving more effective than State Forest Departments in protecting the forest. Regenerating forests now provide more medicinal, fibre, fodder, fuel and food products for rural people, whose livelihoods are thereby improved.

The JFM strategy has required a change of attitude from both Forest Departments and rural communities. Rural communities have had to organise themselves in new ways, overcome village and inter-village conflicts, and work together with forestry officials. Foresters have had to communicate with local people and share decision-making power. To enable this process of participation the Indian Government has provided legal and institutional backing, including land reforms, social forestry programmes, sharing of user rights with the people, and education of foresters to deal with participatory processes.

It has been argued that JFM in India is a concept describing divergent experiences ranging from real participation in decision-making to mere execution of Government officials' orders (Kumar 2000). Often, forestry officials lay down the rules for forest protection committees and, generally, the partnership between Forest Departments and village communities is unequal as most power rests with the former (Tewari 1996). Conflict between local groups over land and tenure rights is another challenge in JFM, just as unsolved questions about the legal status of customary rights in many cases make local forest management difficult in practice (Buckles and Rusnak 1999).

A major lesson learnt from the JFM experience in India is that involving local communities in management of forests has led to more effective forest protection. Another major lesson is that sustainable conservation depends on the co-operative attitudes of local people and forestry officials and, significantly, on the legal and institutional backing of the State.

Based on Singh 1996: Joint Forest Management in India.

Box 2

Conservation of forest genetic resources in Thailand

The Khong Chiam *in situ* Gene Conservation Forest (GCF), located in Ubon Ratchathani Province in north-east Thailand, is one of a handful of forested areas in South-East Asia which has been set aside specifically for conservation of forest genetic resources. In 1983, an area of about 700 ha was reserved with the objective of protecting the genetic resources of local tree species, especially the lowland form of *Pinus merkusii*. This form of *P. merkusii* has a faster early growth than highland sources. It has good potential for use in replanting programmes and is considered a high-priority genetic resource. The Khong Chiam population of *P. merkusii* is one of only six known lowland populations in Thailand, all of which are highly threatened. Other important tree species conserved in the Khong Chiam include *Anisoptera costata*, *Dalbergia cochinchinensis*, *Dipterocarpus costatus*, *Ivingia malayana*, *Peltophorum dasyrachis*, *Pterocarpus macrocarpus* and *Schima wallichii*.

Initially, major conservation activities consisted of mapping and demarcating the area, establishing access/inspection roads and firebreaks, relocation of illegal settlements, prohibition of agricultural activities, resin tapping, charcoal burning and firewood gathering. Early on, the GCF functioned successfully due to local Thai Royal Forest Department (RFD) staff who cultivated good relationships with local people.

In the late 1980's, the surrounding villages experienced a considerable increase in population as immigrants arrived from neighbouring provinces. This led to increasing pressure on land and resources. By 1997, several illegal dwellings had appeared within the GCF and agricultural activities commenced. Pine regeneration was sparse due to unfavourable regeneration environment. Illegal logging and charcoal production threatened other important tree species within the GCF. By 1998, it was evident that the conservation approach based on protective and prohibitive regulations by forestry staff, limited by insufficient budgets and support from other agencies, was unsuccessful (Granhof 1998). An inspection in 1999 revealed that nearly all pine trees were severely damaged by fire-stick cutting and at high risk of dying.

One lesson learnt in Khong Chiam is that conservation of forest genetic resources was not possible without the active support and participation of surrounding communities. Another lesson has been that sustainable conservation depends on continuity of good relations between forestry staff and local people. All staff members should be trained about how to communicate and co-operate with local people. A third lesson is that co-operation between different government agencies is necessary for securing sustainable conservation.

In response to these experiences, the RFD and the Forest Genetic Resources Conservation and Management Programme (FORGENMAP) has now included the Khong Chiam GCF in a new network of pilot *in situ* conservation areas known as "Partnerships in Conservation of Forest Genetic Resources". A participatory approach will be used based on the community forestry approaches developed by the Regional Community Forestry Training Centre (RECOFT) and successfully applied elsewhere.

However, if *P. merkusii* is to be conserved in the GCF, this approach will need to be supplemented by more urgent conservation measures including (1) enforcement of prohibition on fire-stick production, (2) promotion of natural regeneration by seed or taking of grafts of surviving *P. merkusii* for establishment of a small gene conservation stand in a secure location.

Sources: Royal Forest Department, Thailand, and Granhof/FORGENMAP 1998.

2.1 Participation as a social process

People's participation is essential in development projects as well as in conservation of natural resources including forest genetic resources. If effective participation in conservation means involving people throughout the organisation and decision-making processes, the question then arises how to create this kind of participation? To begin with, it will be helpful to think of participation as a process. Participation is communicating and working together with different people and groups in order to achieve commonly planned goals. Participation is learning from each other's knowledge and mistakes. As such, participation is not something that happens once and for all. It is a time-consuming process made up of different steps or phases, each of which presents new insights and challenges. Participation is sometimes difficult but the rewards of truly participatory processes are often impressive, as more effective forest conservation is achieved (Wily 1997, World Bank 1996).

Conservation of forest resources requires that interest holders trust one another and commit themselves to the task of sustainable forest use. In order to build up relations of trust, legal or administrative procedures may have to be changed or power redistributed. Often, mutual trust needs time to develop, especially if interest holders have no previous experience of sharing decision-making powers and management responsibilities. Individual planners and other interest holders can do much to strengthen relations of trust by listening carefully to ideas or complaints brought forward by others and by acting in a considered and genuinely respectful manner towards all involved. Above all, it is worthwhile noticing that it is the concrete actions made by interest holders in relation to each other - rather than their words or promises - which ultimately determine whether trust evolves or not.

It is important to consider how a conservation process in itself may or may not help catalyse relations of trust and commitment among interest holders. An ambitious timetable of insufficient duration for a given conservation activity may, for example, make it difficult to ensure the trust and commitment of all interest holders. This is not least the case if conservation activities involve outside project personnel. Often, such projects are envisaged to last just a few years before the 'outsiders' leave an area again. If local people have no previous experience with participation and co-operation or if tenure rights are insecure, the process of building up trust and commitment may take much longer. Likewise, if project personnel depart before the positive effects of conservation activities become visible for local interest holders, then the latter are less likely to remain committed to the conservation process.

Donors' preference for large-scale rather than small-scale projects can also inadvertently lead to barriers to trust and commitment. This is especially true if project managers (be they local people or 'outsiders') want other interest holders to commit themselves on a level beyond their capacities and aspirations. Such an approach sometimes proposed with the best of intentions of people's participation, can make other interest holders insecure and end up leading to no commitment or involvement at all. In order to avoid such situations, conservation activities need to be organised so that interest holders - particularly those with no previous experience in participation - can commit themselves more gradually, task by task, and progressively build up relations of trust. All key interest holders should, therefore, be involved in conservation activities from the very beginning of the planning process, including collection of baseline data, to the actual implementation of forest co-management.



Photo 2. Villagers, the local NGO Nature Care and Royal Forest Department, Thailand, discuss how to improve the management and conservation of natural forest around the village. Photo: Ida Theilade.

3. The participatory approach in conservation of forest genetic resources

No participatory process will ever be exactly identical to another because people, forests and other circumstances vary from place to place. Even so, most participatory processes will involve a number of different phases or steps, which for clarity can be presented as below:

Step one. The first step in an FGR conservation process is identification of the species and areas to be protected. It is debatable whether this activity can always be – or should always be – participatory in the real sense of the word since conservation objectives tend to be defined initially by government officials or scientists. There are, however, cases like the Chipko movement where people define their own conservation goals, which are then brought to the attention of the Government.

Whether the initial formulation of conservation objectives comes from government conservation planners or from local groups, it is vital in a truly participatory process that these objectives remain open for discussion and reformulation once other interest holders have become involved in the planning process. In figure 1 this is illustrated in step 5, which states that all interest holders should participate in the re-evaluation of conservation goals which may previously have been during the 1990s defined by one interest holder group alone.

Step two. The second step in conservation of forest genetic resources is identification of suitable sites. Among suitable areas one or more will be selected. Like step one, this phase might not always be participatory in the real sense of the word. If site selection is initially done by, for example, government planners, it is crucial that other interest holders are able to challenge or change this decision later on in the process.

Step three. The third step in a participatory process is sometimes referred to as an interest-holder analysis. Others prefer to call it a stakeholder analysis (see Grimble *et al.* 1995; Danida 1996). In this phase several questions need to be clarified:

- Who will be affected by conservation activities?
- What are their interests?
- Who has a right to participate?
- How do different interest holders affect the conservation area?

During this phase it is important to consider that people's interests in a particular species or forest area cover other aspects than economy. Trees and forests may have religious, spiritual, recreational, or aesthetic value for people, which can be as important to them as economic interests. Depending on how they feel affected by conservation activities, different interest holders may want to participate in different ways. If a group of people or a local community is defined as one interest holder, it should be remembered that all members of this group may not have the same interest in, knowledge of, access to, and rights over the forest and its resources. In most countries many different state departments and government agencies are involved in land and forest management. Often, these departments and agencies have divergent objectives and interests in terms of land management and are best regarded as different interest holders. See Box 3 for an example of an interest holder analysis.

Step four. The fourth step in a participatory process is the collection of baseline data related to the selected site. At least three different forms of data are necessary. (1) Government policies and plans regarding the sites proposed for FGR conservation, (2) data about and from local communities, and (3) data on the forest and its resources. Ideally, a team of professionals and interest holders, including the local communities, should work together to collect the baseline data.

As mentioned above, different government agencies may hold authority in a particular area and sometimes, their plans for that area are not compatible. For example, the Forestry Department may plan to protect a forest while another Government Department is planning to build a major road or permit a mining company to begin operation in the same forest. It is crucial for planners to know whether existing government plans may inadvertently conflict with the objective of conservation. If this is the case, alternative conservation sites must be considered unless the Government Department is prepared to change its plans.

It is likewise vital to obtain information about local communities. Much of this can be collected together with the people themselves and supplemented from official information sources. How do people organise land and forest use? What is the local land-use history? Do people hold user rights over the forest? Will they benefit from FGR conservation? What are the trends in population

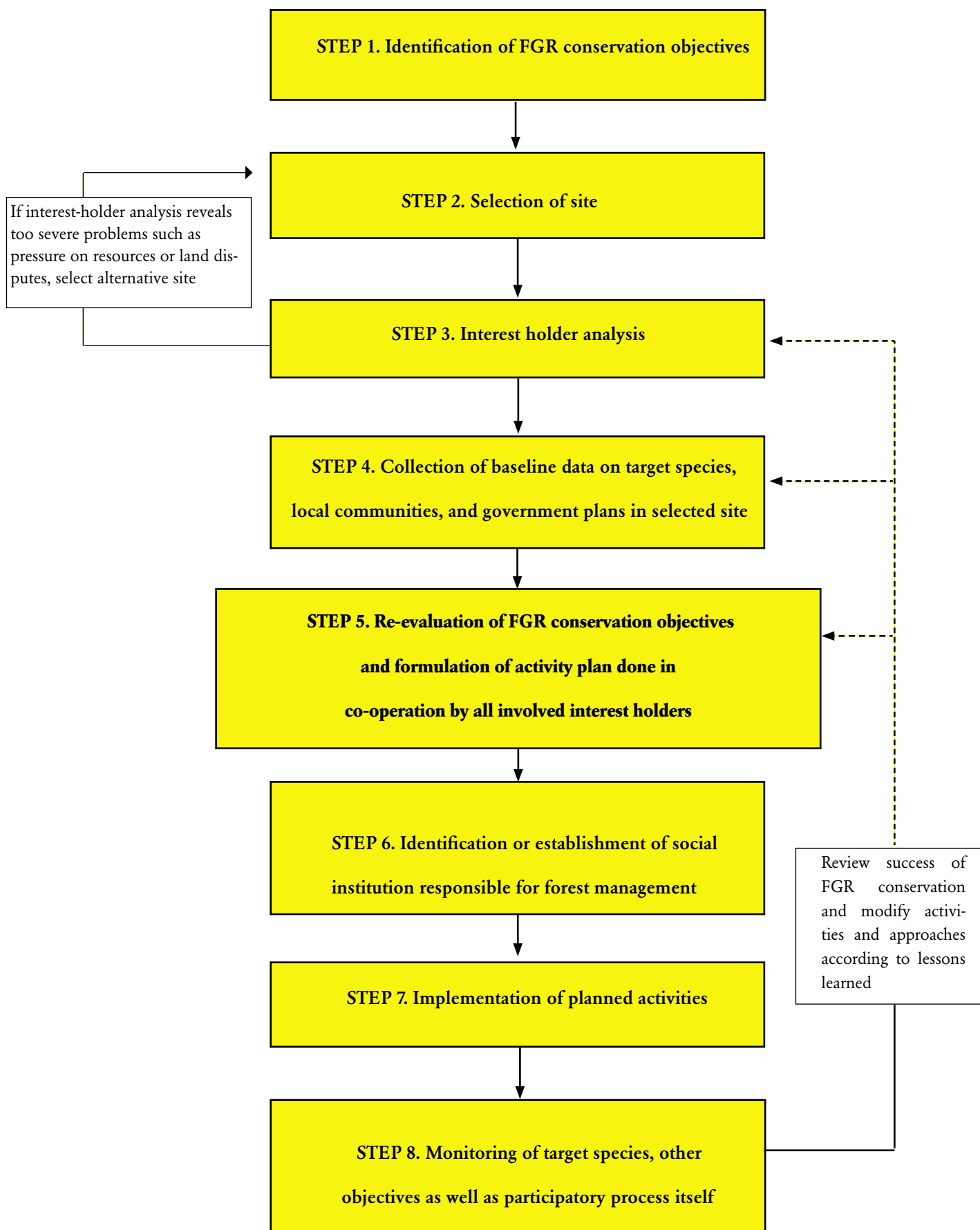


Figure 1. A model for a participatory process in conservation of forest genetic resources

Box 3

Interest holder analysis, Khong Chiam <i>in situ</i> conservation area, Thailand			
Interest holders	Interests	Activities	Influence on forest genetic resources
Local villagers long-term residents, recent immigrants, and forest users.	Food	Harvest of subsistence food sources (including nuts, fruits, tubers and fungi).	Minimal impact
	Timber	Harvest of timber for local buildings and other purposes.	Threat to preferred species
	New land for growing crops	Forest clearing	Threat to ecosystem
Medicinal plant harvesters	Medicinal plants	Harvest of leaves and bark for traditional medicines	Very limited impact
Resin tappers	Resin	Tapping of Dipterocarps for resin production	Limited impact
Fire-stick collectors	Fire-sticks	Harvest of <i>P. merkusii</i> sticks for sale	Major impact – threatening <i>P. merkusii</i>
Charcoal producers	Charcoal	Cutting of timber for making charcoal for sale	Threat to preferred species
Government Agencies In Thailand, nineteen different Government departments and agencies are involved in land management, including: Thai Royal Forest Department	Forest management and conservation. Research Pilot area in partnership in conservation	Enforcement of forestry legislation and regulations. Research Workshops with local people	Conservation of forest genetic resources <i>in situ</i> and <i>ex situ</i> . Domestication and improvement programmes for priority tree species
Provincial Government	Development	Local infrastructure and provision of Govt services	Various impacts, often negative, depending on activities

pressure? What are people's needs in terms of subsistence? Clearly, conservation measures in which benefits outweigh costs for local people stand a better chance of success. Using people's needs and forest management practices as the starting point will make conservation more likely to succeed in the long run.

Baseline data on a forest and its resources is obviously necessary for conservation planning. Forest surveys and inventories should be undertaken. Historical trends in resources should be established. Have particular tree species disappeared or become rarer? Is regeneration sufficient? Such information can in some cases be obtained by involving local people in land-use and resource mapping (e.g. Box 4).

Step five. Having identified all interest-holders and collected baseline data needed for further planning, interest holders need to meet and re-evaluate the objectives of conservation activities. During this phase, specific conservation activities, timetables and resources required need to be defined as well. There may be cases where identification of FGR conservation objectives and site selection has been done by government officials or other conservation planners alone. In such cases it is crucial that hitherto non-involved interest holders become real participants at this stage of the conservation process. True participation means more than simply being informed about other people's decisions. It means having the chance and power (!) to change these decisions and, perhaps, add new goals to the agenda. Some interest holders might identify goals and activities considered by them to be vital for sustainable forest conservation – for example, acquisition of tenure or forest user rights, formal government recognition of customary forest rules, or training of interest holders. Such social and political goals may be as important to these interest holders as specifically forest technical objectives are to others.

Step six in the process is to identify or establish the social institution to be responsible for implementing and monitoring conservation activities. In some cases appropriate institutions may already exist and be in a position to take up such responsibilities. In other cases a forest management committee need to be established. It is crucial to make sure that the social organisation of a conservation project is decided before specific activities are undertaken. It will be important to consider, for example, how different interest holders are to participate. Is the committee to be locally constituted or should outside agencies be included? How should communication be organised? How should activities be monitored and by whom?

Step seven and eight are the implementation and monitoring phases. During these phases a conservation project will find its own form as vari-

ous activities are progressing. Implementation of activities or monitoring of target species and, not to forget, of the social or political aspects of the conservation process itself will automatically lead back to previous steps in the participatory process. As illustrated by the dotted lines in figure 1, it might be necessary to make a new interest holder analysis because additional interest holders have appeared or because the involved parties acquire new interests or, indeed, lose particular interests in a species or geographical area. Likewise, interest holders may at any time during a participatory process realise that available baseline data need to be revised or supplemented by additional forms of information, for example, because the very process itself has led to social or economic changes for the involved parties. Furthermore, the need to re-evaluate goals and activities might arise. Projects need to be designed with a high degree of flexibility to accommodate such changes. Implementation and monitoring should also be participatory.

3.1 Considerations about local communities and local people

In conservation projects, villages or local communities are sometimes identified rather broadly as a single interest-holder. It is important to question this as well as other assumptions about local communities. Below are frequently held incorrect assumptions to be considered:

- *Local communities are homogeneous entities.* Most local communities are, in fact, characterised more by social divisions than by equality in terms of land holding, power, and knowledge. Women and men may have different interests in a forest. Landless people may desire access to the forest and its resources for other purposes than landholders. If only community leaders (who are usually male landholders) are involved in a participatory process, there is a risk that the interests of other groups within the community are neglected. Failure to consider the views of all community members is a common source of conflict.
- *Local communities live according to stable traditional values.* The idea that rural communities do not change or acquire new knowledge, habits and interests is wrong. Social and cultural traditions change as people get new options, ideas, and technology.
- *Local communities depend on forest products for their livelihood and, therefore, have an interest in protecting it.* It is true that many people living in or on the edges of tropical forests are highly dependent on forest resources. However, in many countries infrastructure development and access to urban labour markets have made rural people much less dependent on forest products than they were in the past. It cannot,

in other words, automatically be assumed that rural communities feel that they need to conserve the forest.

- *Local people like the forest and, therefore, want to protect it.* In fact, cultural perceptions of the forest vary from group to group and country to country. Indeed, in social groups there often exist different ways of thinking about and acting towards the forest, which to outside observers might seem unintelligible or paradoxical. For example, while people may “like” and treasure the forest in the sense that it provides them with fuel wood, food, medicine, and timber, the forest might at the same time be associated with negative meanings. In Southeast Asia, for example, the forest has traditionally been perceived as the sphere of uncivilised and immoral beings including spirits, wild animals, and ethnic minority groups. As such the forest is linked to notions of backwardness and danger and carries a negative meaning for many people in these countries (Davis 1984; Stott 1991; Isager 2001). They may be keen to clear it and expand agricultural production, which in their view is more civilised and desirable.



Photo 3:
Resin tapping generates an income for local people at Khong Chiam gene conservation area, Thailand but may also threaten remaining Dipterocarps and pines in the protected area. Photo: Ida Theilade, DFSC.

- *Local people destroy the forest because they do not care about it.* This assumption is possibly as common as the previous assumption. Both ideas rest upon the underlying incorrect notion that people’s perceptions and feelings about forests are straightforward and unambiguous and make them act in well-defined, standardised ways. In reality, people’s knowledge (e.g. of the forest) and the relationship between their knowledge and concrete actions are highly complex matters and over-simplification should be avoided (cf. Barth 1993, Bourdieu 1990).
- *Local people have in-depth knowledge of their environment.* This assumption is as common as the adverse assumption that *local people’s knowledge about forests and biodiversity is irrelevant for conservation planners.* In fact, forest-dwelling people do have considerable knowledge on forest resources and ecology. Government planners or ‘external advisors’ too often underestimate this knowledge. At the same time, however, it should not be assumed that all people by virtue of being labelled local or indigenous hold in-depth knowledge of their natural environment. Different members of a local community know different things in different ways and in any case people’s knowledge is only one consideration determining how they act towards the forest.
- *Local people practise superior forms of landscape management.* Some groups have developed remarkably fine-tuned landscape management systems and recent studies of indigenous forest-management systems have shown that they often retain 50 to 80 percent of the biodiversity found in neighbouring natural forest ecosystems (Lawrence, Peart, and Leighton 1998 cited in Poffenberger 2000). Notwithstanding the above, it should be noted that traditional management systems have often been sustainable in the past because of low population pressure, geographical isolation, and lack of modern technology and machinery such as chainsaws and trucks rather than because of ecological considerations (cf. Ellen 1986; Milton 1996). Local or indigenous people’s knowledge should, in other words, not be idealised and it should not be assumed that it is their knowledge or culture alone, which has made their management systems sustainable in the past. Rather, it should be discussed with local people which aspects of their traditional management systems can be most effectively incorporated into conservation planning.

3.2 Conflicts and how to solve them

Diverging interests and disputes among interest holders sometimes grow into major conflicts. As observed by Ayling and Kelly (1997) there are no more 'resource frontiers' in the world and virtually every change of land use or expansion of resource use tends to involve conflict – be it between nations, regions, districts, or individuals. Within villages, divisions along family, gender or clan lines or long-standing personal enmities between individuals can be fuelled by land-use conflicts. Between villages there might be competition over resources. By promoting the interests of one village - or one group of interest holders - conservation activities risk causing resentment among others. For example, external agents such as private companies or NGOs holding interests in an area will often not appreciate the local population mobilising for purposes that go against their interests and ideas.

Conflict is not by definition negative but may lead to positive social or environmental changes. Indeed, conflicts are a natural part of social dynamics and whether they are perceived as negative or positive depends on social position or political standpoint. Having said that it is obvious that conflicts can cause problems for conservation activities if they are not resolved in a constructive way. If conservation activities affect specific groups negatively, this is likely to cause conflict. The risk of conflict will, therefore, be minimised if all interest holders are involved throughout conservation planning and decision-making. However, even the most careful planning will not prevent conflicts from arising. Sometimes conflict may already be present. In this case the conservation managers have to decide whether it is too serious to resolve and whether the site should be abandoned for another.

We should distinguish between conflicts that need government intervention in order to be solved and conflicts that can be dealt with by interest holders themselves. The former category of conflicts is exemplified in Box 2 about FGR conservation in Thailand where immigration from neighbouring provinces and forest encroachment led to conflicts with resident communities. As government backing in the forms of enforcement of forestry laws and co-ordination of different state agencies was lacking, the conflicts over forest use were not solved in time and destructive forest uses occurred.

In some situations interest holders can deal with conflicts without government intervention according to local traditions of conflict manage-

ment. Otherwise, the following guidelines for conflict management are helpful. The guidelines are formulated specifically to conservation planners by the Foundation of the Peoples of the South Pacific International (Tapisuwe *et al.*, 1998), an organisation working with participation in conservation in Vanuatu (see also FAO 1994; Buckles 1999).

1. All complaints should be taken seriously by planners. Listen to the concerns of both sides. To be sure you fully understand the concerns repeat them in your own words after listening. Think about the best time and place to discuss complaints. Remember that in many societies women are not supposed to speak up in public hearings and other groups such as poor or landless men may as well for their own reasons remain silent during hearings.
2. Planners should not try to solve the conflicts on their own. Discuss the matter with all interest holders. Discuss why the complaint is being made. What are the underlying issues? What is needed to solve the conflict?
3. If there are many problems or underlying issues that need to be dealt with, it is a good idea to prioritise them in terms of a: magnitude (the amount of people, land, trees affected by a problem), and b: importance (the impact a problem may have on different interest holders).
4. Encourage all interest holders to look for positive solutions to any conflict they meet. Think about how to compensate those who are affected by a problem.
5. Discuss and modify the options until everyone can accept the solution.

It should be noted that these guidelines depend on the voluntary participation of all relevant interest holders. Cultural conditions, including people's willingness to publicly acknowledge a conflict, will make the guidelines more or less useful in different parts of the world. And in case the conflict mediating process suggested only brings certain interest holders together to reconcile their differences while the real causes of conflict remains beyond the mediator's control, the process might in fact be counter-productive as people are likely to experience it as futile.

4. How governments can create an enabling environment

One of the lessons learned from Joint Forest Management in India (see Box 1) and conservation of FGR in Thailand (see Box 2) was that higher levels of local participation could lead to more effective forest protection. However, without government support in the forms of law enforcement and co-operation between different Government agencies such improvements in local forest management are unlikely to be sustained (cf. Tyler 1999). Therefore, attention must be paid to the crucial role of government action for the outcome of participatory conservation processes.

A government can help provide an enabling environment for participatory forest conservation particularly through 1) decentralisation of political, fiscal and administrative power; 2) provision of land-tenure security and user rights for involved interest holders; 3) education and other forms of capacity building. In the following, these three aspects will be discussed.

4.1 Decentralisation

The conclusion from reviews of most countries' conservation experience is that centralised, top-down management seldom is effective, except where large budgets are available for enforcement and the society concerned is willing or forced to accept an undemocratic conservation process (World Bank 1996). It has therefore been suggested that the impact of public conservation efforts can be improved by enhancing the role of local governments and communities in decision making. Such decentralisation can be accomplished through the transfer of political, fiscal, administrative, and legislative power from central governments to local institutions.

One form of decentralisation or power transfer is occurring when specific groups of interest holders rather than Government officials have the right to collect revenue and decide how it will be spent. This autonomy is the key to the strength of the joint forest management areas in India where local communities can retain all or part of the revenue from forest products. In Nepal, the Government has granted rights of utilisation and management responsibility to numerous local forest user groups. This decentralisation of power has shown promising results both in terms of forest protection and local people's willingness to participate in communal forest management and develop their management capacities (Tumbahanphe 1998).

The experience in countries where new rights and responsibilities related to conservation have been given to local government units and NGOs suggests that both opportunities and potential problems exist (World Bank 1996). Poorly planned and implemented decentralisation can give powers to local societies that lack the skills and accountability to use powers 'properly'. It should be kept in mind that the right to define what is "proper" or "unproper" use of resources is in itself one of the most important forms of power to possess in a society (Bourdieu 1991). Decentralisation might also inadvertently lead to a situation where the costs of biodiversity conservation are borne locally whereas its benefits may accrue to regional, national, and global levels of society.

In most cases local groups will need support from ecologists or foresters if they are to develop management plans and monitor conservation areas or populations. One such example of a decentralisation process is the Kayan Mentarang National Park in Indonesia (see Box 4).



Photo 4:
Local Dayak communities and WWF Indonesia work together to make forest management plans for Kayan Mentarang National Park. The plans need to secure the rights of the local people to use the forest resources and at the same time protect the biodiversity.
Photo: Lene Topp, WWF Denmark.

Box 4

Indigenous people's mapping and conservation of biodiversity

Local Dayak communities and WWF Indonesia have worked together for some years to make forest management plans for Kayan Mentarang National Park in Kalimantan, Indonesia. The aim of this work was to produce a plan for community-based management of the National Park. The plan has been recommended to the Indonesian Government. Hopefully it will be endorsed and implemented in the near future.

In 1992, the Dayak people of Kayan Mentarang began mapping their communities on an experimental basis aided by the WWF Indonesia. This was a continuous learning process for all involved. Accordingly, planning sometimes needed to be adjusted and objectives reconsidered. Then, in 1996, the Indonesian Government agreed to change the status of the Kayan Mentarang area from Strict Nature Reserve to National Park. Thereby the status of the Dayaks changed from illegal settlers to communities that legally could be involved in the management of the area when pressed forward by own initiative and determination with support from WWF.

Encouraged by the Government decision, the support of WWF Indonesia as well as the Indonesian Agency for Nature Conservation, the Dayaks in 1997-1998 conducted an extensive mapping of their communities and natural resources. They drew detailed maps of the flora and fauna in their area, showing where they collect plants or make use of trees, which areas they have cultivated over the years and where their traditional hunting grounds are found. Other maps showed Dayak community boundaries.

Using participatory rural appraisal (PRA) techniques the WWF personnel helped the Dayak communities document information about their land-use systems, historical trends in resources, traditional forest regulations, and knowledge about forest resources. All this information was used in the development of a management plan for the National Park.

Kayan Mentarang provides a good example of participation as an ongoing process where each involved party forced by circumstances had to be flexible and accept new ideas. The Government accepted changes to create an enabling environment. Thus the boundaries of the National Park are to be redefined to accommodate the villages and their rice fields outside the park and it is hoped that the Dayak traditional rules of forest management will become officially recognised. During the whole process WWF Indonesia Kayan Mentarang Project has been a main player and important facilitator.

The future management plan for Kayan Mentarang needs to secure the rights of the local communities to use forest resources and, at the same time, protect the biological diversity and genetic resources of the National Park. In the coming phases of conservation activities it is, therefore, planned to link the results of community mapping with the activities of the conservation biology programme of the Kayan Mentarang project. Thereby, the information on forest resources can be cross-checked from a biological point of view and the claims of traditional, community-based management practices as sustainable given scientific support. This approach may also raise the local people's awareness of the significance of integrating conservation and sustainable development more effectively. Another major task ahead of local people and the WWF personnel is to design community-based monitoring systems that include the use of community land-use maps and resource maps as well as other PRA techniques.

Sources: Eghenter 2000; Worm and Morris 1997; WWF 2000.

4.2 Land-tenure security and user rights

Lack of secure land tenure or forest user rights is a major reason why local people do not commit themselves to participatory forest conservation. As to be expected, people without such rights experience a lack of a predictable future and a diminished willingness to invest labour and care in the forest. Once local people gain land or user rights, however, they often take an active interest in forest conservation. For the Dayak communities in Kayan Mentarang (see Box 4), the Government's decision to change their status from illegal settlers to legal participants in forest management was a turning point. This provided the spark to increased community and resource mapping and conservation efforts. In Africa, according to a comprehensive literature survey by Shepherd (1992), effective *in situ* conservation is almost solely on lands under legally acknowledged ownership. In Melanesia, undisputed ownership to forest resources is seen as a prerequisite for replacing exploitative logging practices (Kuata *et al.* 1996).

In many countries, local groups have their own customary forest rules and regulations. By formally recognising such rules governments can greatly motivate local people to participate in conservation efforts. Official recognition of customary law can, however, be a complex issue. The legislation of some nations, for example, might not permit formalisation of communal land ownership and customary laws of indigenous people. Considering the economic value of forests and the often fierce competition over access to forest resources,

the question of granting tenure or forest user rights to local people is a highly controversial matter in many countries. This is partly because user rights in themselves provide no guarantee that 'new' private or communal land owners will manage forest resources in ways that are more sustainable and socially accountable than the previous government practices.

There are discouraging cases from states in northeastern India, where most forests are legally owned by tribal people. These states have experienced the highest deforestation rates in India over the past few years. Analysis of the cases has led to the conclusion that joint control and management by the government and local people is possibly the optimum formula for conservation (Singh 1996). This conclusion is similar to that of Hirsch *et al.* (1999) whose study from Nam Ngum in Laos demonstrates that a community alone cannot implement or enforce sustainable natural resource management without the legitimate sanction of the Government. Clearly, each country will need to develop its own appropriate response to these sensitive issues. The experience from Tanzania (see Box 5) might serve as an inspiration. According to the drafted Forest Act 2000, no forest in Tanzania is considered too large, too small, too valuable or too degraded to come under community-based management and, in certain cases, ownership. This approach differs from that of most other countries where local people are only allowed to manage degraded forests but not the more precious National Parks and Forest Reserves.



Photo 5:
Forest resource map
drawn by Dayak villagers. The information
was used in the develop-
ment of the manage-
ment plan for Kayan
Mentarang National
Park and will be valu-
able in the monitoring
of forest resources.
Photo: Lene Topp,
WWF Denmark

Box 5

The importance of land-tenure security in Tanzania

Duru-Haitemba and Mgori forest are two Miombo woodlands in Arusha region, Tanzania. Five years ago both woodlands under government control were in a state of acute decline, with loss of area and species. In the case of Duru-Haitemba this resulted from boundary encroachment and in forest settlement, excessive wood extraction and livestock grazing, mainly by local communities. In the case of Mgori the forest was affected by uncontrolled clearing for shifting cultivation, excessive hunting, and timber extraction, mainly by outsiders.

Today the boundaries are intact, incursion limited, flora and fauna recovering, and both forests protected by a total of more than 200 young Village Forest Guards - at no cost to the government. These developments have incurred under the Regional Forestry Programme and the Land Management Programme. Under these programmes the Duru-Haitemba, an area of nearly 9.000 ha. is now under the full ownership and active management of eight communities while Mgori, a larger woodland of 40.000 ha, is currently owned and managed by villagers as five Village Forest Reserves with the District Council as technical adviser. The communities may begin timber harvesting within the next few years. This will create an income not only for the villagers but also for the District Council in the form of a sales tax levied.

Neither Duru-Haitemba nor Mgori forest were at any time state-owned and gazetted Forest Reserves. By the 1980s, they were intended as Forest Reserves and to this end had been fully surveyed and demarcated and all but the publication of Reservation was complete. It was clear, however, that local people did not support the withdrawal of what they regarded as 'their' forest into the hands of the state. Indeed, since the posting of forest guards to the area some years previously as part of the process, local people had more or less adopted a deliberate policy of 'getting what they could' out of the forest prior to the anticipated exclusion from the area. This led to both local concern and the ultimate decision to find a more acceptable system of management.

With informal support from the local authorities and the Swedish International Development Agency, the local Forestry Officer began to explore if local villages could conserve and manage the forests themselves. At that time villagers had never encountered the possibility that they might be allowed by Government to actually manage the forest themselves. The Government itself had not envisaged the level of 'participation' put forward but although dubious, they agreed to suspend the gazette pending demonstration by the villagers to halt the degradation of the forest. Now, advisors and interested village leaders began a process to draw up simple but effective management plans including 'rules' for using the forest. Interestingly, prior to knowing that they might control the forest themselves, villagers cited virtually all uses from timber to grazing as 'indispensable'. Once it was known that the forest was 'ours', the same leaders and ordinary villagers argued for discontinuation of any use, which they considered damaging. Charcoal burning, tree felling and even grazing in some parts were immediately banned, and other uses to be controlled.

Once villagers began actively managing their forests, it became clear that they needed not just the administrative support from the local District Office but legal backing as well. Accordingly, each village was assisted to rephrase their management plans and rules as Village By-Laws. In 1995, the District Council formally approved these plans under the District Authorities Act. Since then, each village has by law been the legal authority and managers of that part of the Duru-Haitemba forest that is adjacent to its own settlement and specified as falling under their jurisdiction. In the word of a villager *"It never occurred to us that Government might give us back our forest. But when it was suggested, we couldn't get the idea out of our minds and since we have not looked back."*

The situation in Mgori forest is slightly different. Five adjacent communities now successfully own and manage it. But first the areas had to be surveyed as legal entities for villagers to be registered as owners. In Mgori there is also need for a more active collaboration between villagers and local government. This is because the respective village woodlands are extremely large; two of the villages manage thicket and woodlands of more than 100 km². As such Mgori is still vulnerable to a range of incursions by outsiders. This includes illegal commercial timber extraction, wildlife hunting, and the appeal the vast and remote area holds for migrating shifting cultivators. Also, Mgori holds market potential for timber extraction and could generate revenue from game viewing and some hunting. Local government was ready to concede ownership of the resource but at the same time wanted to secure agreements whereby revenue from the forest in the future is shared with the wider district community through taxation.

The Tanzanian cases serve as examples that the greatest incentive for local people to look after the forest is the sense that the forest belongs to them, either as recognised managers, or better still, as recognised owners.

Sources: "Villagers as forest managers and Governments learning to let go" (Wily 1997) and Community management of forests in Tanzania - A status report at the beginning of the 21st century (Wily *et al.* 2000).

4.3 Capacity building in support of a participatory approach

Throughout this chapter the key message has been that conservation of FGR is impossible without local people's participation although, clearly, participation is not the only prerequisite for sustainable forest use. Apart from appropriate institutional and regulatory frameworks provided by the State and secure land tenure and resource utilisation rights for interest holders, education and other forms of capacity building for interest holders can be crucial if participatory FGR conservation processes are to succeed.

The case stories presented in this chapter all show that participatory forest conservation implies considerable challenges to forestry officials, policy makers, NGOs, scientists as well as local communities. In India, the joint forest management strategy has confronted rural communities with the need to overcome village and inter-village conflicts and work together with forestry officials (see Box 1). Officials have been challenged to delegate part of their decision-making power to local people and adjust themselves to a new and more equal management partnership with these people. In north-east Thailand, rural groups have had to alter their agricultural practices and organise themselves in new ways to prevent forest damaging activities such as charcoal burning and forest fires (see Box 2). They have also engaged in mapping and demarcation of their communities as a means of improving forest management. Meanwhile, Thai forestry officials need to adapt themselves to new political and administrative conditions and put more emphasis on 'how to work with people' rather than mere technical aspects of forestry. Furthermore, they must learn to co-ordinate their own planning and administration with that of other Government agencies.

Although living in widely different parts of the world, Dayak communities in Kayan Mentarang in Indonesia (see Box 4) and people from Mgori and Duru-Haitemba in Tanzania (see Box 5) share the same experience of learning to make forest-management plans in collaboration with NGO workers or other external advisors. Policy makers in both countries share the experience of being forced to modify land-use and land-right legislation, thereby helping to create the 'enabling environment' so necessary for participatory forest management to succeed.

In other words, every case story in its own way demonstrates that participation entails changing social relationships, redistribution of power, and new responsibilities for all parties involved. Often, these changes bring about a need for new skills, new ways of thinking, and new ways of organising. As the case stories show, different interest holders meet different kinds of challenges during the participatory process. Some common challenges that typically face communities and Government agencies are discussed below.

Communities:

Communities often need to strengthen their organisational capacity in order to reclaim responsibilities in management and conservation of forest genetic resources. This may include development of competence such as practical skills in keeping records and minutes of meetings or mastering of certain technical aspects of forestry and conservation. For some communities, training in mapping their own land areas and demarcating their forest boundaries can be of vital importance, not least as a starting point for future monitoring of resources (see Box 4). Communities that gain user rights over forest resources and start income generating activities will furthermore have to acquire skills for financial accountability and sharing proceeds.

For many communities training in conflict management and resolution (see 2.4) to supplement traditional conflict resolution and mediation practices might be helpful. This is not least because participatory forest conservation management typically involves a number of communities that may not be used to co-operate and solve inter-community conflicts in mutually satisfactory ways.

A key task for most communities is to develop ways of ensuring that the natural resources under their management are not taken over by more powerful and better organised outside interest groups. Communities, therefore, must be strengthened in their ability to scrutinise the intentions of outside investors and developers, including NGOs, and turn away outside interests if these are not beneficial to the community.

Although many communities have experienced challenges as those mentioned above, the capacity needs of communities in regard to forest conservation cannot be generalised. Community needs may range from basic education in reading, writing and arithmetic to training in mapping, conservation planning, or use of geographical information systems (GIS). Likewise, it cannot be defined universally how various capacity-building activities are best organised among interest holders. In some countries, the main responsibility for building up capacities rests with the Government. In other countries, NGOs and universities play important roles in mobilisation and training of local communities (see Box 6), in part because Government agencies tend to lack the funding and experience or willingness to train local communities in administrative matters. Where Government officials resist the prospect of sharing forest management power with local communities, this resistance is often expressed in an unwillingness to share knowledge and information. In such cases, the assistance of NGOs and academics can be crucial for the local communities' chances of gaining the insights and skills necessary for qualified co-management.

Government agencies:

Most developing countries have small forestry and environment departments with limited personnel and budgets. Usually, the resident staffs in rural areas deal directly with people on behalf of the forestry department. Often, these staff members are less educated than their urban counterparts within the departments and they possess less power in terms of decision making and policy making than their urban colleagues with higher positions in the department hierarchy. This state-of-affairs of forestry departments in a great many countries means that the following two challenges are particularly critical for departments to deal with.

One major challenge is to ensure that all staff members are well trained and informed in the more technical areas of conservation, management and utilisation of forest genetic resources. Moreover, a development towards greater participation in forestry and conservation will require knowledge on participatory approaches and ways to implement them. It is thus crucial that staff members who deal with local communities are trained in these matters.

Another main challenge is to avoid bureaucratic bottlenecks that hinder problem solution and communication not only between staff members and local communities but also between different levels of staff. The success of Joint Forest Management in India (Box 1) is largely attributed to progressive officials who were allowed by Government administration to institute necessary and fairly radical change (Kumar 2000). It is a pity that administrative rigidity in many countries continues to curtail officials who would like to innovate together with community groups and NGOs.

Just as it cannot be easily defined how to make capacity building in local communities, there are no easy solutions to the challenges facing Forestry Departments and other Government agencies as well. But whenever possible, personnel of Forest Departments should be encouraged to participate in workshops and training courses on participatory methods and to make use of these skills to make a real change. In Hoshangabad, India, printed booklets of the Government resolution on Joint Forest Management were distributed to every staff member and courses were conducted in order to make each of them understand that Joint Forest Management was the priority of the Forestry Department. In Sam Mun, Thailand, university lecturers from a number of academic disciplines were recruited to train Government staff and members of different local communities together (Box 6).

As forest areas come increasingly under the management of local people, the policing duties of Forest Department staff will be reduced whereby they can focus on providing high quality technical advice. As a key interest holder in forest conservation, the Forestry Department will always need staff qualified to monitor the continuous outcome of participatory FGR conservation. Basic components of this procedure include training in forest inventory, yield studies, regeneration surveys, harvest assessments and systems to adjust harvest in case of over-exploitation or destructive harvest methods. But training need not exclude other interest holders. In Kayan Mentarang (Box 4), for example, a monitoring system based on community resource maps and community based management systems linked with the findings of the conservation biology team is being developed. Hence, the monitoring programme will combine scientific methods and local knowledge and involve both Forestry Department staff and local communities.



Photo 6:
Participatory processes are often a combination of co-operation and political struggle. Penan people blocking a timber road in Sarawak, Malaysia.
Photo: Ida Theilade

Box 6

Participatory land use planning in Thailand

Sam Mun was initially designed as an integrated development project in the upland of Thailand. The project operates with four development components including local administration, social and economic development, natural resource management and drug control. The project comprises 60 villages of about 12,000 people from five major ethnic groups. Sam Mun covers an area of 18,000 km² divided between five Districts and two Provinces. Substantial parts of the area are under three overlapping protected area legislatures of watershed protection, national park and wildlife sanctuary under the management of the Royal Forest Department (RFD). According to this legislation, forest villagers and ethnic farmers officially have been living and cultivating illegally in the area.

Soon after project onset, efforts aiming at integrating community forestry and local watershed-protection principles began. A tripartite institutional model was set up to combine efforts of Chiang Mai University, the communities, and RFD. Since then, building institutional capacity has been a key objective of the project. Close collaboration has been made between the University and RFD at both national and regional level. The University provides technical support for research, information and training systems. The main task has been to develop tools for RFD to understand and incorporate local culture and knowledge as it is now realised that cross-cultural communication and learning is critical in co-management of watersheds and forest resources. Tools used in the Sam Mun project include:

- A monthly meeting between agencies and government staff as a forum for discussing changing project situations.
- Watershed network committees made up of representatives from both upstream and downstream villages who participate in planning and decision making.
- Regular and formalised meetings between committees and administrators in order to facilitate quicker communication and shake up old bureaucratic structures.
- Systematic human resource development in order to strengthen interest holders' capacities for working together throughout planning and implementation. Besides technical areas, conflict management and negotiation have been important components for all officials and newly recruited personnel. Training in such skills have been provided from the very beginning of the project period, partly as class-room lessons and, partly, as on-the-job training.
- Education of village headmen and district officers to enable them to respond to villagers' initiatives and to aid establishment of self-regulating local institutions. In some areas, NGOs have provided important non-formal education to assist in leadership development.

The project has experienced rapid changes in local situations and has, therefore, continuously had to change and improve methods. Consequently, interest holders have throughout the project period been engaged in a process of training and re-training. A general principle in Sam Mun has been that information is equally shared and accessible to all parties. Such a principle often requires a simplified form of information, which has been accomplished by visualising information as much as possible. For example 3-D models of watersheds have been used to assist members of communities in communicating their ideas across cultural and bureaucratic boundaries. Scientific language has been avoided and local names and meanings preferred instead. Furthermore, mapping and use of Geographical Information Systems to monitor the watersheds has been used.

In Sam Mun, ethnic communities have become watershed co-managers along with different government agencies as well as local government units. They have gradually improved the conditions of the watersheds thus rendering strict enforcement of regulations or community resettlement unnecessary. Incorporating some land-use practices of local ethnic groups the project has allowed many groups to maintain their system of land rotation within protected areas. In some sub-districts, the proposals of the local watershed network committee have been consolidated in the sub-districts development plan. Throughout, capacity building for and with government agencies and local groups alike has been a key to establishing the mutual understanding and collaboration between interest holders that has enabled the conservation achievements.

Source: Uraiwan 2000.

5. Concluding remarks about participatory processes and enabling environments

Natural resource management is increasingly becoming the object of social and political power struggles between different groups claiming interests in specific resources. Today, conservation of forest genetic resources is impossible unless technical expertise is combined with an understanding and consideration of the political and cultural processes within which conservation inevitably takes place. In this chapter, key aspects of these processes have been discussed. It has been argued that successful FGR conservation requires local people's participation and that governments play crucial roles by providing – or, indeed, by not providing - the appropriate institutional and regulatory framework for participatory processes to fully develop.

Many studies show that the optimum formula for forest conservation is joint control and management by governments and local people. The table below lists some of the responsibilities of governments and local communities respectively in regard to participatory conservation processes (Table 1).

Participatory conservation implicates social and political change no matter which country we are talking about. The notion of power sharing between people and governments is a delicate and

highly complex issue with no easy or universally applicable solutions. This chapter has sought to provide some insight into these complexities and illustrated how people in different countries have worked together in order to deal with inevitable problems and conflicts.

A notable feature in many case studies is that NGOs have played significant roles as mediators between governments and other interest holders in forest conservation. NGOs are widely different in terms of ideology, political and economic power, and organisational capacity. Like local communities and States they operate in, NGOs are not homogeneous groups and their interests might diverse. It is therefore not possible to evaluate the role of NGOs *en bloc* but the fact remains that in successful negotiation and co-management between people and governments, NGOs often play a critical role. The presence of capable and environmentally concerned NGOs in itself proves that changes are taking place in many countries as a response to the increasing struggles over natural resources. It opens our eyes to the social and political complexities of FGR conservation and stimulates our hopes that sustainable forest management is possible through participation.



Photo 7:
The greatest incentive for local people to look after the forest is the sense that the forest belongs to them, either as recognised managers, or better still, as recognised owners. Community Foresters in Tanzania.
Photo: Liz Wily

Table 1

The participatory process	Action required by Governments and planners	Action required by local communities and NGOs
Step 1: Identification of FGR conservation objectives.	Co-ordinate agencies and their land use plans. Inform affected interest holders.	Be mobilised and organised. Disseminate information.
Step 2: Selection of site.	Co-ordinate agencies and their land use plans. Inform affected interest holders.	Be mobilised and organised. Disseminate information.
Step 3: Interest holder analysis.	Facilitate fora for discussion with interest holders.	Arrange meetings. Listen to all parties concerned.
Step 4: Collection of baseline data.	Provide technical expertise and assistance.	Participate in data collecting. NGOs assist in data collecting at community level.
Step 5: Re-evaluation of FGR conservation objectives and formulation of activity plan done in co-operation by all involved interest holders.	Provide legislation, training, institutional capacity building.	Evaluation of conservation objectives and formulation of conservation project. List vital requirements.
Step 6: Identification or establishment of institution or organisation responsible for forest management.	Facilitate establishment of committee. Recognise committee.	Agree whether already existing village institution can take up responsibilities or form a new committee. Represent all interest holders. Train committee in leadership and management roles.
Step 7: Implementation of planned activities.	Carry out activities. Technical advice.	Carry out activities. Assist if conflict arises.
Step 8: Monitoring of target species.	Develop participatory monitoring methods. Train community members. Advise on how to adjust harvest if not sustainable.	Train community members in monitoring. Undertake participatory monitoring. Decide whether practices have to be changed and how.

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