LEARNING FROM SELF-INITIATED COMMUNITY FOREST MANAGEMENT GROUPS IN ORISSA: FINAL TECHNICAL REPORT, VOLUME 1

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LEARNING FROM SELF-INITIATED COMMUNITY FOREST MANAGEMENT GROUPS IN ORISSA: FINAL TECHNICAL REPORT FOR NRSP FOREST AGRICULTURE INTERFACE PROJECT R6787

1. EXECUTIVE SUMMARY

The duration of this project was 1 January 1997 to 31 March 1999. It has been coordinated by Czech Conroy, a socio-economist at the Natural Resources Institute, with inputs from several Indian researchers and non-governmental organisations.

There is growing recognition in tropical countries that safeguarding forests requires the active involvement of local communities, but knowledge of how best to do this is limited. Orissa's extensive experience of community forest management (CFM) may provide some valuable lessons and insights. Orissa has several thousand self-initiated CFM groups, perhaps more than anywhere else in the world of comparable size. A large proportion of them have been in existence for more than 10 years, and some for as long as 30 or 40 years. The project has studied:

(a) the conditions that give rise to the initiation of CFM;
(b) the factors affecting its sustainability, including conflicts and their management;
(c) the size and nature of the benefits, and how they are distributed among the various sub-groups of a community; and (d) communities' support needs.

The principal study activity was a survey of forest-dependent communities, which was primarily socio-economic in nature. Forty three communities were surveyed, 33 of which had initiated forest protection. The majority of the protection cases were selected to be representative of most cases in their area. The remainder are special cases that were purposively selected to illustrate particular issues.

The main survey methods were: semi-structured group interviews; walks through the managed forest; and various participatory mapping and diagramming techniques. The views were sought of people from a number of sub-groups, including women. CFM was examined in the context of people's livelihood systems as a whole, since these can affect the size and nature of any benefits they derive from forest protection, and also their main reasons for deciding to protect.

The literature on the management of common pool resources has identified a wide range of factors (e.g. group characteristics such as size and homogeneity), based on both experience and theory, that are likely to affect the success of management initiatives. These factors have been examined in relation to the case study experiences. Ten non-protection cases were also studied to gain insights into factors discouraging protection.

The main report of the study (Conroy *et al*., 1999) was published as a Discussion Paper, and was discussed at a project workshop in Orissa in February 1999. It highlights the plurality of institutional and management arrangements that communities have developed, and cautions against forest departments imposing a standardised, blueprint approach, as has happened to some extent in Joint Forest Management programmes in India. It makes recommendations for a new partnership

between the state and communities in Orissa, and highlights the weaknesses of Orissa's JFM programme. Their implementation will contribute to the project's purpose, prescribed by DFID, namely: "Improved understanding of common property issues and tenure rights developed and incorporated into land use management and planning strategies". The project's outputs will also contribute to DFID's objectives of promoting sustainable livelihoods and managing natural resources sustainably.

2. BACKGROUND

2.1 Importance of the Researchable Constraints

There has been widespread deforestation in India this century, including in Orissa. This has often led to environmental problems and undermined people's livelihoods - poorer groups have been particularly affected, as they tend to more dependent on forests. Governments have recognised that local communities need to be given greater rights and responsibilities in forest management to halt this trend. However, community involvement in forest management has been spreading very slowly in most parts of India, primarily through the direct intervention of forest departments under the auspices of state JFM programmes. Even where communities have become involved in JFM there are doubts about the sustainability of their involvement. In Orissa, for example, a large proportion of the VSSs established through the JFM programmes cease to function within a year of their establishment.

To accelerate and sustain community involvement in forest management better understanding is required regarding:

- what are key components of an enabling environment (legal, policy, organisational) that will encourage communities to become involved in forest management;

- what support measures are required in Orissa and elsewhere to make community involvement in forest management robust and sustainable.

2.2 How the Demand for the Project was Identified

The widespread interest in transferring forest management to local users, and in joint forest management (JFM) in particular, has highlighted the need to understand the different factors influencing the formation, effectiveness and sustainability of local forest management organisations. In 1996 a report commissioned by NRSP (Shepherd and Kiff, 1996) identified seven key research issues for future research on this subject. This research project set out to examine various aspects of three of these issues, namely:

- encouraging and monitoring sustainable management;
- the nature of the policy and legal framework; and
- the existence and nature of communal resource management arrangements and external pressures upon them.

The proposed research is consistent with, and relevant to, government policy in India. The Government of India, and numerous state governments, have been promoting joint forest management (JFM), involving both state forest departments and local communities, for several years; albeit with varying degrees of success. There have been many studies in India on the social dynamics, efficacy and benefits of JFM initiatives relating to *induced* local forest management institutions, i.e. ones that have been formed in response to encouragement from forest departments or NGOs. So far, however, comparatively little research has been done on self-initiated forest management and protection organisations, particularly the more recently-formed ones.

Nevertheless, the importance of conducting research into why, how and under what conditions these forest protection initiatives are occurring in certain parts of India has been recognised and highlighted by various researchers and practitioners. For example, Poffenberger *et al* argue that: "it is essential to better understand the conditions, incentives and processes that are driving this environmental activism in order to facilitate their replication in other parts of India.." (Poffenberger *et al,* 1996). Similarly, Sarin states: "These encouraging grassroots initiatives and traditions need to be further studied and monitored closely, to improve understanding of the dynamics by which such locally derived organizations emerge, their strengths and weaknesses, and how best they can be supported and fortified ..... It would help the forest department and others in JFM support roles to further study these indigenous, grassroots institutions in order to develop more sophisticated guidelines for new CIs [community institutions] forming in other areas" (Sarin, 1996).

SPWD (one of the collaborators) had identified the dynamics of self-initiated protection organisations as an important subject, and has been supporting some research on it. SPWD and NRI agreed to share experiences and findings from this project and the other related research; and SPWD welcomed this research project as "important and pertinent.. in India" (SPWD support letter, 1996).

The Orissa State Forest Department has been promoting JFM, and in some localities has given support to self-initiated protection groups. When this project was being conceived in 1996 the then Principal Chief Conservator of Forests, Mr C.G. Mishra, indicated to Mr Conroy that he was keen to collaborate.

The Swedish International Development Cooperation Agency (SIDA) was planning to support a new project in Orissa in which local forest management by self-initiated and induced organisations would have a central role. SIDA was positive about the proposed NRSP project, which it envisaged could provide a valuable input to the SIDA-assisted project.

Czech Conroy also had discussions with CIFOR in 1996. CIFOR regards research to improve understanding of the conditions influencing the efficacy and sustainability of local forest management as very important. It had commissioned a book on the JFM experience in India (which it subsequently published - Saxena, 1997); and CIFOR's Assistant Director General provided a supporting letter for this research project.

2.3 Summary of Previous Research

1. General research on common pool and forest resource management

The wider literature on common pool resource management and forest management provides a useful background to research on this subject in India (e.g. Ostrom, 1990, McKean, 1995; Scherr et al, 1995); particularly the work of Elinor Ostrom and colleagues and the International Forests Resources and Institutions Programme (e.g. Ostrom, 1994). One valuable study of this kind that focuses specifically on India is that of Arnold and Stewart (1991).

2. General experiences of local forest management in India

Local forest management organisations can be classified into two categories – *induced* and *self-initiated*. Induced organisations are those whose formation has been actively encouraged by an external agency, such as a forest department or an NGO, usually as part of a joint forest management programme; and which have been given some kind of official recognition. Whereas self-initiated ones are those that have formed with little, if any, external encouragement, outside of the auspices of any official programme. Thus, they lack any legal status or official recognition, except for those that have become part of the JFM programme[1].

Until now, the emphasis of studies (including those cited below) that have sought to identify the key factors affecting group formation and efficacy in the area of forest management has been primarily on induced organisations. Such studies have usually involved analyses of the Joint Forest Management (JFM) experience in different villages, projects and/or states. There is a burgeoning literature on JFM, of which some important references are: Jeffery, R. and Sundar, N. (Eds.) (1999); Poffenberger, M. and McGean, B. (Eds.), 1996); Saxena, N.C. (1997).

Hobley and Shah (draft, 1996) contains a valuable analysis of factors affecting the robustness of local forest management and protection organisations in India and Nepal, drawing on primary case study material from Haryana and secondary material from elsewhere. Other publications giving useful general analyses of participatory forest management in India/South Asia include: Agarwal and Saigal, draft, 1996; Hobley, 1996; Khare, undated; and ODA, 1996. A major concern in participatory forest management is how the costs and benefits are distributed among different sub-groups and between men and women. A valuable overview of the Indian literature on this subject can be found in Sarin *et al*, 1998.

3. Understanding of self-initiated local forest management organisations in India

When this project was conceived, comparatively little research had been done on self-initiated forest management organisations or groups. The principal references for Orissa were Kant *et al* (1991) and Jonson and Rai (Eds) (1994): some valuable case studies are contained in these and other references. However, there have been some general weaknesses in the literature, and Poffenberger and others have called for more research on this subject (see section 2.2 above). The weaknesses include the

[1] The relationship between forest legislation and JFM and CFM groups is discussed by Mishra (1998) and Chatterji (1998).

following:

(a) the number of case studies is quite limited;
(b) it is not clear how representative they are (some have been selected because they have special characteristics); and
(c) little information is given about the general context in the localities where the cases occur.

An annotated bibliography of the literature on CFM in Orissa has been produced by this project (Conroy, 1998).

4. The state, tenure and local forest use and management

During the British colonial period in India the perception of the state towards forests gradually came to reflect European tenurial concepts, which regard forest land as crown land. Through the second half of the nineteenth century and beyond, the forests of rural communities were continuously being reserved and nationalised, while the rights of villagers were eroded through a series of legal actions. Village forest rights were often changed to privileges at the discretion of local bureaucrats (Poffenberger and Singh, 1996). Even after Independence, community forest users were perceived by the government as the driving force behind deforestation; and ancestral rights and usufructs granted during the colonial period were viewed by some as overly generous concessions and privileges. As the rights of rural communities were eroded, conflicts grew between the state agencies and Indian villagers.

Almost all forest lands in Orissa are now under state ownership, and fall into two broad categories - Reserved and Protected. Reserved Forests are "reserved" for national needs, and the rights of the local population over them are severely curtailed. In the case of Protected Forests, some rights are granted to the local population, who are allowed all privileges except those that are specifically prohibited. The Reserved Forests are under the custodianship and management of the Forest Department; whereas the Protected Forests are owned by the revenue department and managed (officially) by the Forest Department. In practice, Protected Forests have been generally left unmanaged. Local management efforts were initially limited to non-Reserve Forest areas, but have now spread to Reserved Forest areas also (Singh, 1993). Areas of forest that are *de jure* state property are being managed *de facto* under common property regimes. Self-initiated local institutions have usually formed without any formal sanctions from state agencies: their rules often impinge on the domain of the Forest Department, and in some cases may be illegal. Most of them lack any legal standing, and this can undermine their perceived legitimacy (Singh, 1995).

Given the circumstances described above, the policies and practices of state agencies, particularly the Forest Department (FD), have major implications for the efficacy and sustainability of self-initiated forest protection groups. For example, the Joint Forest Management programme being promoted by FD could help or hinder them, depending on how it is implemented: "it could lead to lead to disruption of the existing dynamic forest CPR systems" (Singh, 1995). The FD is not a monolithic organisation, and in some areas it has been supportive of local initiatives, and in other areas not. For the FD to play a strong supportive role requires a major change from its

traditional policing role, and the transition will not be an easy one (Singh, 1993).

3. PROJECT PURPOSE

The project purpose is "Improved understanding of common property issues and tenure rights developed and incorporated into land use management and planning strategies".

In many parts of India extensive deforestation and degradation have resulted in the balance between forests and other land uses being disrupted, leading to a variety of negative consequences for agriculture and other land uses. In Orissa and elsewhere land use planning needs to give higher priority to the preservation of forests, and ways need to be found of managing them more effectively so that they do not become heavily degraded again. The Government of India's forest policy recognises that local communities have a vital role to play in making forest management more effective. For communities to do so, an appropriate enabling environment must be in place, including, *inter alia*, secure rights to forest products. Creating such an environment requires a better understanding of tenure rights and other issues (e.g. conflicts, distribution of benefits, external threats) affecting collective management of forests by communities.

In Orissa, 2,000-4,000 communities have already initiated forest management themselves, particularly during the last 30 years. This project has sought to learn from the experiences of these communities, and has been researching four broad themes:

- the conditions that lead to (and discourage) the formation of self-initiated forest management groups;
- their sustainability, and the factors affecting this, including conflicts (their nature, management and consequences);
- the costs and benefits of CFM and how equitably they are distributed;
- the support needs of CFM groups and communities wanting to initiate CFM.

By developing a sound understanding of these matters the project has sought to identify support measures that will facilitate the formation and long-term effectiveness of community forest management, **for incorporation into land-use management and planning strategies and policies**.

4. RESEARCH ACTIVITIES

4.1 Introduction

The activities specified in the logical framework were:

1.1 Review of current knowledge of local FM in Orissa, based on discussions with key informants and literature review.

1.2 Survey of local protecting and non-protecting communities and the condition of the forest protected and/or used by them.

1.3 Analysis of survey findings (and other studies).

2.1 Writing and dissemination of guidance materials with and for the state Forest Department and NGOs.

2.2 Organising state-level workshop.

3.1 Writing of articles about findings of relevance beyond Orissa.

3.2 National presentation/workshop on research findings.

A further activity was added in 1998, namely meetings with Divisional Forest Officers and NGOs in three of the survey districts, to discuss preliminary survey findings and to obtain their views on the implications of the findings for government policy and practice.

Each of the activities will now be discussed.

4.2 Review of Current Knowledge of CFM in Orissa

In the early stages of the project the project leader collected documentation on CFM in Orissa (mainly grey literature), and had discussions with people who were knowledgeable about this. An annotated bibliography of some of the key references was subsequently produced as a project document (Conroy, 1998).

4.3 Survey

The principal activities were: an informal survey of 33 protection cases and 10 non-protection cases; and the writing up of the survey information in the form of case studies. A checklist of topics to be covered in the survey was developed, which was linked to a set of hypotheses that the survey aimed to test. The hypotheses are reproduced in Appendix 1.

Secondary data were collected in addition to the primary data obtained through the survey. Prior to the survey the researchers assembled and reviewed the existing literature on CFM in Orissa and India in general. During the survey secondary data were collected at various levels. At the field level, documents such as working plans were consulted to supplement the primary data and in some cases to provide a cross-check on it.

Working with local NGOs

It was decided to carry out the fieldwork in collaboration with local NGOs, preferably ones that were knowledgeable about CFM in their programme area. The reasons for doing so were:

(a) they have a rapport with communities in their programme areas that would enable the survey team to minimise suspicions, and to get people to 'open-up' more than they would if we visited them 'cold';

(b) some NGOs already had secondary information against which villagers' answers could be checked, and which was expected to be useful in identifying or guiding certain lines of questioning; and
(c) local NGOs often have information about the population of villages in certain Panchayats or blocks that is a pre-requisite for stratified random sampling or typical case sampling, and that can also provide a useful supplement/background to the case studies.

Primary data collection - survey methods

The researchers spent up to seven days altogether with each protection community, but not continuously. The main survey method was semi-structured group interviews. Other specific methods used in the survey included: transect walks, transect diagrams (both current and historical), seasonal diagrams of forest product-related activities, matrix ranking of livelihood enterprises and forest products, and historical timelines. There tend to be a number of distinct sub-groups within any community, and the survey team sought to obtain the views of people from each of these groups, including women. The Box below shows a typical sequence for survey activities in one community.

Semi-structured group interviews, combined with visual techniques (like mapping and diagramming) in which villagers play a lead role, can provide a better understanding of the human-ecological context within which the survey is done, so that forest protection initiatives can be examined against this background. The approach tends to present a picture of community resource use as a system, because it allows the community to speak for itself to a greater degree than most research methods.

BOX Illustrative Schedule for Surveying a Community

Day 1
Introduction. History of the community
Identification of sub-groups through discussion of livelihood systems, differing degrees of dependence on forest products within the community, and *Social mapping.*

Day 2
Natural Resources Map - Discussion of reasons for forest protection. Identification of sources of forest products and other resources apart from the protected patch.
Mapping of protected patch - Discussion of the history of protection, and the institutional arrangements for its management and protection.

Day 3
Transect walk and Transect diagram (including historical transects)

Days 4-6
Group interviews with different sub-groups.

Day 7
Presentation of findings to general meeting.

Primary Data Collection – Condition of the Forest

In some of the protected forests covered by the survey the researchers collected information about the condition of the forest. This included identifying and listing all the trees in two quadrants per protected forest; and measuring their height and girth at breast height.

Selection of districts to be surveyed

The Indian researchers knew a considerable amount about CFM in Orissa at the start of the project, as they had all been previously involved in related work. On the basis of this knowledge, six districts were chosen for the survey, with a view to covering:

- different forest types (Sal and non-Sal)
- different types of protection organisation
- tribal and mixed communities
- different motivations for protection and
- different ages of protection.

The researchers aimed to select equal numbers of cases for the different sub-categories of three of these variables - ethnic group, forest type and age of protection - as shown in Table 4.1. This process was based on advice from a biometrician, and was intended to facilitate rudimentary statistical analysis.

Table 4.1 Selection Variables

Ethnic Group	Percent	Forest Type	Percent	Age of Protection Initiative (Years)	Percent
				5-10	33
Mixed	50	Non-Sal	50	10-20	33
Tribal	50	Sal	50	>20	33

The expected distribution of these sub-categories by district is shown in Table 4.2.

Table 4.2 Predominant Categories of Selection Variables by District

Districts	Ethnic Group(s)	Forest Type	Age of Protection Initiatives (Years)
Tangi-Ranpur	Mixed	Mixed	5-10 and 10-20
Balangir	Mixed	Mixed	5-10
Sambalpur	Mixed	Sal	10-20 and 20+
Sundergarh	Tribal	Sal	20+
Keonjhar	Tribal	Mixed	20+
Mayurbhanj	Tribal	Sal	10-20

Selection of cases to be surveyed

Most previous studies of CFM in Orissa and eastern India generally have either:
(a) not aimed to obtain a representative picture, sometimes deliberately focusing on special cases; or

(b) have not made it clear whether the cases and findings are representative.

This study aimed to present a fairly representative picture of what has been happening in a large area of Orissa, by: (a) covering a much larger number of cases than previous studies; and (b) focusing mainly on 'ordinary' cases. Twenty six of the protection cases were **'ordinary cases'**, i.e. ones which were thought to be representative of the population from which they are selected (see Table 6.1). Members of the research team took care not to select communities on the basis of the local NGO's recommendations or preferences. Instead, one or other of two systematic approaches was taken: stratified typical case sampling or stratified random sampling. The stratification was done on the basis of the three variables shown in Table 1: i.e. ethnic group, forest type and age of protection.

In addition to the ordinary cases there were seven **'special' cases** (see Table 6.2). These were cases that were purposively selected to illustrate a particular point or issue. The Magarbandh case from Nayargarh is a cluster level forest management initiative by a group of villages (as opposed to individual village or hamlet protection) which is not common in other districts of Orissa. Mahasipata in Balasore illustrates the effect of stone quarrying on initiation of forest protection by community. Gadabanikilo in Nayagarh was selected to highlight the forest management system and techniques by community. The village adopts different systems for different types of forest patches it is protecting and using. Dengajhari, also in Nayagarh, was selected as an example of conflict of interests within a forest management group that comprises of multiple villages and sub-groups. Paiksahi in Nayagarh and Ramkhol in Sambalpur were selected to illustrate the issues emerging under Joint Forest Management. Both the villages are examples of self-initiated management, which were converted into Van Samrakshana Samitis[2] (VSSs). Dalua in Khurda district was selected as a special case to illustrate management of a Sanctuary area by a community.

Finally, there were 10 **non-protection cases**. A general rule of thumb was that N-P cases should be selected from an area (e.g. block) where protection is quite common, rather than where it is the exception. This was because some areas were known to have hardly any protection cases because serious degradation had not taken place, and hence people were not experiencing product scarcity and had little incentive to protect forest. A second rule of thumb was that the N-P cases should be randomly selected where possible, i.e. where it was possible to obtain a list of non-protecting villages from which to make the selection.

4.4 Analysis of Survey Findings

Case studies

The Indian researchers produced case studies on each of the 43 communities surveyed, based on the data collected during the field work.

[2] This is the name given to community forest protection bodies that are officially recognised by, and part of, the JFM programme.

District overviews

At the Panchayat, block and/or district levels, we assembled (from government reports, grey literature and discussions with key informants) a substantial amount of background information about each of the survey areas, so that the case studies from those areas can be seen in a broader context. This information is contained in a series of district overviews, covering the following four districts: Balangir, Keonjhar, Mayurbhanj, and Sambalpur. Each district overview also summarises key information from the case studies.

The secondary data in the district overviews include:

(i) patterns and trends in CFM in the district or blocks within which the case studies were selected, such as the preponderance of CFM and the periods during which most communities initiated it;
(ii) information about forests in the area, such as their type and status, the area of forest cover and the history of forest degradation; and
(iii) general socio-economic data, such as population size and the percentage of scheduled tribes and scheduled castes, and the principal livelihood enterprises.

4.5 Liaison with the Forest Department

Members of the survey team contacted local FD staff, in the range offices and divisional forest offices, while conducting the survey. This was partly to brief them on the project survey and also, in the case of RF, to consult relevant FD documents. These documents included: compartment histories, RF Maps (1:25,000), microplans (if prepared) and working plans (current and past).

In June 1998, the Project Leader and Ajay Rai, one of the collaborators, visited four Divisional Forest Officers (DFOs) in three districts where survey work had been done. The DFOs were briefed on the preliminary findings, and discussions were held on their potential implications for FD policy and practice: this process was valuable in strengthening FD involvement.

At the Bhubaneswar level, meetings were held with the Principal Chief Conservator of Forests (PCCF) and Dr. J.P. Singh, Deputy Conservator of Forests in the Directorate of Social Forestry, to brief them on the project as it progressed. The PCCF chaired the opening session of the end-of-project workshop, which was well attended by senior staff from the FD.

The project's relationship with OFD was affected by the fact that its principal collaborators were NGOs. Relationships between the FD and NGOs were tense at times, as the NGOs were generally critical of the FD regarding (a) its lack of support for CFM and (b) various aspects of the way it was implementing the JFM programme.

OFD as a whole has been less than enthusiastic about promoting participatory forms of forest management, either in the form of CFM or JFM. For example, DFOs were complaining about the amount of time that their staff were having to spend attending VSS meetings, and how this diverted them from other activities. If anything, OFD attitudes became more reactionary in late 1998 and early 1999, when consultancy reports

from a SIDA-assisted forestry project were also calling for various changes in government policy (e.g. on NTFPs[3]) and OFD practices and structures.

Against this background, the project tried to maintain as cordial a relationship as possible with OFD, while at the same time recognising that it was unlikely to be receptive to proposals for greater support for CFM and JFM. It appeared that positive changes were only likely to happen as a result of pressure from the SIDA-assisted project and from the NGOs. Close liaison was maintained with the consultants involved in the SIDA-assisted project, so that the project's findings could be fed into the dialogue that was taking place between SIDA, the Government of Orissa and OFD. In addition, project findings were automatically shared with some of the leading NGOs, since they were collaborators in the project (see also sections 7.7 and 9.3).

4.6 Production of Guidance Materials

A Discussion Paper was produced in February 1999, which was given to everyone who attended the state-level workshop. The 50 attendees were primarily staff from Orissa Forest Department and NGO representatives, in roughly equal proportions. The Discussion Paper is being revised and a final version will be published later in the year. This will be sent to everyone who attended the workshop, plus other key OFD and NGO staff.

4.7 Organising State-Level Workshop

During the course of the project, relationships between the main NGO collaborator, Vasundhara, and the OFD's Principal Chief Conservator of Forests, deteriorated[4]. In order to prevent this jeopardising the prospects for the workshop, the organisation of the workshop was instead contracted to Dr Abhash Panda of Environmental Research and Action, a local consultancy. Invitations were sent to about 100 people/organisations, the vast majority of whom are based in Orissa. The workshop was held at the Mayfair Hotel in Puri, Orissa. Further details about the workshop are given in Section 9.3.

4.8 Writing of Materials for Audiences Beyond Orissa

In India The Discussion Paper mentioned under 4.6 contains much information of interest to people in other parts of India. An Executive Summary of it was included in the papers given to the 100-150 participants attending the National Workshop on JFM in February 1999.

International 1. A paper on conflicts in CFM was produced for a workshop in the UK in April 1998 and made available to all 100 or so participants. A revised version will be published in a book based on the conference papers in July 2001. 2. A general paper was presented at the IUFRO World Congress in August 2000, which will be

[3] In 2000, the government announced a change in NTFP policy. Rights over the management of NTFPs were given to Panchayats; and restrictions on communities marketing and processing NTFPs were lifted.

[4] This was to do with Vasundhara's application to the government for a bank account to receive foreign currency (e.g. from foreign donors). The relationship deteriorated when the PCCF declined to support this application.

published by one of the IUFRO working groups in July 2001. 3. An article appeared in the June 2000 issue of the *Forests, Trees and People* newsletter, which is produced by the FAO's Forests, Trees and People Programme. Another article has been accepted for publication in the journal *Forest Policy and Economics*.

4.9 National Presentation

Czech Conroy gave a presentation on the study's findings and recommendations in a plenary session of the National Workshop on JFM on 25 February 1999 in Gujarat. A discussion group was also organised, which was attended by 15 people.

5 OUTPUTS - GENERAL

The project outputs identified in the Project Memorandum and logframe were:

1. improved understanding of the conditions under which spontaneous forest management intiatives occur, and the factors affecting their sustainability and effectiveness;

2. better understanding by Orissa Forest Department and NGOs in Orissa of the socioeconomic circumstances in which their support for the formation of *induced* local management organisations is likely to be most effective; and the kinds of support likely to be most useful to both *induced* and *self-initiated* organisations;

3. forestry departments, researchers and NGOs in other Indian states and other countries made aware of the broader findings of the study and of their potential relevance to them.

6 OUTPUT 1 IMPROVED UNDERSTANDING OF CFM

6.1 Introduction

Knowledge review
Early on in the project existing grey literature on CFM in Orissa was collected and reviewed. Subsequently, an annotated bibliography of this literature was produced and published as a project document (Conroy, 1999).

Description of the cases studied
Forty three communities have been surveyed, 33 of which are protecting and managing forest and 10 of which are not. Case studies were undertaken on each of these communities, and are categorised into three groups: a) Ordinary Protection cases, b) Special Protection cases and c) Non-protection cases. Tables 6.1 and 6.2 provide some descriptive information about the protection cases studied to set the context before the research findings are discussed. Information about non-protection cases is given in Table 6.3, in Sub-section 6.2.

A *discussion paper* was produced for the project's state-level workshop, which took place in Puri, Orissa on 19 February 1999.

Table 6.1 Ordinary Protection cases

Sl. no	Name of District and Prot. Case	Protection unit	Protection area in acres	Legal Status	Forest type	Year in which protection started	# of hh	Composition of the community
	Mayurbhanj							
1	Kathuabeda	Village	100	RF	Sal	1983	127	mixed
2	Rangamatia	Village + hamlet	50	RF	Sal	1973	75	tribal*
3	Nachipur	Village	50	RF	Sal	1983	119	tribal
4	Astajharan	3 hamlets	50	RF	Sal	1983	67	tribal
5	Purunapani	Village	50	RF	Sal	1958	57	tribal
	Nayagarh							
6	Samant-Singharpur	Hamlet	300	RF	mixed	1985	65	mixed
7	Kesiyapalli	2 villages	100	RF, 'A' class	mixed	1975	350	mixed
8	Chattipur	Village	30+10	RF+VF	Teak, other species Euc, Acacia, etc.	mid 1960's + 1986	33	mixed
	Khurda							
9	Belpada	Village	500	DPF	mixed	1987	45	mixed
	Sundergarh							
10	Suruguda	Village	895	RF+ KF	Mixed with Sal dominance	1980	117	mixed
11	Jarmal	Village	179	RF	Mixed with Sal dominance	1970	158	mixed
12	Gariamal etc.	3 hamlets (of two villages)	> 625	RF	Sal	1948	132	tribal
13	Phuljhari	Village	> 250	KF	Sal	1965	65-70	mixed
14	Jharbeda	Village	?	KF	Sal	1980	132-142	mixed
15	Juniani	4 villages	625	RF	Sal	1988	555	mixed
	Balangir							
16	Ga`diajor	Village	800	VF, Gochar, Patra	mixed, bamboo	1983	46	mixed
17	Adendungri	Village	150-170	RF & VF	mixed	1968, 1972	139	mixed
18	Baghdungri	Village	150	VF	mixed	1972	132	mixed
19	Baghjor	Village	300	VF	mixed	1992	67	mixed
20	Ballarpali	Hamlet	90	VF	mixed	1986	55	tribal
	Keonjhar							
21	Patala (Upar sahi)	Hamlet	300	RF 'B'	Sal	1973	115	mixed
22	Rajia (Majhi sahi)	Hamlet	150	RF 'B'	Sal	1962	75	mixed
23	Krushnapur	Village	200	RF 'B'	Sal	1975	100	mixed
	Sambalpur							
24	Sargipali	Hamlet	120	VF	mixed	1978	100	tribal
25	Pandripali	Village	25-30	VF	mixed	1960	120	mixed
26	Tudabahal	Village	150	VF	mixed	1991-92	32	mixed

*tribal: more than 75% of the population is tribal.

- RF- Reserve forest, GJ- Gramya Jungle, KF-Khesra forest

Table 6.2 Special Protection cases

Sl. no	Name of Prot. Case	Name of District	Protection unit	Protection area in acres	Legal Status	Forest type	Year of protection	# of hh	Composition of the community
1	Mahasipata	Mayurbhanj	4 hamlets	50	RF	Sal	1983	203	tribal
2	Dengajhari, etc.	Nayagarh	3 villages		RF	mixed	1979	75+	mixed
3	Dalua	Khurda	Village	200	DPF	Mixed	1988	120	mixed
4	Gadabanikilo	Nayagarh	Village	750	RF	mixed	1940	143	mixed
5	Paiksahi	Nayagarh	2 hamlets	250 + 2004.27	GJ + RF	mixed	1970, 1990	69	tribal
6	Ramkhol	Sambalpur	Village	250	VF	Mixed with bamboo	1986	51	mixed
7	Sulia Paribesh Parishad, Magarbandh	Nayagarh	19 villages	2000+	RF	mixed with Bamboo & Sal	1987	1800 +	mixed

6.2 Conditions that Lead to the Initiation of CFM

Forest degradation and scarcity
Protection by a community was initiated after neighbouring forest was degraded, and villagers started feeling scarcity of certain forest products, which earlier they had taken for granted. Degradation and scarcity are both perceived differently at different places. The perception is influenced by, among other things, the rate of degradation, nature of degradation, availability of substitutes and alternatives of forest products, etc.. In a scarcity situation, the sub-group wise differences tend to get minimised, and it was easier to develop a consensus for initiating forest protection. However, scarcity was not always sufficient to mobilise the villagers, and many a times some 'trigger' was needed to initiate protection. Commonly found triggers include: 'digging out of roots from the forest', 'sudden increase in pressure', and restrictions placed by neighbouring village on access.

Nature and extent of dependence on forest
The importance of forest is expressed in relation to agriculture, animal husbandry, subsistence products and as an income source. The nature and extent of dependence among different section of the community varies. While the poorer households tend to give importance to income from collection and sale of NTFPs, the better off households highlight subsistence products like firewood and small timber. Dependence on Forest is given quite a high rank, but mostly below agriculture or (daily) wage labour which are the primary occupations of most of the villagers. Sometimes the difference is of degrees only. While some of the products collected from the forest might be the same for all groups, the frequency, quantity, and urgency for poorer and better off sections varies.

Some sections of the community depend on forest for day to day survival. They are mostly engaged in firewood headloading. This group ranks forest higher than either agriculture or wage labour. In villages where forest protection was initiated, this group agreed to either 'shift' the pressure to another patch or switched to another livelihood activity (e.g. daily wage labour).

Facilitating Factors
Various factors were found to have facilitated forest protection by communities. In some areas, one single factor contributed to the initiation and at other places a combination of factors led to initiation. Though it is difficult to say which single factor was most important in each particular case, some factors stand out when all the cases are taken together. They are:

- presence of strong traditional community institutions,
- unsuitability of the patch for agriculture,
- lack of feasible alternatives or substitutes to some forest products,
- support from local FD staff,
- 'ownership' perception over revenue forests.

In addition, projects and programmes of the government, notably the Orissa Social Forestry Project, also helped in developing an atmosphere for forest protection.

Table 6.3 Non-Protection Cases and Reasons for not Protecting

Sl. no	Name of the district and Non-Protection Case	Distance from nearest forest	Composition	# of hh*	**Main causes of non- protection**
	Mayurbhanj				
1	Kadamsole samil Kusunpur	next to the reserve forest	Tribal	106	• No scarcity. • Smuggling route nearby. • Conflict of interest with respect to livelihood option - heavy dependence on headloading by many villagers
	Sundergarh				
2	Silipunji	next to the reserve forest	Tribal	27	• Scarcity is not acute. • Lack of internal consensus. • Threat from nearby villages
3	Jharbeda	Next to reserve forest	Mixed	115	• Pressure from neighbouring villages; • lack of unity between different hamlets; • engagement of some HH in Sale of firewood & timber
	Khurda				
4	Udaygiri	DPF	Mixed	253	• Threat from nearby villages. • Lack of support of the FD re. harvesting rights to a social forestry plantation.
	Nayagarh				
5	Nagajhara	RF & Rev.F	Tribal	20	• Threat from bigger villages, and fear of physical conflicts. • Lack of forest department support.
	Keonjhar				
6	Panasnasa	located within forest area	tribal	49	• shifting cultivation, • no scarcity, • firewood headloading
7	Brahminidihi	located next to RF	tribal	77	• most of the HH either depend on labour work in mines or on firewood headloading; • infrequent interaction between HH; • pressure of neighbouring villages; • low productivity of agriculture land
	Sambalpur				
8	Gunjighara	located next to RF	mixed	32	• Pressure by smugglers from neighbouring town; • product scarcity not acute; • bad experience with FD in relation to forest protection
9	Haripur	located next to RF	tribal	29	• Threat from big village in the vicinity - small tribal village in non-tribal area; • Dependence of some HH on sale of firewood
	Balangir				
10	Badjhola	located next to RF	mixed	42	• Pressure on forest from neighbouring villages; • lack of unity

*HH = households.

Inhibiting Factors
Factors which inhibit initiation of forest protection are related to: the condition of the resource; characteristics of the community and its leadership; location and size of the village in relation to the size of the neighbouring villages; and nature of dependence on forest. Specific reasons cited by non-protecting villages include – 'most of the products easily available', 'a large number of persons would lose their livelihood if protection is initiated', 'our village is too small to prevent others from coming to forest', etc. The reasons given by the non-protecting communities for not having initiated protection are summarised in Table 6.4.

6.4 Community Management System

Protection Unit
The protection unit may be a hamlet, a village or a group of villages and hamlets: the most common unit is a village (see Table 6.). A group of villages or hamlets come together to protect a patch of forest when the patch of forest is too big to be protected effectively by any single village or when more than one village have well established traditional rights over that patch which can not be ignored. On the other hand, multi-hamlet villages often organise their protection hamlet-wise, either for better management of protection or because they do not relate to each other as a community. Sometimes, in a multi-hamlet village, differences arise over matters of how protection and forest is being managed, leading to either breakdown of protection or division of forest between hamlets.

Table 6. The Protection Unit

No. of Cases	Village	Hamlets of one village	Combined (Hamlets of two villages/Village & hamlet/ Villages)
26	16	6	4
%	61	23	15

Decision-making and membership

Different types of organisations have evolved to manage forests, which evolve rules and regulations for membership, access, penalty, watch and ward, harvesting etc.. The organisation could be a village committee, a specially constituted forest committee, a youth club or a group of village elders. Depending on the situation, communities have developed different arrangements for enforcing protection and using the benefits. All members are entitled to attend, and participate in, general meetings of the members, which is an important decision-making forum (see Appendix 1, Table A10).

In addition, there is usually an executive committee, to which certain responsibilities are delegated. Ethnicity/caste and place of residence (sahi or hamlet) influence representation of different sections on the executive committee. The members of the executive committee are elected, selected or approved by the individual village (see Appendix 1, Table A11).

Members are recognised on the basis of their contribution to protection, which may

be in cash or kind (payment to watchman) or labour for patrolling, depending on the protection system. In the majority of cases all households within the protection unit (village, hamlet) are members of the CFM group. However, three types of exceptions to this situation were found in certain cases.

First, in some cases, a few of the poorer households located in the protection village or hamlet were not regarded as members, because they had not contributed. Second, there were some cases where 2 or 3 households were jointly contributing to one share or membership unit. Third, in a few cases (e.g. in Keonjhar district), non-resident landowners were acknowledged to be members if they contributed (in cash, kind or labour) to community work, including protection.

Protection System

The mechanism of protection is based on patrolling the forest patch and on a penalty system. Rotational patrolling (Thengapali) is the most commonly used method (see Appendix 1, Table A12). It involves one or more persons from each member household taking it in turns to patrol the patch, with the responsibility rotating on a daily basis. Watchers are employed where membership fees are charged, or some community fund has been developed that can support a watcher; or when it becomes difficult to go for patrolling (e.g. agricultural season). Watch and ward in most of the cases is 'irregular' and 'need based' and changes in 'form' with change in condition of vegetation, season and pressure from outside. The penalty system is usually based on graduated sanctions (see Appendix 1, Table A9), and may involve one or more of the following (see Appendix 1, Table A8): verbal warning, beating, putting social pressure and monetary fines. The size of a fine depends on the type of offence done.

Use rights

The communities develop graduated access regime with respect to membership, place of residence, species, product, quantity, purpose, urgency of need, economic condition of applicant etc. (See Discussion Paper for details.) Rules about the extent and nature of access are also influenced by the condition of the forest; community's need for funds; market value of a particular product etc. In general, after three-four years of protection access for collection of various products (without using any cutting tools) and grazing is allowed for members as well as outsiders. Certain products which are scarce or more in demand are priced for outsiders, or are only available to members.

Benefit Sharing Mechanisms

Collection of many NTFPs tends to be unregulated, with members harvesting as much of a product (e.g. fruits) as they like. In addition, two types of benefit-sharing mechanisms are commonly found for timber or wood products, namely 'need-based' and 'equal' sharing. They are not mutually exclusive and co-exist in most of the places. Need-based sharing is used for products (mainly timber) that are scarce and that are required in different quantities by different families for consumption. The committee may restrict the quantity of timber made available such that it meets only a part of the total need, depending on the availability of suitable trees in the patch. The 'equal' share mechanism is generally applied when the committee organises harvesting in the forest (cleaning and thinning). Products like twigs, branches and poles are obtained, which are divided equally between members.

6.4 Equity in Benefit Sharing and Decision-Making

Equity in community institutions is a major concern, due to disparities inherent in the social and economic structure. Certain mechanisms and approaches followed by the community for the management of forest tend to increase these concerns. They are:

- Restriction on sale by individual members of their share of wood.
- Use of common fund for purpose which benefit some people more than others
- Complete closure of forest.
- 'Equal' cost sharing and 'need' based benefit sharing.
- Disposal of produce through auction
- Absence of women from decision making body
- Focus on timber species

In discussions with various sub-groups in the villages, differences in priorities with respect to use of forest and participation in decision making of different sub-groups are brought out.

With respect to participation, the problem is more of exclusion from protection. Many CFM groups are quite heterogeneous (see Table 6.5), and is not unusual for certain sub-groups to be excluded or forced to stay out of protection (as they can not meet the 'costs' involved). Groups that depend on daily wage labour or seasonal migration for survival and livelihood sometimes find it difficult to contribute either in cash or labour for protection, particularly in initial period. At places, two or three families combine and get 'registered' as one share/member.

Community leaders agree that closing the forest has a greater impact on the poor. However, they point out that the 'payoff' is also greater for the poor, as they take out more (in terms of both numbers and quantities of products) and require them more than others. They argue that it is not possible to antagonise a 'group' and also continue with effective protection. Sometimes the community innovates to reduce the hardships on poor – shifting pressure; leaving a patch open for village residents, permitting harvesting of certain species either free of cost or on payment of nominal sum.

Gender

Women's involvement in decision making is negligible, though they contribute significantly (indirectly in most places) to watch and ward of the forest. A family is considered to be the unit for membership and is represented by the male head, even in the village committee. Women of the protecting villages were mostly found to be supportive of the executive committee decisions, and the system of management followed by them. Firewood is first priority for them and in most of the cases its availability has increased, though in a different (often inferior) form. Wood has been replaced by dry leaves and twigs as fuel.

Table 6.5 Caste Composition of the Protection Groups

Sl. no	Name of District	Name of the Protection Case	Composition of the community	Name of the castes/Tribes
1	Mayurbhanj	Kathuabeda	Mixed	Gauda, Santal, Khol, Dhoba, Khandayat, Purana, Mohanto, Guhula
2		Rangamatia	tribal	Santal, Bathudi, Harijan, Bhumija, Khetriya, Lohara, Mahali, General caste
3		Nachipur	tribal	Bhuiya, Bathudi, Khandayat, Santal, Sahara
4		Astajharan	tribal	Bathudi, Santal, Kurmi
5		Purunapani	tribal	Santal
6	Nayagarh	Samant-Singharpur	mixed	Khandayat, Gudia, Teli, Gauda, Harijan
7		Kesiyapalli	mixed	Khandayat etc.
8		Chattipur	mixed	Khandayat, Tanti, Khumbhar, Guada, Gudia, Bania, Brahmin
9	Khurda	Belpada	mixed	Khandayat, Sudra, Gauda, Sabar
10	Sundergarh	Suruguda	mixed	Agharia, Mochi, Harijan, Teli, Brahmin, Gauda, Keuta, Kisan, Bhuina, Dhanuria
11		Jarmal	mixed	Bhuian, Brahmins, Keuta, Khadia, Babu, Gauda, Lohara, Marbari, Harijan
12		Gariamal etc.	tribal	Orang, Munda, Kisan, Tura
13		Phuljhari	mixed	Singh, Orang, Sahoo, SC, Muslim
14		Jharbeda	mixed	Behra, Rana, Teli, ST, SC
15		Juniani	mixed	ST, SC, Muslims, General caste
16	Bolangir	Gadiajor	mixed	Khatriya, Mehera, Saura, Binjhal, Harijan, Lohara, Goud, Teli, Kulita
17		Adendungri	mixed	Kulitas, Mirdhas, SC, OBC
18		Baghdungri	mixed	Ganda, Gond
19		Baghjor	mixed	Kandha, Harijan, Lohara, Goud, teli, Mali, Mohanty
20		Ballarpali	tribal	Gond, Harijan, Sahu, Goud
21	Keonjhar	Patala (Upar sahi)	mixed	Ganda, Pano, Kolha, Doma, Dhuba, Bhuiyan, Lohar, Bindhani
22		Rajia (Majhi sahi)	mixed	Giri, Majhi, Kalindi, Gopal, Munda, Dhoba, Mohanto, Kumhar, Maharana
23		Krushnapur	mixed	Mahanta, Goppala, Kamar, Patra, Ghasi, Munda
24	Sambalpur	Sargipali	tribal	NA
25		Pandripali	mixed	Gond, Mirdha, Sabar, Kulita, Brahmin, Goud, Harijan, Keuta
26		Tudabahal	mixed	NA

6.5 Socio-Political Sustainability of CFM

When protection breaks down or stops it is usually because of conflict. Another, less obvious factor impacting on socio-political sustainability is the absence of second generation leadership. For example, in older protection cases in Balangir, where protection was for generating income for Jatra party, the protection was abandoned as the Jatra party became defunct (Baghdungri).

There are many different stakeholders involved with, or interested in, forest management; and conflicts may arise between two or more of them. Table 6.6 lists some of the main stakeholders in Orissa who have an interest (actual or potential) in CFM. Different stakeholders are found at different levels, and three levels are shown in the table.

Table 6.6 Some Key Stakeholders in Community Forest Management in Orissa

Level	Type	Stakeholders
Micro	Local on-site - primary	* Protecting community * Different sub-groups of protecting community (distinguished by class, caste, gender etc.) * Village leader(s) - e.g. Gauntia, Sarpanch * Other communities nearby who previously used the protected forest, or who are still allowed limited access to the forest and/or selected products.
Micro	Local off-site - secondary	* Traditional multi-village body * Apex body of local protecting communities * *Panchayat*
Meso	District/forest range	* Divisional Forest Office * District-level federation of protecting communities * NTFP traders, logging companies, organised timber smugglers etc. * NGOs (forest-support, environment etc) * Urban consumers of forest products (esp.fuelwood)
Macro	State	* Forest Department * Revenue Department * Ministry of Forests and Environment * Orissa Forest Development Corporation * Tribal Development Cooperative
Macro	National government	* Ministry of Environment and Forests

The most local is the *micro* level, which is defined (arbitrarily) as up to and including the Panchayat; then there is the *meso* (or middle) level, which is in between the Panchayat and the whole state; and finally there is the *macro*-level, which includes stakeholders with mandates that cover at least the whole state of Orissa. At the micro-level a distinction is made between primary and secondary stakeholders. The former are those, such as a protection community, who depend significantly on a particular area of forest for their livelihoods.

Conflicts may occur between stakeholders *within* a particular level (e.g. micro-micro), or between two different levels (e.g. micro-macro). Micro-micro type conflicts can be classified further into four categories (see Table 6.7), in terms of:

- whether they are within the community protecting the forest, or between that community and other stakeholders; and
- whether the conflict arose directly out of a forest management issue, or was initially unrelated to forest management but spilled over and affected it indirectly .

The latter may not always be a clear-cut distinction. This is because there may be a history of conflict or mistrust between different stakeholders regarding non-forest matters, in which case there is more likely to be conflict between them in relation to forest management. Nevertheless, the directly/indirectly related distinction one is conceptually useful.

Table 6.7 Types of Micro-Micro Conflicts, with Examples

	Directly related to Protection	**Unrelated to Protection but has indirect effect**
Within protection communities[a]	**A** One sub-group refuses to abide by protection or harvesting rules	**B** Conflict breaks out between 2 sub-groups over a non-forest issue, and they refuse to cooperate any longer in various matters. Forest protection is weakened or breaks down, sometimes leading to a tree-felling free-for-all.
Between protection community and other local stakeholder	**C** 1+ local stakeholders (e.g. communities, local FD staff, loggers) challenge or do not accept a protection initiative (and may cut down trees in the protected patch).	**D** Conflict breaks out between 2 communities, related to non-protection issues (such as party politics or personal disputes), leading non-protecting community to 'loot' the protected patch.

[a] In joint community protection (i.e. involving more than one village or hamlet) each community is classified as a sub-group.

(Source: Project Discussion Paper)

The potential for conflicts is high in CFM and JFM, and many conflicts do occur. The majority of these are effectively managed by communities sooner or later. Nevertheless, of the 26 ordinary protection cases 10 had experienced conflicts that led to a breakdown (usually temporary) of the protection system (i.e. patrolling stopped or was seriously weakened); and most of these breakdowns were associated with substantial degradation of the protected forest (see Table 6.8 for details).

Table 6.8 Ordinary Protection Cases Experiencing Breakdown

Sl. No	Name of District / Protection Case	# of hh	Status of patch	*# of years since protec-tion initiated	Total period of break-downs (years)	Percent Active protectio n (years)	Serious degradation of forest?	No of break-downs	% of success in terms of # of break-downs	Type & # of conflicts			
										A	**B**	**C**	**D**
7	Kesiyapalli/ Kulasara	350	RF	26	10	62	Yes	1	90	-	1	-	-
12	Gariamal etc.	132	RF	51	1	98	Yes	1	90	-	-	-	1
13	Phuljhari	68	KF	34	7	79	Yes	2	80	1	2	-	-
14	Jharbeda	137	KF	19	2	89	Yes	2	80	2	-	-	-
15	Juniani	555	RF	11	1	91	Yes	1	90	-	-	-	1
17	Adendungri	139	RF (was VF), VF	31, 26	5	84	Yes	2	80	2	-	-	-
18	Baghdungri	132	VF	27	10	37	?	2	80	1	1	-	-
21	Patala (Upar sahi)	115	RF 'B'	30-35	1?	?	Yes (1st)	2	80	2	-	-	-
22	Rajia (Majhi sahi)	75	RF 'B'	37	3	92	Yes	2	80	-	1	1	-
24	Sargipali	100	VF	21	?	?	Yes	1	80?	-	-	1	-
Total Conflicts by Type										8	5	2	2

Micro-micro conflicts Of the conflicts associated with breakdowns, most were type A or type B (see Table 6.8).

Micro-macro conflicts Two of the special cases studied involved communities that had become VSSs and had been incorporated into the JFM programme. Both of them had experienced conflict with the FD over the harvesting of bamboo and/or the distribution of the revenue from its sale. A brief description of one of them, Ramkhol, is given in Box 2 of Appendix 1.

Factors giving rise to micro-micro conflicts

Conflicts over control of the management committee, utilisation of community fund, access, boundary etc. are quite common. The forest is linked closely to a community fund and is viewed as a community resource. Therefore it is also targeted in conflicts which are not linked to forest management at all. During Panchayat elections, when attempts are made to divide the village by outsiders for political gain, the community fund is an easy target.

In the case of protection of forest on revenue land, the major conflicts are usually internal (type A or B); whereas in cases where Reserved Forest is being protected, there are more conflicts with outsiders - over access, boundary etc. (type C). This is in the case of non-RF local stakeholders are more likely to recognise the primary right of the village which is imposing restriction for non-RF. (This is discussed further in relation to hypothesis 7 in Appendix 1.) In the case of RF, on the other hand, the restrictions might not be readily accepted by others. Another factor is that, since RF patches are bigger, and villages may be protecting only a part of the RF, the likelihood of boundary disputes is higher.

The internal type A conflicts are often a reflection of institutional weaknesses. (In a few cases they were also triggered by severe droughts, which led some members to cut trees to generate much needed income.) Factors that commonly result in conflicts within the village include:
(a) failure to recognise the varying concerns, needs, wants of various sub-groups;
(b) lack of transparency in maintenance of accounts of community fund;
(c) discrimination in access to benefits and penalty.

Conflict management

Many conflicts are minor and easily resolved. Others may be more serious, but are still effectively managed by the protection community or that community and the one(s) with which it is in conflict. Occasionally, a third party - usually an inter-village institution, an NGO or the FD - is called in to assist in managing the conflict. This is necessitated when the offender proves to be difficult, and refuses to abide by the decision of the committee or when two major sub-groups are in disagreement.

Informal arrangements are more effective than formal ones. In cases of major conflict, local leaders (including Panchayat members, legislative assembly members from the locality, or other respected persons from the area) are invited to resolve the dispute. In a few situations cases were filed in the court of law, either as a forest case (through FD) or as a criminal case (of assault). In forest cases, the offenders rarely get

punished, whereas the criminal case can take a lot of time. Approaches like compromise (by agreeing to the demand of the affected party) are common. Conflict resolution is difficult when the stronger party is in the wrong or unreasonable.

6.6 Ecological Sustainability of CFM Management Practices

The regeneration of forest under CFM is readily apparent. If the protected forest is near to unprotected forest, the difference can be striking. Where PF has been under community management for decades, FD staff who are new to the area have been known to mistake it for RF (Sundar *et al*., 1996). At places where regular thinning has taken place, a multi-age crop can be observed. Otherwise the forest consists primarily of densely packed, even-aged trees.

The communities, in general, follow a conservative extraction regime for pole and small timber from the protected patches. Harvesting is mostly need-based. The extent of harvesting is greater in villages that undertake regular cleaning and thinning operations to meet their firewood and pole needs or to generate some fund through sale.

Nature of regeneration
Communities primarily depend on coppice regeneration of various species. Natural seed regeneration is uncommon: this is illustrated by data collected from the protected patches of three case study villages in Mayurbhanj (see Table 6.9).

Table 6.9 Regeneration of Sal Trees in Three Villages in Mayurbhanj

Village	Mahsipata	Rangamatia	Nachipur
First Year of Protection	1963	1975	1988
% Sal Seedling regeneration	5	10	8
% Sal Coppice regeneration	95	90	92

(Estimated on the basis of data from two sample plots in each of the protected patches)

(Source: Mishra, 1999)

In the Sal forests of Mayurbhanj and Keonjhar, due to absence of undergrowth, dry Sal leaf is commonly used for fuel. At places, sweeping of Sal leaves has lead to soil erosion, and total absence of seedling regeneration. After the first few years of protection grazing is freely allowed in all the protected patches, except bamboo where seasonal restrictions are placed. This also inhibits natural regeneration.
Collection of Sal seeds for trade or subsistence use (oil) may be another factor (Mishra, 1999).

Growth of trees in patches protected by CFM groups

The results of one study (summarised in Table 6.10) give an indication of how the size of the trees and the amount of woody biomass increase over time. The two CFM sites are predominantly Sal, whereas the social forestry plantation is predominantly eucalypts. The species difference may explain why the basal area and standing woody biomass of the latter are the highest, despite the fact that it is the youngest of the three forests.

Table 6.10 Comparative Vegetation Analysis of Two CFM Sites and a Social Forestry Plantation, Mayurbhanj District

	Nabra	Kutling	Social forestry plantation
Years since protection or planting began	7	14	5
Diameter at breast height (% of trees > 10 cms)	60.6	81.4	77.8
Basal area (m^2/ha.)	2.2	7.8	17.5
Standing woody biomass (t/ha.)	39.7	45.3	87.6

(Source: Adapted from PRAVA, undated)

The growth of community-managed forest and other forest has also been measured through the analysis of satellite imagery in the Ranapur area of Orissa, for the period April 1992 to January 1996. The community-protected forest and the total forest in the area grew at the same rate during this period (Ostwald, *pers. comm*.).

Biodiversity The number of plant, tree and animal species also increases over time once protection has begun (*ibid*.). This was confirmed by the transect diagrams prepared as part of the project survey. Current and historical (pre-protection) transects were prepared with the assistance of community members, which showed marked increases in the number of species found in the protected patch.

6.7 Forest Department – Community Interface

The role of FD in community protection and management of forests varies from place to place – from supportive to neutral to unhelpful. The FD staff have been formally or informally involved in supporting these initiatives at some places, particularly those related to RF. At the same time, they have more or less been indifferent to the efforts for non-RF protection by the communities.

Positive relationship between the FD and CFM groups

In cases of self-initiated forest protection, support by FD staff has been in the form of informal recognition to the right and authority of the village involved in protection over others; motivating villages to take up protection of forest; village-wise allocation and demarcation of RF area; taking penal action on cases brought to them by villagers; resolving boundary and other forest-related conflicts; financial support for protection (OSFP) and for cleaning operations; permission for cleaning and thinning; permitting (overlooking) sale of 'surplus' to outsiders by villages committees and helping villages to organise themselves in clusters and facilitating formation of apex bodies / confederations of protecting villages.

Negative relationship between the FD and CFM groups

The negative reaction of the community to FD is due to following reasons :

- The community feels that the forest department has been primarily responsible for the degradation of the forest and not the community.

- The corruption amongst some forest department staff (and their relationship with known offenders) makes the villagers suspicious of their actions.
- They feel dissatisfied with the forest department as it failed to support them at the time of need, especially in dealing with some offenders.
- They also feel that the funds meant for their development activities under the forest department do not reach the villagers.
- The forest department does not recognise their forest protection efforts in its present form. The community is apprehensive that the FD is devising ways to take control of their forest.

Where FD support for CFM is lacking this can sometimes undermine or jeopardise the viability of the initiative. An example of this is given in the following box. For this reason there needs to be a partnership between the state (especially the FD) and communities, in which the attitudes and behaviour of FD staff, as well as government policies, are more supportive. A framework for such a partnership is given in section 7.2

BOX The Influence of the Behaviour and Attitudes of FD staff: the Case of Jharbeda

During the 1990s the protection committee was not strong, as an important sub-group in the village had decided not to join the protection initiative. Thus, the committee's protection efforts were not very effective, and it decided to write to the DFO, informing him that cutting of trees in the protected patch was rampant, and requesting him to take action against the offenders. On another occasion they rang the DFO to request assistance when they had seized six carts that had been brought to the forest to remove trees. However, the DFO did not take any action on either occasion. Offenders then taunted the committee members, saying: "your FD did not come to help you, so no one is going to come to your rescue even if we kill you".

The situation was aggravated by the appointment of a new forest guard, who did not have a supportive attitude and did not help the committee. At one point the forest guard connived with a contractor who removed many trees from the patch. Rule-breaking by the nearby villages intensified after his appointment.

The FD staff find themselves poorly equipped with resources, time and power to respond to the problems brought to them by villagers. The problems of the villagers may seem small and unimportant to the forest department who have to look after large areas of forest and may have to deal with more serious offenders, particularly the timber-smuggling mafia.

Community's attitude towards JFM

Out of 33 community forest management initiatives studied, ten converted into Van Samrakshana Samiti (VSS) under JFM, at least for some duration. The motive behind agreeing to JFM varied from getting permit for harvesting and sale of some forest product (wood or bamboo) to perceived need by villagers for legal recognition and greater security against other villages in the area. In a number of the villages, the VSS remains only on paper and for the benefit of the FD.

The attitude of the communities towards JFM varies from village to village. It may be both positive or negative, depending on the situation with respect to: protection in the village (extent and nature of external pressure and community's ability to handle that effectively on their own); degree of trust in the intentions of FD (history of past

association); and their perception of the costs and benefits involved in formally associating with FD etc..

A positive attitude towards JFM is found where the community feels that by associating with FD, they would be able to deal with protection and management related issues more effectively. Issues that worry villagers are uncertainty over rights to forest (more if it is a RF), external pressures by organised gangs and bigger neighbouring villages, harvesting and sale of poles/firewood without legal complications, conflicts etc. Some of the advantages perceived by the community of the existing JFM framework are better chances of FD taking action to meet their concerns, legal recognition of village level efforts for forest management etc.

The negative attitude towards JFM is partially influenced by cynicism associated with government departments regarding their commitment to do anything good. Villagers also cite instances of local FD staff undermining community management, examples of villages where association with FD did not turn out to be a very good experience, indifference of local FD staff to villagers concerns related to protection etc. The negative attitude is also influenced partly by the provisions contained in the state JFM resolution, like sharing of 50% of benefits and inclusion of outsiders in the committee (Naib Sarpanch, Forester etc.).

6.8 Hypotheses and Findings

Numerous hypotheses were formulated in the early stages of the study (see Appendix 1), before any survey work was undertaken, with a view to testing them using data collected through the survey. These were based primarily on criteria identified by Ostrom (1994) and by Hobley and Shah (1996).

The hypotheses are listed in Table 6.11, together with an indication of whether or not the findings confirmed them. Those ticked have been confirmed; those with a X were not confirmed; where there is a tick and a cross some of the findings support the hypothesis and some do not. Those with a question mark could not be tested properly. The relationship between the hypotheses and the findings is discussed in detail in Appendix 1. A few of the more interesting and surprising findings will be briefly summarised here.

Size - 1 One user group characteristic that some previous studies of common property regimes have identified as important to the robustness of the community organisation is size. Until recently, the dominant view was that small groups were more likely to be successful than large ones.

The findings show that small group size (especially < 50 households) *can* be a serious disadvantage as far as initiating and sustaining forest management is concerned, if there are *relatively* large villages nearby with which the small village or hamlet does not have a positive relationship. Once protection has been initiated the issue then is the capacity of the CFM group to manage the conflict effectively. The findings suggest that, on average, small and medium size groups are more likely to manage conflicts well, as indicated by the fact that they are less likely to experience a breakdown in their protection arrangements.

Homogeneity - 3 The project tested the hypothesis that *the more homogeneous the group, the greater the chances of success*, defining homogeneity in relation to ethnic groups – mixed caste (heterogeneous) and tribal (homogeneous). The findings provide *some* evidence that tribal groups are less likely to be protecting forest than mixed-caste groups. Further research is necessary to confirm or disconfirm this inference. The tentative finding is the opposite of what one might have expected on the basis of hypothesis 3. One possible explanation for this is discussed later in relation to hypothesis 10c.

Consensus about the users – 7 There are several ways in which the case study findings contradict this hypothesis. They indicate that there is often ambiguity or disagreement as to who has use rights and who does not. They also highlight the influence of *political economy and power relations* on decisions about who should be acknowledged as users and admitted to the group that initiates protection. While customary and legal rights may influence who the users are, they are sometimes over-ridden by this factor: i.e. the power of one group to assert its rights to a forest patch may have more influence on the outcome than the customary rights of another group.

Degree of forest dependency -10b There is some evidence from the case studies that contradicts this hypothesis, indicating that a high degree of dependence on the forest can *reduce* the chances of success, if that dependence involves unsustainable levels of harvesting (e.g. of timber, firewood or bamboo). Basically, the introduction of controls to reduce pressure on the forest to reasonable (sustainable) levels may threaten the livelihoods of people who depend on firewood headloading or bamboo harvesting for their main source of income. Consequently, these people are likely to oppose protection.

Traditional socio-religious values – 10c One of the project's findings supports this hypothesis. The project found that in some of the (tribal) protection cases in Mayurbhanj district, scarcity of the Sal poles required for the tribals' annual ritual was one of the factors prompting the initiation of forest protection. However, another of the project's findings is not consistent with it.

The non-protection cases show that in some circumstances tribals are opposed to forest protection. Tribals tend to be among the poorest of the poor, and their lack of alternative income-generating options sometimes forces them to depend primarily on unsustainable fuelwood headloading, which would be in conflict with sustainable protection and management of the forest. It appears that the cultural ties that tribals have with the forests have been over-ridden by financial necessities – the need to generate enough income to survive. Due to this countervailing force, the hypothesis was not borne out by these particular project findings.

Table 6.11 Summary of Hypotheses and Findings

No.	Hypothesis	Confirmed
1	Size: the smaller the number of users, the better the chances of success	✓, X
2	Boundaries: the more clearly defined are the boundaries of the group, the better the chances of success	✓
3a.	**Relative power** The more powerful are those who benefit from retaining the protected forest, and the weaker those who favour sub-group enclosure or private property, the better the chances of success.	✓
3b	**Homogeneity** The more homogeneous the group the greater the chances of success	X
4	**Existing arrangements for discussion of common problems**: the better developed are these, the greater the chances of success	?
5.	**Extent to which users are bound by common obligations:** the more important is social reputation, the better the chances of success.	?
6.	**Punishments against rule-breaking**: the more the users already have enforceable rules elsewhere, the better the chances of success.	?
7.	**Consensus about who are the users**, in terms of both customary and legal user rights, is essential prior to collective action for forest protection.	X
8.	**Distribution of (a) decision-making rights and (b) use rights** among members of the protection group must be considered fair.	✓
9a	**Proximity of protected forest** The greater the overlap between the location of the protected forest and the residence of the users, the greater the chance of success.	✓
9b	**Clear boundaries** The more clearly defined the boundaries of the protected forest, the greater the chances of success	?
10a	The greater the **benefits** of forest protection, the greater the chances of success.	?
10b	The more vital the resource for survival, or the higher the degree of forest dependency, the greater the chances of success.	X
10c	Where traditional socio-religious forest values exist, protection is more likely to be self-initiated and sustained.	✓, X
11	**Users' knowledge**: the better their knowledge of sustainable yields, the greater the chance of success.	?
12	An essential factor in successful management is that use rules restricting time, place, technology or quantity of resource units are related to local conditions.	✓
13	**Flexibility in the nature of the use rules** adopted increases the chances of success.	?
14	Users who violate operational rules are likely to receive **graduated sanctions** from other users or from officials accountable to the users.	✓
15	The greater the ease with which rule-breaking can be detected and free-riders identified, the better the chances of success.	✓
16	Where most individuals affected by operational rules are able to participate in modifying them, the chances of success will be greater.	✓
17	Monitors who actively audit common pool resource conditions and user behaviour, are accountable to the users and may be the users themselves.	✓
18a	The less the state's policies have negative implications for self-initiated management, and the more they are supportive, the greater the chances of success.	✓, X
18b	If the rights of users to devise and apply their own protection and management institutions are not challenged by external government authorities, the chances of success are greater.	✓, X
19	The chances of success are greater when users and their representatives have rapid access to low-cost local arenas to resolve conflicts (a) among users, (b) between users and outsiders and (c) between users and officials.	✓
20	Sustainable (long-enduring) smaller-scale protection institutions tend to be "nested" in (part of) ever-larger organisations, each with its own set of rules	X

The effect of state policies on the chances of success 18a The case studies show that state policies are not always implemented in the field, and that whether they are or not (or the strictness with which they are enforced) depends very much on the *attitude* of individual officials. The behaviour and attitude of foresters and forest guards is also important in relation to: (a) whether they give moral or practical support to the CFM group, particularly in dealing with offenders; and (b) whether or not they are involved in corrupt practices that are detrimental to CFM.

These experiences suggest the need for a new hypothesis (or a modification to the existing one) along the following lines:

- **The less the behaviour and attitudes of state functionaries** have negative implications for self-initiated management, and the more they are supportive, the greater the chances of success.

The findings highlight the importance of: (a) bringing about attitudinal changes in both local FD staff and DFOs; (b) making FD staff more accountable to CFM (and JFM) groups; and (c) dealing with corrupt practices in the FD.

Access to low-cost local arenas to resolve conflicts – 19 The findings show that low-cost arenas:

- are available for dealing with conflicts arising within the user group (19a),
- are often not available for mediating inter-village or hamlet conflicts (19b); and
- are not available for managing conflicts between users and officials (19c).

The lack of low-cost arenas for mediating conflicts between users and officials, given the relative power of officials, can leave CFM groups (and sometimes JFM groups) frustrated or angry, and can undermine the confidence and commitment of the user group.

7. OUTPUT 2 BETTER UNDERSTANDING OF CFM/JFM SUPPORT NEEDS IN ORISSA

7.1 Introduction

A better understanding of communities' support needs was obtained through:

- the survey of CFM groups
- the survey of non-protecting communities
- discussions with NGOs and CFM apex bodies
- discussions with OFD staff.

The OVIs envisaged for this output in the project memorandum were: (i) the production of extension guidance to the state forest department and NGOs in Orissa; and (ii) the holding of a workshop to present the findings of the research project.

Guidance to the State Forest Department and NGOs

Based on this, Part D of the discussion paper drew out the implications of the findings for government and non-government agencies wanting to support CFM or JFM: it is entitled *Implications of Findings for Policies, Programmes and Practice*.

The project's findings have greater implications for Government of Orissa policy and general approach than they do for detailed practice at the field level, and this is reflected in the emphasis of Part D of the Discussion Paper. For this reason, the project's main NGO collaborator, Vasundhara, advised that it would not be appropriate to produce extension materials, nor to translate the Discussion Paper into Oriya: that advice was accepted by the project leader.

Sections 2 (Framework for Partnership) and 3 (General Approach) of Part D are reproduced below. These sections set out some basic principles and assumptions, most of which may seem to be uncontroversial and common sense. The reason for this was that during the previous year or more many policy-related discussions between OFD staff, on the one hand, and SIDA project consultants and NGOs, on the other, had become polarised, with some people focusing on areas of disagreement rather than areas of consensus.

Another section from Part D, on the implications of the proposed framework for Orissa's JFM programme, has been reproduced as section 7.4 below. This highlights the significant differences between the current JFM programme and the proposals in the Partnership and General Approach sections. This section also has considerable relevance to JFM programmes in other states of India.

7.2 A Framework for Partnership between Communities and the State

General approach
The partnership between communities and the state involves the cooperative sharing of rights, responsibilities and benefits. To be effective the partnership will require an atmosphere of mutual trust and respect, and to achieve this a number of key conditions need to be satisfied. These are as follows:
(a) the allocation of rights and responsibilities to the respective stakeholders needs to be mutually acceptable;
(b) the division of benefits needs to be perceived by both major stakeholders as fair;
(c) there needs to be a system for ensuring mutual accountability;
(d) there needs to be openness and transparency in financial matters and a free flow of information *between* stakeholders, and also *within* large stakeholders.

To satisfy condition (c), we propose that the benefits derived from forest management by different stakeholders (including communities and the state) should be proportional to their respective contributions.

State agencies should take care not to force major changes on CFM as it is currently practised in Orissa: seeking to impose blanket rules and regulations is not likely to be effective, and may even undermine and erode this valuable asset. Plurality and flexibility are needed rather than a standardised, blueprint approach, and the state

should discharge its responsibilities in a sensitive manner.

The general approach that we have outlined here, and the more specific rights and responsibilities that follow have implications for the State Government's Joint Forest Management Programme, and these will be discussed later.

Rights of CFM Groups and the State

We propose three basic rights for CFM groups. First, they should have the right to decide what the forest management objectives are, and to develop a management system to meet those objectives [subject to the policy considerations described in the discussion paper].

The identification of forest-dependent communities with the protection and management of the forests from which they derive benefits is an essential component of any effective strategy for forest management. Thus, second, CFM groups should have recognised rights to collect, process and market forest products from the patch that they are protecting.

Third, when the state or private businesses propose major developments involving changes in land use to forest land where CFM is practised, the communities concerned should have the right to present their views on the proposed development to an impartial public inquiry; and to receive compensation from the developer if the managed forests are negatively impacted by the development.

The state's rights should be as follows. First, it should have the right to intervene if the CFM group is in serious breach of any of its responsibilities, and to take action to protect the forest if it is being degraded. Second, it has the right to promote: (a) equitable benefit-sharing and (b) democratic decision-making processes, in accordance with government policy.

Responsibilities of CFM groups

1. CFM groups should play the lead role in management of particular patches with which they are involved.

2. CFM groups should be responsible for protecting the forest so that it is not degraded by either its members or by outsiders.

3. CFM groups should be responsible for managing the forest in an environmentally sustainable way.

4. CFM groups (both individual ones and federations) should have the primary responsibility for managing conflicts affecting forest management, particularly conflicts within the protection group.

5. CFM groups should seek to ensure that benefits of CFM are equitably distributed within the community that corresponds to the management group.

Responsibilities of the state

1. The state is responsible for providing a supportive enabling environment in which CFM can flourish, key components of which are: (a) the provision of secure rights to forest products (including legal recognition of rights, and upholding of those rights by the state if they are challenged); and (b) ensuring 'fair' prices for forest products (processed products as well as primary ones) by addressing market failures, such as the existence of NTFP monopsonies.
2. The state should provide technical support to CFM groups on forest management and forest product processing and marketing when requested to do so.
3. The state should play the role of a third-party mediator when CFM groups are unable to manage conflicts effectively and seek outside help from the state in doing so.
4. The state[5] should assist CFM groups in the removal of encroachers from protected patches when the CFM groups are unable to deal with the situation satisfactorily.
5. The state is responsible for effectively enforcing law and order in relation to organised timber smuggling operations.
6. The state should provide support, when requested, to communities that wish to initiate CFM but are facing serious barriers to doing so[6].
7. Where communities are genuinely interested in taking responsibility for forest management, but are unable to do so because of heavy dependence for income on unsustainable harvesting of certain forest products (e.g. bamboo, firewood), the state should seek to assist them to diversify their income-earning activities.
8. The state should develop a strategy and programme for addressing situations in which there is a deficit of one or more key forest products, such as fuelwood in urban areas.
9. The state should be responsible for promoting equitable benefits from CFM, both within and between villages, in line with government policies to improve the welfare of SCs/STs and of women.
10. The state should promote democratic decision-making processes in CFM, in which all sub-groups are represented.
11. The state should ensure that the employees of relevant state agencies receive the training and resources required to discharge their responsibilities effectively.

The partnership framework outlined above is elaborated upon in the Discussion Paper (see Volume 2).

7.3 General Approach

Mutual accountability

To ensure mutual accountability, third party mediation, accepted by both the state and CFM groups, is necessary. The present situation, in which communities tend to be accountable to the FD, but not the FD to communities, breeds mistrust and antagonism. One third party option would be a committee comprising representatives of CFM groups, FD and NGOs: one such committee could be constituted for each forest division or each district. Such a body would deal with a number of issues, including conflict between local FD field staff and villagers in relation to, for

[5] The Revenue Department in the case of Revenue Land and OFD in the case of forest land.
[6] For example, because of their small size and strength relative to neighbouring villages.

example:

- lack of FD support in dealing with offenders, or upholding the CFM group's rights;
- resolution of inter-village boundary disputes over community-managed RF;
- alleged involvement of FD staff in timber smuggling from protected patches[7];
- undue interference of FD staff in the development or implementation of management plans;
- concern of FD staff that management plans are not ecologically sound;
- concern of FD staff over serious deviations from the management plan (e.g. the number of trees being felled by CFM group members);
- concern of FD staff that the CFM group is not enforcing protection adequately.

Openness and transparency

The forest department should provide regular information to the communities about the changes in rules, schemes, programmes or prices of NTFP as done by the state. The forest department should practise transparency and share information regarding any project related funds with the local community so that they are aware as to how their funds are being utilised.

Benefit-sharing between Communities and the State

As stated earlier the governing principle here should be that the benefits derived by different stakeholders should be proportional to the effort or contribution that they make, or have made, to forest management.

Established Cases of CFM - Non-Reserved Forest The case studies show that, generally speaking, the FD has not played an active role in CFM that involves non-RF. For this reason, the general rule of thumb should be that the protection group retains 100% of the benefits.

Established Cases of CFM - Reserved Forests The contribution of OFD to management of reserved forest varies considerably from division to division or district to district. For example, in Mayurbhanj and Nayargarh OFD involvement has been relatively small. In other localities, such as Keonjhar, FD involvement has been greater. In some cases, the FD may have actively promoted initiation of CFM, whereas in others it may not. In addition, the size of the CFM group's contribution *over time* should be taken into account, and this will vary from case to case.

It is worth noting that communities involved in protection of RF tend to feel strongly that their contribution greatly exceeds that of the FD, and hence that they should continue to receive all of the direct benefits. There are, of course, other benefits that are derived by people outside the protected forest, such as reduced siltation of dams and better regulation of water flow; and these should be taken into account when benefit-sharing is being considered.

[7] We have been told of cases in Sambalpur District where FD staff were allegedly in league with smugglers and the village elite of a CFM group. The smugglers felled trees in the protected patch, and when FPC members reported the smugglers to the FD, the FD staff promptly charged them with the offence. FPC members are now afraid to report such cases to the FD for fear of being held responsible. An example is also given in one of the non-protection case studies.

A flexible and pluralistic approach As discussed in Part B (research findings), communities have developed a wide variety and complexity of institutional arrangements. It is doubtful whether the FD would be able to work out which arrangements would be most appropriate for new VSSs: rather, communities are generally best-placed to identify which arrangements are best for them. (However, outsiders can make them aware of arrangements from elsewhere that they might not otherwise have considered.) This is why a co-management programme between the state and communities should be flexible, and be prepared to support a plurality of approaches and arrangements.

7.4 Implications of the Partnership Framework for Orissa's JFM Programme

Conceptually JFM and CFM can be taken to mean differing extent of management control to be exercised by the State (FD) and the Community over forest resource. The two management regimes can be depicted at different places on a continuum of 'total State control' to 'total Community control'.

Figure 7.1: The State-Community Control Spectrum

(Source: Project Discussion Paper)

The existing situation with respect to JFM and CFM falls in between. In moving in the direction of greater community control, there has to be a process of devolution / transfer of power, authority, control, decision-making rights and ownership, together with responsibilities. The difference between JFM and CFM can be characterised in terms of the degree to which the devolution of power and authority takes place, along with transfer of responsibilities.

The partnership framework that we are proposing goes further along the spectrum towards community control than JFM does. Examples of community and FD collaboration are found at various places in Orissa, which were evolved even before 1988, when the State Government issued its first resolution on JFM. These were evolved by the local field staff of FD working together with villagers, mostly with support from their DFO.

JFM as currently practised in Orissa has a number of weaknesses in relation to the framework, which we have listed below.

First, there is a lack of mutual accountability - the communities are much more accountable to the Forest Department than the FD is accountable to them. The FD's right to dissolve an Executive Committee makes it an unequal partner: it is obliged to reconstitute the committee, of course, but it can delay doing so for as long as it likes.

The community has no rights or powers to take action if it thinks that the FD is not performing its responsibilities satisfactorily.

Second, the way in which the programme is implemented tends to be rather rigid and formulaic, rather than flexible and pluralistic - for example, regarding membership of the committee, or the area of forest allocated to a particular VSS. This kind of approach is not confined to Orissa: it is characteristic of JFM generally[8].

Third, the requirement that a forest officer attend all the meetings as the Secretary is undesirable from the point of view of the FD, as it means that the potential of community management to reduce FD costs is not being achieved. Three DFOs expressed concern to us about the amount of time that their staff were having to spend attending VSS meetings, and said that this leaves them less time to protect forest that the FD is managing directly itself. It should not be necessary for the FD to become involved in management at this level of detail.

Furthermore, this requirement is also undesirable from the point of view of the communities, who complained about forest guards failing to attend VSS meetings, and the problems this creates. We do not think it is necessary for a forester to be represented on executive committees, except in an advisory capacity. Physical presence of the external institutions representatives in day to day functioning of community institutions is neither desirable nor feasible. However, if a forester were on the EC it should be in an advisory capacity, and (s)he would not be expected to attend all meetings of the committee.

Fourth, under the JFM programme it is not communities who play the lead role in deciding management objectives and formulating a plan to achieve them. Microplans tend to reflect FD agendas, rather than community needs; and they are drafted in a traditional silvicultural format.

Fifth, the JFM programme has been implemented largely on a target-driven basis, with the FD at times only making one visit to each village, and not holding thorough discussions with communities. As a result, if protection is initiated at all, it may not last very long[9].

Sixth, where existing CFM groups have been approached by the FD to join the programme the FD has won them over with material incentives. This is very different from an approach in which communities enter a partnership with the state out of choice and without being under pressure to do so.

Seventh, the requirement that the Naib Sarpanch be the chairperson of the EC is objected to by most communities. This is a clear example of a condition being imposed on communities by the FD on a blanket basis and against their will.

Eighth, the concepts of 'final harvest', and even 'major harvest', that are expressed in

[8] Hobley (1996) observed that "The proponents of JFM often appear blind to the social, ecological and political diversity of the nation, and apply the model irrespective of the location".

[9] In one block/panchayat we visited in 1997, 32 communities had been approached by the FD in 1993/94 to join the JFM programme, but protection was only functional in three of these.

JFM resolutions are alien to most communities. They belong to conventional plantation forestry, and are not appropriate to the multi-species, multi-purpose forestry practised by CFM groups.

The Forest Department's support to CFM should not be organised on a project basis, with quantified targets and a fixed-term duration. It should be seen as an integral part of the FD's everyday work, as it has been seen and practised by some officers and divisions in the past.

Re-orientation of the Forest Department

It is important to recognise the nature and size of the challenge posed to forest departments by the shift to collaborative or co-management of forests. The following quotations describe that challenge.

> *"Can India's forest departments shift to collaborative forms of management after over a century of unilateral custodial control? With over 100,000 staff, the reorientation required is certainly dramatic ....[in] the professional books of 1950's and 60's ...[there is] virtually no mention of community roles in forest management " (Asia Forest Network, 1997)*
>
> *Participatory forestry requires "innovation, responsiveness, willingness to take risks, learning from experience and flexibility - all attributes that are unlikely to be nurtured in the highly structured bureaucracy of the usual forest department" (Hobley, 1996b).*

Bearing this challenge in mind, there is obviously a need for major changes in the way forest departments operate and for re-training of FD staff. This applies as much to the Orissa FD as to any other. FDs are being asked to support a new kind of forestry - with different objectives and different silvicultural requirements. They are being asked to take a bottom-up approach instead of the traditional top-down one. They are being asked to expand their responsibilities, so that they are no longer an essentially technical agency, but one with a mandate that embraces social issues, including:

- promoting greater equity;
- promoting the interests of women;
- promoting more democratic processes; and
- resolving community conflicts.

While it is important that FDs become better-equipped to handle these issues, a more realistic approach might be to mandate other agencies to support them in addressing these issues. It is generally accepted that NGOs have an important role to play here (see section 9 [of the Discussion Paper, in Volume 2] for further discussion of their role)- but their contribution is seriously limited by their limited resources and geographical coverage. In Orissa, apex CBOs also have an important role to play (see section 8 [of the Discussion Paper]) We suggest that serious consideration should be given to involving, for example, organisations mandated by government to look after the interests of women and other weaker sections of the society. The FAO has pointed out that it may "be necessary to examine which state institutions are most likely to be effective in providing support to local collective management of forests...

On occasion this may be more appropriately handled by an institution other than the forest department" (Arnold, 1998).

7.5 The State-level workshop

The workshop was held on 19 February at a hotel in Puri. It was attended by 50 people, divided roughly equally between state government officials (mainly from the Forest Department), on the one hand, and NGOs and community-based organisations, on the other. The Principal Chief Conservator of Forests chaired the morning sessions. The Discussion Paper was generally well-received by both government and NGO participants.

7.6 Project reports

The project's findings and recommendations were summarised in the Discussion Paper[10] (Conroy *et al*., 1999), which was widely circulated among both NGOs and FD staff in Orissa. In addition, copies of the district reports have been disseminated through the collaborating NGOs in their respective districts. These are RCDC (Balangir District); PRAVA (Mayurbhanj District); MASS (Sambalpur District); and DAWN (Kheonjar District).

7.7 The NGO Community

The NGO community plays a significant role in lobbying the state government and OFD for more supportive policies and practices, on behalf of communities involved in CFM. Some of the NGOs that collaborated in this project are major players in the lobbying process. Thus, coinciding with the project's workshop (see below), they and others organised a meeting of 40 NGO and CBO representatives at the same location to discuss establishing "a forum which can take up advocacy and lobbying activities at the state level to have a comprehensive policy for community based management of forest (CFM) and forest products" (Pal, 2000). Such a forum, called Orissa Forest Forum (OFF) came into existence at the end of March 1999.

OFF is now recognised by the state government as an advisor, and acts as a bridge between the communities and the state. RCDC, one of the collaborators in this project, has been given responsibility for OFF liaison, documentation and research activities. Thus, RCDC and other NGO collaborators in this project have been well-placed to utilise the project's findings and recommendations in policy discussions.

8. OUTPUT 3 AWARENESS OF BROADER PROJECT FINDINGS OUTSIDE ORISSA

The OVIs for this output are (i) written materials drawing out broader findings; and (ii) a national level presentation of the findings. Each of these is discussed below.

[10] Reproduced in Volume 2.

8.1 Raising Awareness in India

National Level Presentation

The National JFM Network Meeting was held in Ahmedabad, Gujarat, on 24-26 February, and was attended by 100-150 people. An executive summary of the Discussion Paper had been given to the organisers in advance, so this was included in the set of conference papers that was given to all participants. Czech Conroy gave a presentation in a plenary session on the afternoon of 25th, and in the evening we organised an informal group meeting to discuss issues in further detail. The report and presentation attracted considerable interest[11]. All participants will be sent a copy of the revised version of the full report later this year.

8.2 Raising Awareness Internationally

Conferences and Workshops

In the United Kingdom papers (see publications list) drawing on the project findings regarding conflicts have been presented at two workshops. These were: the Workshop on Participatory Natural Resource Management in Developing Countries: Mansfield College, Oxford, 6-7 April, 1998; and the Development Studies Association/Bradford University Conference on 'Environmental Resources: Conflict, Co-operation and Governance', May 17th-18th 2000. A revised version of the Oxford paper was produced, which will be a chapter in a book based on some of the workshop papers. The book, entitled *Participatory Natural Resource Management: Analytical Perspectives*, will be published by Macmillan in July 2001.

A general presentation was also given at IUFRO's XXI World Congress in August 2000 (see 9.4 for details). In addition Czech Conroy visited CIFOR in March 1999 and gave an informal seminar on the project findings. The seminar, which was arranged through Dr Lini Wollenberg, was attended by about 15 staff: it lasted about an hour, divided equally between presentation and questions.

Articles

An article about the project's findings was published in the June 2000 issue of the *Forests, Trees and People* newsletter. It has about 10,000 subscribers globally, of whom about 2,300 are in South Asia.

A general article summarising the project's findings has been accepted for publication in the journal *Forest Policy and Economics*, subject to minor revisions to take account of referees' comments. Mr Conroy is in correspondence with the editor of the *Journal of World Forest Resource Management* regarding an article he submitted to the journal on conflicts affecting participatory forest management. A revised version will be submitted in the near future.

[11] All participants will be sent a copy of the Discussion Paper when it has been revised to take account of the analysis of hypotheses contained in Appendix 1.

9. CONTRIBUTION OF OUTPUTS

9.1 Contribution to Project Goal

The Project's Purpose is "Improved understanding of common property issues and tenure rights developed and incorporated into land use management and planning strategies". If this is achieved it should make a contribution to the Project's Goal, which is "Land Use Planning and Management Improved", as is explained below.

The temporal dimension of changes at the forest/agriculture interface is a major concern. Deforestation has been taking place in Orissa during the last few decades, as in many other parts of India. Large areas of forest have been degraded, and in some cases the forest lands have been converted to other uses, such as agriculture, mining/quarrying and dams. Many factors have fuelled this process in the recent past, and these are described in Part A of the project's Discussion Paper (Conroy *et al*., 1999).

In many parts of the country the process of degradation and deforestation is thought to have gone too far, as is recognised in India's forest policy: the balance between forests and other land uses has been disrupted, leading to a variety of negative consequences for agriculture and other land uses. According to communities interviewed as part of this project, these negative consequences include:

- a reduction in the quantity of forest leaf litter available for use as fertiliser and fuel;
- increased soil erosion from forest areas, leading to the deposition of stones and poor quality soil in farmers' fields, thereby reducing crop yields;
- more rapid runoff of rainwater from forest areas, shortening the period over which adequate water is available for crop production;
- increased scarcity of fencing materials and small timber required for making agricultural implements;
- more rapid sedimentation of ponds and reservoirs.

In Orissa and many other parts of India land use planning needs to give higher priority to the preservation of forests, and ways need to be found of managing them more effectively so that they do not become heavily degraded again. In the case of Reserved Forests, individual communities' lack of recognised rights to forest products from them meant that they had little incentive to protect and manage them: while OFD did not always have the resources to police RF effectively. In some parts of Orissa (e.g. Sambalpur) Protected Forests, managed by local communities, are in a better condition than RF, managed by OFD. This highlights two things related to the Project Purpose and Goal. One is the important influence of tenure rights on community involvement in forest management; the other is the inadequacy of designating land for particular uses in the absence of the capacity to manage it for those uses.

The information collected by this project shows that when communities decide to start protecting and managing degraded forests those forests quickly regenerate, and are usually maintained in a more productive state by the community for many years, if not decades. The project has examined the factors that facilitate and inhibit community involvement in forest management, and made recommendations accordingly (see section

7 above and Part D of the Discussion Paper). If these recommendations are incorporated into relevant policies and procedures they will contribute to the Project Goal, particularly regarding land use management, since:

- current community management initiatives will be strengthened, as key community support needs will have been met; and
- new CFM or JFM initiatives will stand a better chance of success, due to incentives having been made stronger and disincentives having been minimised.

9.2 DFID's Development Goals

The project's outputs can make a valuable contribution in Orissa towards the following DFID objectives (White Paper, 1997):

- Policies and actions that promote sustainable livelihoods;
- Protection and better management of the natural and physical environment.

More specifically, they can contribute to the following DFID sub-objectives:

- better access of poor people to land, resources and markets;
- the prevention and resolution of conflicts; and
- sustainable management of physical and natural resources.

DFID (India)'s 1998 country strategy identifies Orissa as one of DFID's partner states. One of DFID (India)'s Supergoals is the "Reduction of poverty in rainfed areas of India", and new projects supported by DFID (India), including one in Orissa, are adopting a "sustainable rural livelihoods" approach. This research project has shown that forests play an important role in people's livelihoods in Orissa. They are a key natural capital asset, particularly for the poorest people, that provides:

- flows of products for subsistence use and sale;
- a valuable buffer during times of drought; and
- environmental services, such as regulation of water flow.

Thus, policies (e.g. re. NTFPs) and programmes (e.g. JFM) that improve people's rights to forest products, and the benefits they derive from them, are a vital component of any sustainable rural livelihoods strategy in Orissa.

9.3 Target Institutions and Promotion Pathways in Orissa

The principal target institutions[12] are the **Orissa Forest Department (OFD),** and **NGOs** that are working with local communities on forest management issues or playing an advocacy role. Both of these were well represented at the project workshop (see below). OFD is not a monolithic organisation, and there is a wide

[12] Other target organisations are the Revenue Department and the Panchayatiraj Department. Representatives of both of these departments attended the project workshop and received the project's Discussion Paper.

range of attitudes among its staff towards CFM and JFM, as was noted earlier. However, OFD's overall attitude towards CFM, particularly in the higher echelons, appears to lie somewhere between neutral and negative. Thus, NGOs and relevant donor-assisted projects have a potentially important role to play in influencing the state government and OFD.

OFD's attitude is affected by a number of factors. These include the following:

- OFD does not obtain any revenue from CFM;
- OFD has relatively little control over CFM groups, particularly where the protected forest is on revenue land;
- the effectiveness of CFM in regenerating forests can be an embarrassment for OFD when this is contrasted with the sometimes poorer condition of RF where there is no CFM.

The NGO community plays a significant role in lobbying the state government and OFD for more supportive policies and practices, on behalf of communities involved in CFM. Some of the NGOs that collaborated in this project are major players in the lobbying process. Thus, coinciding with the project's workshop (see below), they and others organised a meeting of 40 NGO and CBO representatives at the same location to discuss establishing "a forum which can take up advocacy and lobbying activities at the state level to have a comprehensive policy for community based management of forest (CFM) and forest products" (Pal, 2000). Such a forum, called Orissa Forest Forum (OFF) came into existence at the end of March 1999.

OFF is now recognised by the state government as an advisor, and acts as a bridge between the communities and the state. RCDC, one of the collaborators in this project, has been given responsibility for OFF liaison, documentation and research activities. Thus, RCDC and other NGO collaborators in this project have been well-placed to utilise the project's findings and recommendations in policy discussions. OFF has already successfully lobbied for changes in the state policy on NTFPs, the importance of which was highlighted in the project's Discussion Paper.

Project reports The project's findings and recommendations were summarised in the Discussion Paper (Conroy *et al*., 1999), which was widely circulated among both NGOs and FD staff in Orissa. In addition, copies of the district reports have been disseminated through the collaborating NGOs in their respective districts. These are RCDC (Balangir District); PRAVA (Mayurbhanj District); MASS (Sambalpur District); and DAWN (Kheonjar District).

Project workshop The workshop preparations were completed satisfactorily. An executive summary of the Discussion Paper was circulated to all participants a few days before the workshop, and a copy of the full report was given to them in their registration packs. The workshop was held on 19 February at a hotel in Puri. It was attended by 50 people, divided roughly equally between state government officials (mainly from the Forest Department), on the one hand, and NGOs and community-based organisations, on the other. The Principal Chief Conservator of Forests chaired the morning sessions. During the last 1-2 years relationships between the FD and NGOs have been somewhat strained, and it was noteworthy, therefore, that the workshop atmosphere and discussions were positive and constructive. The

Discussion Paper was generally well-received by both government and NGO participants.

SIDA[13]-assisted project This project was entitled *Capacity Building for Participatory Management of Degraded Forests in Orissa, India*. It aimed to strengthen the capacity of the Forest Department to undertake effectively shared/joint forest management with local communities; and to promote policies and organisational changes that will create a more supportive environment for CFM and JFM. Given the FD's ambivalence about CFM (and JFM), the SIDA-assisted project was seen as a potentially valuable pathway for promoting uptake of some of the NRSP project's recommendations.

The NRSP project liaised closely with the consultants (Skandiaconsult and Asia Forest Network) to the SIDA-assisted project since the latter's planning phase began in early 1998. Preliminary project findings were made available to SIDA consultants in September 1998, and subsequently the Discussion Paper. Conversely, the Asia Forest Network consultant, Ms Angana Chatterji, gave a draft of her report to Czech Conroy for comment. Mr Ulf Ohman of Skandiaconsult attended the project workshop, while members of the NRSP project research team attended a SIDA project workshop, to discuss Ms Chatterji's report in December 1998. Close liaison was also facilitated by the fact that a member of the NRSP project research team, Mr Ajay Rai, was also a consultant to the SIDA project.

The Discussion Paper was given to relevant SIDA staff in New Delhi and Sweden in February 1999. The Orissa Forest Department submitted to SIDA in March a proposal for the second phase of the project. SIDA staff said that they expected the Discussion Paper to be highly relevant and useful to them during the process of appraising the proposal from OFD. Phase II of the SIDA-assisted project was shelved, partly because the Swedish Government strongly objected to India's explosion of a nuclear device at that time. More recently, SIDA has agreed to fund a project, subject to the re-structuring of OFD's forest divisions such that the social forestry and territorial arms are merged.

DFID-assisted Western Orissa Rural Livelihoods Project This new project was approved by DFID in February 1999 and by the state government in April 1999. Its initiation has been delayed for various reasons, but it is expected to commence by the end of 2001. Outputs from the NRSP project are likely to be relevant to it for the reasons given in Section 9.2 above. The project envisages being active on forestry-related matters, including NTFP collection, processing and marketing; and intends to seek improvements to the enabling environment in relation, *inter alia*, to land tenure regulations and NTFP regimes (WORLP project document, February 1999). In early 1999, copies of the Discussion Paper and the overview for Balangir District (one of the two districts covered by the new project) were given to DFID's Rural Development Office (RDO) in New Delhi.

The referees who commented on the draft FTR made a number of suggestions for further dissemination activities, which were summarised in the letter from DFID's Dr E. Warham to Mr Czech Conroy (dated 28 July 1999). The project funds had already been spent when these suggestions were received, so it has not been possible to

[13] SIDA is the Swedish International Development Cooperation Agency

follow-up on any of them. This will only be possible if additional funding can be identified. WORLP[14] might be one possible source of funds: we will discuss with DFID India the possibility of drawing on project findings in WORLP activities, including the preparation of extension materials in Oriya. However, it would not be possible to produce extension materials giving technical guidance on silviculture systems or NTFP management, as these topics were not part of the project. They are both important subjects that require research in their own right.

The extent to which OFD might be involved will depend to some extent on what current attitudes to participatory forest management are within OFD, and within its parent ministry, the Ministry of Forests and Environment.

9.4 Target Institutions and Promotion Pathways outside Orissa

India

The target institutions in India as a whole are forest departments, NGOs and researchers in other states and at the national level. An important promotion pathway for reaching them was the annual *National Workshop on Joint Forest Management*. The Executive Summary of the project Discussion Paper was included in the papers for the February 1999 workshop in Ahmedabad, Gujarat; and Mr Conroy gave a presentation on the project's findings in one of the workshop's plenary sessions.

New project on conflict management This project has highlighted the importance of conflicts that affect community forest management (CFM); and NGOs in Orissa expressed interest in being involved in research and training on conflict management in relation to CFM. As a result, the Project Leader, together with a researcher at the Overseas Development Institute, developed a proposal for a three-year project on this. The proposal was submitted to SIDA in January 1999. However, India's nuclear explosion the following month resulted in a general scaling-down of Sweden's development assistance to India and funding for the project was not forthcoming.

International

Three major target institutions for facilitating dissemination at this level are CIFOR, IUFRO and FAO's Forests, Trees and People Programme.

CIFOR Mr Conroy visited CIFOR in March 1999. He gave an informal seminar on the project for CIFOR staff, and discussed CIFOR assistance with dissemination (see next section).

IUFRO Mr Conroy presented a paper summarising the project's findings at the XXI IUFRO World Congress, whose theme was 'Forests and Society: The Role of Research'. It was held in Kuala Lumpur in August 2000, and there were more than 1000 participants. The abstract was reproduced in Volume 2 of the papers and abstracts, and the full paper will be published by IUFRO's Working Group on Forest

[14] NRI and one of the collaborators (ERA) in the NRSP project are members of the consortium that won the bid to coordinate management consultancy services for WORLP: the Team Co-ordinator will be an NRI forester.

History in July 2001.

Forest, Trees and People Programme FTPP publishes the newsletter *Forests, Trees and People*, which is widely read by people involved in participatory forest management. It has about 10,000 subscribers globally, of whom about 2,300 are in South Asia. An article about the project's findings was published in the June 2000 issue, which was specifically on the theme of CFM, JFM and other forms of PFM.

9.5 Follow-up Actions

Final project report When the project Discussion Paper has been revised and published (see below) it will be sent to the 50 people who attended the Project Workshop in February. The Discussion Paper is being revised to take account of feedback from the workshops and to incorporate further analysis of the survey data. The final report will be published by the Society for the Promotion of Wastelands Development. SPWD, which houses the National Support Group for India's JFM Network, will mail the report to all 200 or so network members, and will publicise it in their magazine, *Wastelands News*.

Articles Further articles will be written for *Economic and Political Weekly, Indian Forester*, and *Wastelands News.*

POLEX CIFOR administers a global network of about 1,000 subscribers, called POLEX, for the exchange of information based on publications with policy implications for forestry. CIFOR has suggested that this would be a suitable medium for dissemination of the project's findings and recommendations. This will be done when revisions to the project report have been completed.

9.6 List of Publications from the Project

Conroy, C. (1998) Forest Issues in Three Districts of Western Orissa: Report of a Series of Meetings with Divisional Forest Officers and NGOs in Balangir, Kheonjar and Sambalpur, June 1998. Chatham, UK: Natural Resources Institute [unpublished report].

Conroy, C. (1998) An Annotated Bibliography of Key References on Community Forest Management in Orissa. Chatham, UK: Natural Resources Institute [unpublished report].

Conroy, C., Mishra, A. and Rai, A. (1999) Self-Initiated Community Forest Management in Orissa: Practices, Prospects and Policy Implications. Chatham, UK: Natural Resources Institute.

Conroy, C., Rai, A., Singh, N. and Chan, M-K. (1998) *Conflicts Affecting Participatory Forest Management: Some experiences from Orissa, India*. Paper presented at the Workshop on Participatory Natural Resource Management in Developing Countries: Mansfield College, Oxford, 6-7 April, 1998.

Conroy, C., Mishra, A., Rai, A., Singh, N. and Chan, M-K. Conflicts Affecting Participatory Forest Management: Their Nature and Implications. [Project report]

Mishra, A. (1999) An Overview of Community Forest Management in Mayurbhanj District, Orissa. Chatham, UK: Natural Resources Institute [Project report].

Rai, A. and Conroy, C. (1999) An Overview of Community Forest Management in Balangir District, Orissa. Chatham, UK: Natural Resources Institute [Project report].

Conroy, C. and Albright, K. (2000) Cooperation and Conflict in Community-Based Natural Resource Management in India**.** Paper presented at the Development Studies Association/Bradford University Conference on 'Environmental Resources: Conflict, Co-operation and Governance', May 17th-18th 2000.

Conroy, C., Mishra, A. and Rai, A. (2000) 'Learning from Self-Initiated Community Forest Management in Orissa, India', *Forests, Trees and People Newsletter*, No. 42, June 2000.

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Conroy, C., Mishra, A., Rai, A., and Chan, M-K. (in press) Conflicts Affecting Participatory Forest Management: Their Nature and Implications. Pp. 165-184. In Vira, B. and Jeffery, R. (Eds): *Participatory Natural Resource Management: Analytical Perspectives*. London: Macmillan.

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Chatterji, A. (1998) *Towards an Ecology of Hope: Community and Joint Forest Management – Initiatives, Conflicts, Alliances in Public Lands Access, Use and Reform*. Scandiaconsult Natura AB/Asia Forest Network.

Hobley, M. '*Participatory forestry: the process of change in India and Nepal*'. Rural Development Forestry Study Guide 3. London, Overseas Development Institute, 1996.

Hobley, M. '*Institutional Change within the Forest Sector: Centralised Decentralisation'.* Working Paper 92. London, Overseas Development Institute, 1996.

Hobley, M. and Shah, K. (1996) What Makes a Local Organisation Robust? Evidence from India and Nepal. *Natural Resource Perspectives* Number 11. ODI.

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Pal, S. (2000) Community Based Forest Management in Orissa; a new way forward',

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Poffenberger, M. and McGean, B., *'Village Voices, Forest Choices'*, (New Delhi; Oxford University Press, 1996),

Poffenberger et.al. (ed.), '*Linking Government with Community Resource Management: What's working and What's not*', Report of the 5th Asia Forest Network Meeting, Surajkund, India, Dec. 2-6, 1996, AFN Research Network Report No.9, 1997.

PRAVA (undated) *Impact Assessment of CFM/JFM on Regenerating Sal Forests of North Eastern Orissa*. PRAVA: Balasore.

Sarin, M. (1996) From Conflict to Collaboration: Institutional issues in community management. In: Poffenberger, M. and McGean, B (Eds), *Village Voices, Forest Choices: Joint forest management in India*.

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GLOSSARY and ABBREVIATIONS

CIFOR Centre for International Forest Research.

Common property regime (CPR) This is a regulated form of resource tenure and use, managed by a group of users with exclusive rights to do so. Thus, CFM is one form of common property regime.

Community The term needs to be carefully defined. The following definition is a useful definition: a set of people (i) with some shared beliefs, including normative beliefs, and preferences, beyond those constituting their collective action problem, (ii) with a more-or-less stable set of members, (iii) who expect to continue interacting with each other for some time to come, and (iv) whose relations are direct (unmediated by third parties) and multiplex (Ostrom,1992).

Community forest management (CFM) can be described as a system where a community has "developed institutions, norms, rules, fines and fees to sustain forest resources. CFM systems characteristically involve one or more communities (social group, village) protecting and using a specific forest area" (IUCN, 1996). While the forest may not be under the legal jurisdiction of the community, "…the community management groups strongly identify with the resource and perceive they have special rights and responsibilities for its management". In Orissa the CFM groups have not been given any legal or official recognition, except for those that have become part of the JFM programme.

Divisional Forest Officer (DFO)

Graduated sanctions comprise a system of sanctions for rule-breaking in which the severity of the sanction increases in accordance with (a) the number of offences committed by the offender or (b) the seriousness of the offence.

Gramya jungle is one type of Undeclared Protected Forest - see Protected Forest.

IUFRO International Union of Forest Research Organisations

Joint Forest Management (JFM) can be defined as "sharing of products, responsibilities, control, and decision making authority over forest lands, between forest departments and local user groups, based on a formal agreement. The primary purpose of JFM is to give users a stake in the forest benefits and a role in planning and management for the sustainable improvement of forest conditions and productivity. A second goal is to support an equitable distribution of forest products." (Hill and Shields, 1998).

Khesra forest is one type of Undeclared Protected Forest - see protected forest.

Naib Sarpanch This is a leadership position on the panchayat that is reserved for a woman. Under Orissa's JFM procedures the Naib Sarpanch is appointed as chairperson of the executive committee of the VSS.

Non-Timber Forest Products (NTFPs) These are any useful products derived from a forest other than timber: for example, leaves, fruits, seeds and creepers. NTFPs include non-tree products, such as mushrooms and tubers.

Open access regime This is where a resource is used in an unregulated way, and nobody has exclusive rights to the resource. This kind of regime is typically present prior to the initiation of CFM.

Orissa Forest Department (OFD)

Orissa Forest Development Corporation (OFDC) The Orissa Forest Act gives the state the right to exercise a monopoly over any declared forest produce. The government nationalised almost all of the important NTFPs, and OFDC and the Tribal Development Cooperative (TDCC) were given responsibilities for the collection and marketing of them.

Orissa Social Forestry Project (OSFP) This project was supported by SIDA during the 1980s and early 1990s. It promoted, *inter alia*, tree-planting on both private and common lands, with a view to satisfying rural needs for fuelwood, small timber and fodder.

Panchayat This is the lowest political and administrative unit of local government, which normally encompasses a number of villages. It consists of elected members headed by a chairman.

Participatory forest management PFM is used as an umbrella term covering joint forest management, collaborative forest management, community forestry and, in some cases, social forestry. 'Participatory' has been defined as a process whereby those with legitimate interests in a project both influence decisions which affect them and receive some, or all, of any benefits that may accrue (ODA, 1996)

Protected Forest (PF) Almost all forest lands in Orissa are under state ownership, and fall into two broad categories - Reserved and Protected. In the case of Protected Forests, some rights are granted to the local population, who are allowed all privileges except those that are specifically prohibited. Protected Forests are on revenue land, which is owned by the Revenue Department. The Forest Department is responsible (officially) for their protection, and management of forest growth, in accordance with the provisions of the Orissa Forest Act 1972. There are two types of PF, Declared Protected Forest (DPF) and Undeclared Protected Forest (UDPF). UDPF *includes Gramya jungle* and *Khesra* Forest. Communities have stronger rights to UDPF than they do to DPF, which in theory comes under the direct supervision of the FD. In practice Protected Forests, especially UDPF, have been generally ignored by the FD.

Reserved Forest (RF) Reserved Forests are "reserved" for national needs. There are two types of RF – RF'A' and RF 'B'. The rights of the local population to RF are limited, particularly in the case of RF'A'. The Reserved Forests are under the custodianship and management of the Forest Department.

Revenue forest This is sometimes used as another name for Protected Forest.

Sal (*Shorea robusta*) is a multi-purpose tree that regenerates and coppices well and is abundant in parts of Orissa. The main products derived from it are: timber; green leaves for plate-making; dry leaves for use as fuel; and seeds from which oil is produced.

Sarpanch Panchayat headman/chairman

Swedish International Development Cooperation Agency (SIDA)

T(h)engapali Rotational forest patrol, in which every member household of a CFM group takes it in turn to send one or more people to patrol the protected patch. The responsibility is rotated on a daily basis, and is represented symbolically by the passing of a stick from one household to the next.

Tribals Indigenous people, who until recently lived by hunting and gathering of forest products

Van Samrakhan Samiti (VSS) This is the title given to a village forest protection committee that is participating in the JFM programme.

Village forests (VF) A forest patch on revenue land (i.e. one that is Protected Forest) can be designated as "Village Forest" by the state government under the Orissa Village Forest Rules, 1985. This confers usufruct rights on the revenue village within which the forest is located.

LEARNING FROM SELF-INITIATED COMMUNITY FOREST MANAGEMENT GROUPS IN ORISSA: FINAL TECHNICAL REPORT, VOLUME 2

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Natural Resources Institute
University of Greenwich

June 2001

DFID *Department for* International Development

Natural Resources Institute

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PART A SETTING THE CONTEXT

INTRODUCTION

This report summarises the preliminary findings and recommendations of a research project on community forest management in Orissa, which began in January 1997 and finishes on 31 March 1999. The project has been funded from the Natural Resources Systems Programme of the British Government's Department for International Development[1].

This report is an interim one, as analysis of the survey data is not yet complete. In addition we are putting forward the recommendations as a basis for discussion and would welcome feedback on them. The report is being presented at a workshop in Puri, Orissa, on the 19th February; and at the national workshop on JFM in Ahmedabad on the 25th February. We will then revise the report to take account of the comments received and the final version will be published by the Society for Promotion of Wastelands Development (SPWD).

The project leader is Czech Conroy, a socio-economist at the Natural Resources Institute, at the University of Greenwich, which is a UK-based research agency that focuses on the contribution of sustainable management of natural resources to development and poverty eradication. The other principal members of the research team have been: Abha Mishra, a social anthropologist who works as an independent researcher; Ajay Rai, Director of Earth Care Consultants, a private company that does consultancy work on the management of forests and other natural resources; and Neera M. Singh, Coordinator of Vasundhara, a forest-support NGO based in Bhubaneswar, Orissa. SPWD is another collaborating agency, which is involved in the dissemination of this report in India.

The fieldwork was done in collaboration with various NGOs, whose staff assisted with the fieldwork and helped to improve our understanding of the situation in their programme areas. The researchers also liaisoned with staff of the Forest Department in the survey areas. After the fieldwork was completed meetings were held with the NGOs and, where possible, Divisional Forest Officers to:
(a) inform them of the findings, and get their feedback on them; and
(b) obtain their perspectives on key issues affecting forests, and particularly participatory forest management, in their divisions/areas.

In Orissa, a large number[2]of communities have been actively protecting and managing patches of forest for many years; and a substantial proportion of them initiated protection more than 20 years ago. Comparatively speaking, Joint Forest Management (JFM) is still in its infancy - in India as a whole, as well as Orissa - having been around for 10 years at most. Thus, self-initiated community forest management (CFM) in Orissa represents a wealth of experience, from which important insights can be gained into communities' approaches, problems and support needs.

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[1] This document is an output form a project funded by the UK Department For International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.

[2] No authoritative survey exits till now on the total number of communities involved in forest management in Orissa. Estimates on their number vary between four to six thousand.

The project has been researching three broad themes:

- the conditions that lead to (and discourage) the formation of self-initiated forest management;
- the factors affecting their Sustainability, including conflicts (their nature, management and consequences); and
- the costs and benefits of CFM and how equitably they are distributed.

Areas where survey work was undertaken

The research has been undertaken in six different parts of Orissa. The districts/areas covered, and the corresponding NGOs with whom we collaborated are shown in the following table.

District/Area	**Collaborating NGO**
Balangir	Regional Centre for Development Cooperation (RCDC).
Keonjhar	Development Alternatives for Wider Network (DAWN)
Khurda/Nayargarh	BOJBP; Vasundhara
Mayurbhanj	Professional Assistance for Voluntary Action (PRAVA), BANIPITHO
Sambalpur	Manav Adhikar Seva Samitee (MASS); ASHA
Sundergarh	Vasundhara

Special features of the study

The study has a number of features that we hope will enable it to make a valuable contribution to understanding of community forest management in Orissa, and more generally. These are summarised below.

First, it has studied a large number of protection cases (33). Most of these cases were selected in a way that was designed to minimise bias, and hence they should be reasonably representative of CFM in the areas studied. (See Methodology section for further details).

Second, in addition to the case studies, we have assembled (from government reports, grey literature and discussions with key informants) a substantial amount of background information about each of the survey areas[3], that enables the case studies from those areas to be seen in a broader context. This information includes:

(i) patterns and trends in CFM in the district or blocks within which the case studies were selected, such as the preponderance of CFM and the periods during which most communities initiated it;
(ii) information about forests in the area, such as their type and status, the area of forest cover and the history of forest degradation; and
(iii) general socio-economic data, such as population size and the percentage of scheduled tribes and scheduled castes, and the principal livelihood enterprises.

Third, the project gathered information on the overall livelihood systems of people involved in CFM. This has shed light on their motivations for forest protection and why the kinds of benefits derived from the forests vary between communities and from one sub-group to another within a protection community. For example, analysing people's livelihood systems

[3] This information is being published separately in the form of 'Overviews' of each of the districts in which the fieldwork was conducted.

and options helps to explain why the making of Sal plates for sale is widespread in some protection communities and negligible or non-existent in others.

Fourth, the survey also included 10 cases of communities that had not initiated forest protection, but could have done (in principle) since there was unprotected forest nearby. Studying these communities has helped us to identify factors that discourage CFM.

Definitions of some key concepts

Some of the literature on CFM and participatory forest management does not clearly define key terms and concepts, and this can be associated with a lack of clarity. For example, the terms CFM and JFM are often used together or interchangeably, as if they were synonymous. We have, therefore, included some definitions here, to avoid any confusion.

Community: The definition of a community that we have adopted is: "a set of people
(i) with some shared beliefs, including normative beliefs, and preferences, beyond those constituting their collective action problem,
(ii) with a more-or-less stable set of members,
(iii) who expect to continue interacting with each other for some time to come, and
(iv) whose relations are direct (unmediated by third parties) and multiplex" (Ostrom, 1992).

Community forest management CFM can be described as a system where a community has "developed institutions, norms, rules, fines and fees to sustain forest resources. CFM systems characteristically involve one or more communities (social group, village) protecting and using a specific forest area" (IUCN, 1996). While the forest may not be under the legal jurisdiction of the community, "…the community management groups strongly identify with the resource and perceive they have special rights and responsibilities for its management".

Joint forest management JFM is an approach to forest management that has been proposed by the Government of India (GoI) and various states, whose key characteristics are that:

- it encourages the development of partnerships between local people and Forest Departments to manage forest lands jointly;
- it provides legalised (?) access for the local communities to nearby forest lands;
- it encourages local people to protect forest areas, to prevent free grazing of livestock and to assist in preventing illegal activities by outsiders
- it assures local people of a certain proportion of the intermediate and final harvests from the forest lands protected by them (derived from Arora and Khare, 1994).

JFM can be defined as "sharing of products, responsibilities, control, and decision making authority over forest lands, between forest departments and local user groups, based on a formal agreement. The primary purpose of JFM is to give users a stake in the forest benefits and a role in planning and management for the sustainable improvement of forest conditions and productivity. A second goal is to support an equitable distribution of forest products." (adopted from Hill and Shields, 1998)

It should be clear from the above definitions that CFM and JFM are quite different. Under CFM communities are making most, if not all, of the important decisions, and retaining all of the benefits; whereas under JFM the forest department tends to have more power and influence than the community, and will receive a proportion of the intermediate and final

harvests. We use the term **participatory forest management** when talking about both CFM and JFM, but it should be remembered that the degree of community participation is less under JFM.

BACKGROUND INFORMATION ON ORISSA AND ITS FORESTS

Orissa is a state on the eastern coast of India. It was formed on 1st April 1936 (after being separated from Bihar). It lies between 17 41' E to 22 34' N latitude and from 81 29' E to 87 29' S longitude. The total geographical area of the state is 155707 sq. Kms.

Orissa has a tropical climate, which can be broadly divided into two zones: i) Coastal and central Orissa and ii) Western Orissa. The annual average rainfall is about 200 cms. The variability of rainfall is below 15% in the north and north-eastern part of the State. The southern and south-western and western parts the variability of the rainfall increases to 15-20 %. The Western Orissa consists of Sundergarh, Sambalpur (undivided), Bolangir and Kalahandi(undivided). This zone is hot and semi-arid and rainfall is less when compared to rest of Orissa. Thus, western Orissa is drought prone area.

Orissa constitutes 4.74% of India's landmass and with 31.66 million people (1991 Census) accounts for 3.74 % of country's population. Between 1981 and 1991, the population density in the state increased from 169 persons per sq. km. to 203 persons per sq. Km. The literacy rate is 49.1% where the male literacy rate is 63.1% and female literacy rate is 34.7%. The SC population of the state is 16.20% while the ST population is 22.21%. The scheduled area covers nearly 45 % of the total geographical area of the state. The literacy rate of SC and ST was 36.78% and 22.31% respectively (1991 Census).

Nearly 87% of the state's population live in rural areas depending directly or indirectly on agriculture for their livelihood. Due to increase in population, the per capita availability of cultivated land that was 0.39 hectare in 1950-51 declined to 0.21 hectare in 1995-95. (Economic survey, 1996-97, Govt. of Orissa)

The occupational classification as available from 1991 census data revels that the total workers in the state account for 118.83 lakhs that represents 37.53% of the total population in the state. Out of the total workers, main worker comprises of cultivators (44.31%), agricultural labourers (28.68%), household workers (3.13%) and other workers (23.88%). (Economic survey, 1996-97, Govt. of Orissa, pg. 19)

The livestock population according to 1991 census is 230 lakh of which cattle account for 59.03% while sheep and goat constitute 29.22 %.

ORISSA'S FOREST

The forests of Orissa were brought under 'scientific' management by the British in 1883-84 when they formed the 'Orissa Forest Division' which had only 267 sq. Kms to its credit initially. After independence, the forests belonging to ex-Princely states & Zamindars were taken over by government.

At the time of independence the forest cover in the state was estimated to be around 42.2% of the total geographical area. Currently it stands at 30.1%, or 46,941 sq. kms, even though the recorded forest area is 57,184 sq. kms. The per capita forests in Orissa come to 0.23 Ha.,

which is more than double of the national average of 0.11 Ha.

The dense forests (with crown density of more than 40%) account for only 16.8 percent of the total geographical area. (FSI, 1997)

Year	Forest area (FSI)
1995	47107 sq. km.
1997	46941 sq. km.
Change	(-)166 sq. km.

According to 1997 assessment by the Forest Survey of India (FSI), the extent of dense forest in Orissa is 26,101 sq. km, a decrease of 4% over 1995. Over the same period the area under open forests increased by 4.5%, and the area under scrub forest decreased by 14%.

The distribution of the recorded forest area is 27,087 sq. km of Reserve Forest (A & B), 30,080 sq. km of Protected Forest (demarcated & undemarcated) and 17 sq. km of unclassed forest area. Out of total 36% forest cover, 12% is RF, 10% DPF, 10% UDPF and 4% others. (Singh, B.P., 1997).

TIME LINE

1891	Two divisions created- Angul and Puri
1936	Separate state of Orissa. 9 forest divisions where Forests were reserved under Indian forest Act, 1927 & Madras Forest Act, 1882
1948	Forest of princely states brought under forest department of Orissa Orissa forests brought under Indian Forest Act, 1927 by passing of order by Orissa state order
1965	Orissa Government Land Settlement Act came into force, bringing non-RFs within the revenue boundary
1972	Orissa Forest Act 1972 came into force
1980	Forest Conservation Act
1983-95	Social Forestry project
1985	Orissa Village Forest Rules formulated
1988	Government resolution to involve communities in protection of RFs
1989	Government resolution to involve communities in protection of PFs
1990	Green felling banned all over the state
1993	Joint Forest Management resolution
1996	Adjacent Forest areas allotted to a village for protection will be declared as village forest

According to the Economic Survey of Orissa (1996-97), the area under reserve forest, demarcated protected forests, Undemarcated forests and unclassified forests account for 26331.15 sq. kms, 15432.69 sq. kms, 14280.50 sq. kms and 15.18 sq. kms. respectively.

The forests in the state are unevenly distributed. Coastal area, which accounts for 47% of the state population has only 16% of the total forest area. Forest cover is maximum in Phulbani followed by Keonjhar, Sundergarh, Mayurbhanj and Ganjam. A detailed district-wise forest area classification is given as Annexure-I (Economic Survey 1996-97, Government of Orissa.)

Types of Forest in Orissa:
The forest of the state is broadly classified under four main types according to Champion and Seth's revised classification. (Orissa State Gazetteer, Vol. III, Pg. 177)

Type I: 2B-Northern Tropical Semi-evergreen forests
Evergreen forest of the state that constitutes 15% of forest area is under this type. The important species are Arjun (Terminalia arjuna), Mango (Magnifera indica), Makar-kendu (Diospyrous embryopteris), Canes (calamus), etc. (Mayurbhanj, Puri and Nayagarh districts)

Type II : 3C- Northern Indian Tropical Moist Deciduous forests
Most peninsular Sal forests and coastal Sal forests of the state come under this type and constitute 35% of the forest area of the state. Some of the important species are Sal (Shorea robusta), Asan (Terminalia tomentosa), Bija (Pterosarpus marsupium), etc. (Puri, Nayagarh

and Keonjhar districts)

The tidal or mangrove forests of coastal areas are considered as a seral sub-type under this type and constitute about 5% of the forest area in the state of Orissa. The important species under this are Guan (Exceccaria agallocha), Hental (Phoeni Paludosa), Rai (Dillenia Pentagyna), etc.

Type III : 5B-Northern Tropical Dry Deciduous Forest
This type covers 35% of the total forest area of the state. Natural occurrence of teak with some of its usual associates is the characteristic feature though its incidence is not very extensive. The main species met with are Sal (Shorea robusta), Asan (Terminalia tomentosa), Dhaura (Anogeissus latifolia), Kendu (Diospyrous melanoxylon), Kurum (Adina Cardifolia), etc. (Sambalpur and Bolangir districts)

Type IV : 8A- Northern Sub-tropical broad-leaved hill forests
The forest type occurs on higher hill with higher rainfall but 1,000-1300 mts. Altitude. Hilly tracts and rolling topography are ideal for this occurrence on a variety of soils. The vegetation consists of a mixture of tropical wet evergreen and sub-tropical forests, the former predominating. The area covered by this type of forest is less than 20% of the total forest area of the state.

Economically the extent of forest under different type of vegetation is as follows:

Miscellaneous forests	40%
Sal forests	30%
Bamboo forests	27%
Teak forests	3%

(Source: Forestry Sector Strategy Analyses, OSFP, 1995)

Causes of forest degradation
The causes of degradation and loss of forest cover are varied and complex. Changing rules and policies of the government, diversion of forest land for large developmental projects (dams, mining, rehabilitation of the displaced people, roads, industries, etc.), increasing urban demands, diversion of land for agricultural use and demand for timber and fuel are some of the causes cited for degradation of forests in the state.

Certain phases can be identified, when large areas under forest got degraded in different areas. One such phase followed immediately after 'independence in 1947', when in a tendency to assert their independence (or probably to test it), forest was cleared indiscriminately by people. Forest was one resource, over which strict control was applied under British and Princely States administration. These had led to lot of resentment among the local people. The 'Gadjat movement' of Dhenkanal in 1930's had access to forest as one of the major issues.

Reserve Forests were divided into coupes and were auctioned to generate revenue for the state. In order to maximise returns, these forests were overexploited. Earlier timber was the main output, but as local market for firewood & poles started developing, they also harvested smaller trees. In early sixties Orissa Forest Corporation was formed, and the FD started giving coupes to them for harvesting[4]. OFC/OFDC turned out to be no better in terms of

[4] OFC, OPDC and SFDC were merged in early eighties to create OFDC.

taking care of the forest. With revenue as a major goal, the forests were increasingly overexploited, till 1989, when green felling was banned.

The area under RF continuously got increased, and the access got increasingly restricted. With a growing population and shrinking area from where the people could meet their needs (much of what was harvested by contractors & OFDC was exported outside the state), the pressure on forests on revenue land reached unsustainable levels. Similar was the situation with respect to Shifting Cultivation, which covered about 10% of the total area under forest.

Increasing restrictions alienated people from the forest and development of market for timber and firewood provided opportunities for making quick money, in the absence of other livelihood options. It has been seen that during period of drought, significantly larger number of persons gets engaged in firewood headloading, due to failure of agriculture. In mid sixties, early seventies and late seventies, agriculture failed in different parts of the state.

According to the provisions made in Orissa Survey and Settlement rules of 1962, all the forest outside reserve, nearly 60% of the total forest land, were included within the village boundary in the subsequent settlements undertaken. In 1966 another government order laying down the procedure for reservation of land for various purposes within the village was passed and under it only 10% of forest land falling under the village boundary was reserved as 'gramya jungle' (village forest) by the state. This left the rest of the Protected Forest areas open for agriculture, which was rapidly increasing with increasing population of the state.

Large area of forest was also diverted for development work, mining, industries, dams etc. Forest land was also used to resettle displaced persons and allotted to landless for agriculture.

Large area of forest land was submerged by the irrigation projects like Hirakud and Rengali dams in Sambalpur district and Machhkund dam in Koraput. Besides submergence of the forest land, more was cleared subsequently for settling the displaced persons belonging to the submerged areas.

Increasing demand for timber and fuelwood near the settlements also lead to degradation of forest. Illegal trade of timber and fuelwood brought from the natural forests met the urban settlement demand. As communication system improved between the states, smuggling between inter-state also started with respect to the forest products be it timber, fuelwood or non-timber forest produce.

Reasons of degradation

- Exploitation of forest through coupe cutting with the help of contractors
- Over exploitation by the zamindars before abolishment of Zamindari system.
- Major irrigation projects like Hirakud, Machkund, Rengali, etc. submerged vast areas of forest land
- Forest were deforested to rehabilitate displaced persons
- Agricultural land was increased
- Encroachments were on large scale which was regularised at times
- Increase in demand for timber and fuelwood.

The forests near the settlements were used to fulfil the needs of the inhabitants but due to increase in population as well as overutilisation, they were degraded and not able to support the needs of the people. The pressure shifted to those virgin areas that were considered inaccessible may be due to distance or rough terrain.

All these factors lead to further impoverishment of the poor living in and around the forest.

These poor depended on the forest for sustenance as well as income. The reaction of these people was diverse from acceptance to protests and action. Many villages started, in reaction to this loss, by protecting the forest areas near to their villages.

SPREAD OF COMMUNITY FOREST MANAGEMENT (CFM)

Community management of forests has old recorded history in the state. The oldest known protection is about 100 years old (Lapanga in Sambalpur district). Initiation and spread of community forest protection in different area has different characteristics. CFM cases can be found in almost each and every district of the state, though the age of protection, extent of forest covered, number of villages involved etc. varies from district to district. Even though no authoritative survey of CFM groups exists, it is believed that between four to six thousand CFM groups are active in the state. Within various districts there are cluster where almost all the villages are involved in forest protection. Such clusters can be found in Nayagarh, Balangir, Champua block of Keonjhar, Mayurbhanj, Dhenkanal, Sundargarh, Phulbani and Sambalpur districts.

Source	No. of FPCs est.	Est. area prot. by FPCs
OSFP Survey, 1994	2619	3324 sq. km.
Village voices, Forest choices, 1996	3000-4000	10% of total area
Ori-Forest, 1997	1060 (VSS)	939 sq. km.
	5435 (VFPCs)	9594 sq. km.
	1227 (Active VFPCs)	1809 sq. km.
	640 (Unreg. Groups)	898 sq. km.
	9055 (VFC)	1214 sq. km.
	5683 (Active VFC)	786 sq. km.
JFM Update, SPWD, 1998	2373 (VSS)	2960 sq. km.
Angana Chatterjee, 1998	4000-8000	25-500Ha./FPC

Phases of CFM in Orissa

Prior to independence

CFM existed in various forms prior to independence. Sacred Groves (*Jahira*) and even shifting cultivation could be considered as forms of CFM. However, examples are also found of villages that maintained a patch of forest for products like timber & poles. The non-reserve forest within the revenue boundary of villages were under the control of village headmen, who supervised the extraction from these forests by villagers for meeting their various needs and for allocating a patch of forest to an interested individual for agricultural cultivation. In general, forests were considered more of a problem (particularly by farming community) than a resource, due to associated problems of wild animals and also because more agriculture meant more taxes, conversion of forest into agriculture land was rarely discouraged. However, in areas where forest (non-reserve) was relatively scarce, access to the forest was regulated, both for outsiders as well as villagers. Examples of very such protection can be found in Sambalpur & Mayurbhanj districts.

!960's

At various places, like Keonjhar, Dhenkanal and Sambalpur, a number of villages initiated protection during 1960's. Different factors seem to have led to this development. While in Keonjhar the effort for initiation came from FD, who allocated different patches to different

villages, in Sambalpur rapid clearance of forests by new settlers coming from Hirakud catchment led to protection, as a reaction. Mostly protection was confined to non-reserve forest patches, and to areas where problems were felt in obtaining some forest product (mainly wood). The Orissa Government Land Settlement Act of 1962, helped villages to assume a sense of ownership over forests which came within their revenue boundary. Villagers access over RFs was very limited as most of them were auctioned to private contractors & OFC. Many village communities started exercising control over forest within their revenue boundary to establish their right to exclusive access.

1970's

During early 70's many parts of Orissa suffered failure of agriculture for successive years. This period is also characterised by increasing environmental awareness, and need for forest conservation. In many parts of Orissa, firewood headloading was observed in a big way, particularly during the drought of 1979. The local market for firewood & pole was developing, and many village level organisations started protection to serve this market and earn some revenue (Balangir). The institutional mechanisms for control of access to RFs, established since colonial rule, by FD had started breaking down. RFs got severely degraded in various parts of the state, particularly in areas that were located close to (semi) urban areas. Villagers started discussing problems in availability of forest produce in future. Padyatras & rallies were being organised , with environment & forest conservation as a theme. Examples of these are found in Dhenkanal & Nayagarh districts.

1980's

This decade saw various developments that helped to accelerate the 'movement' for CFM in the state. In western Orissa, there was 'Save Gandhmardhan movement', massive plantation programmes were launched under Orissa Social Forestry Project, in many parts timber trees from private land were harvested & exported, timber & firewood smuggling became more organised, green felling was banned in many areas and at the same time the state government recognised the role of communities in forest protection. Massive propaganda had its effect on local FD staff as well as villagers. In many places, local FD staff encouraged villagers to protect their neighbouring patch of forest. Under RDF & REFO components of OSFP, seedlings were planted in natural forests. With protection, the natural forest took over. NGOs also became active in promoting forest conservation. In 1988, when forests were allocated to villagers for protection, it had a significant symbolic impact. Many villages took the opportunity to start protection of RFs. Scarcity of products became a major concern for villagers to initiate forest protection.

1990's

The 1990's are marked by increasing interest by FD in CFM. The state government came out with a JFM resolution in 1993. Various schemes & programmes have been initiated with JFM as the underlying approach. The villages that have been protecting forests since long are trying to find to find a place for themselves within the government sponsored JFM, sometimes with serious reservations about its structure and approach. Cluster and district level confederations of villages involved in forest protection are emerging as pressure group and to deal with the problems being faced by individual villages. Efforts to define the authority, control & ownership of the communities over forest resource & forest products. The CFM has been spreading because of 'supportive' policy environment, and due to 'ripple effect' of earlier CFM initiatives.

The main points of the State Government resolution on Joint Forest Management passed in 1993:

On 3.07.1993, Orissa government passed a detailed resolution on Joint Forest Management and subsequently made changes to it in form of Corrigendum-04.08.94, Addition on 07.12.94 and subsequently with another resolution on 30.9.96. With the passing of these resolution the Degraded forest areas and forest already being preserved were to be brought under the preview of the Joint Forest Management provided the people were willing. The area under one forest protection committee was to be about 200 ha. The management unit had to consist of six to eight members out of whom at least three should be women while the additional members were the ward member and Naib Sarpanch of the village. Forest department was to be represented by the forest guard and the forester. A NGO representative was also to be on the committee. The tenure of the committee was two years which was recognised only by the forest department by the virtue of MOU signed by the two concerned parties i.e. the forest protection committee and the forest department. The benefits for the committee were leaf, fodder, thatch grass, broom grass, brushwood, fatten lops/tops/twigs-free of cost, but leased out non-timber forest produce to be collected against prescribed wages for collection and delivery only. In the event of Major harvest or Final felling 50% will be given to the committee and 50% will remain with the forest department.

The forest protection committees are characterised by diverse institutional arrangements that may have evolved due to the diversity of situations in which they exist and operate. In many villages, community effort goes way beyond protection to include management, and a well-organised village level organisations. The village level organisations that have evolved over time for the protection and management of the forest are of different types. Some are youth clubs, some a council of village elders or some other village level organisation. The common thing in these institutions is that they are all village based. Membership is open to all participants (generally male), office bearers are people from the village, and thus decision making is done by people from the same village.

These organisation frames rights and rules to usage, decides upon a thinning or felling regime, penalty, etc. The system of forest protection also varies, some villages adopt rotational voluntary protection called “Thengapali,” some villages employ guards from among their own village, and in some villages there is neither and a “collective watch” or “General vigilance” is kept on the forest.

Community forest management in Orissa has gained significance today because of the rapid pace of degradation of forests in Orissa. There is a growing recognition of Participatory forest management (PFM)/ Co-management as an essential component of any strategy to sustain the world’s forests.(World commission, DFID reports, IUCN, etc.)

Beginning in 1988, the State Government of Orissa in keeping with the National Forest Policy of 1988 came up with far reaching, and exciting policy changes and issued directions to this effect. This is a recognition of the fact that village communities can be entrusted with the responsibility of protecting and managing their local forest resources. In a way that not only dramatically improves the condition of the community protected forest, but also provides various products like fuelwood, poles, timber and non-timber forest produce to the villagers involved.

With time the forest protection committees have matured institutionally but the issues before them have also multiplied manifold. In recent years, there has been greater interest and involvement of forest department and NGOs in these FPCs.

While the State has resolved to support these efforts, its actions have brought in new sets of issues and concerns. The forest department while still trying to come to terms with its changing role, is trying to develop mechanisms where the concerns of the FPC's can be taken care of. The Non Government Organisations (NGOs) have been trying to define their role in this development in local, situation specific as well as larger context.

STUDY METHODOLOGY

Overview

The principal activities were: an informal survey of 33 protection cases and 10 non-protection cases; and the writing up of the survey information in the form of case studies. A checklist of topics to be covered in the survey was developed, which was linked to a set of hypotheses that the survey aimed to test. The checklist and hypotheses are reproduced in Volume 2 of the study.

Secondary data were collected in addition to the primary data obtained through the survey. Prior to the survey the researchers assembled and reviewed the existing literature on CFM in Orissa and India in general. During the survey secondary data were collected at various levels. At the field level, documents such as working plans were consulted to supplement the primary data and in some cases to provide a cross-check on it.

At the Panchayat, block and/or district levels, we assembled (from government reports, grey literature and discussions with key informants) a substantial amount of background information about each of the survey areas, so that the case studies from those areas can be seen in a broader context. This information is contained in a series of district level overviews, and includes:
(i) patterns and trends in CFM in the district or blocks within which the case studies were selected, such as the preponderance of CFM and the periods during which most communities initiated it;
(ii) information about forests in the area, such as their type and status, the area of forest cover and the history of forest degradation; and
(iii) general socio-economic data, such as population size and the percentage of scheduled tribes and scheduled castes, and the principal livelihood enterprises.

As well as producing the case studies and the district-level overviews the project developed a customised database, using FoxPro 6 software. Data from all of the case studies is being entered into the database. This will facilitate cross-district analysis of the survey findings, and will enable them to be related to the original hypotheses.

Working with local NGOs

It was decided to carry out the fieldwork in collaboration with local NGOs, preferably ones that were knowledgeable about CFM in their programme area. The reasons for doing so were:

(a) they have a rapport with communities in their programme areas that would enable the survey team to minimise suspicions, and to get people to ‘open-up’ more than they would if

we visited them 'cold';
(b) some NGOs already had secondary information against which villagers' answers could be checked, and which was expected to be useful in identifying or guiding certain lines of questioning; and
(c) local NGOs often have information about the population of villages in certain Panchayats or blocks that is a pre-requisite for stratified random sampling or typical case sampling, and that can also provide a useful supplement/background to the case studies.

Primary data collection - survey methods
The researchers spent up to seven days altogether with each protection community, but not continuously. The main survey method was semi-structured group interviews. Other specific methods used in the survey included: transact walks, transact diagrams (both current and historical), seasonal diagrams of forest product-related activities, matrix ranking of livelihood enterprises and forest products, and historical timelines. There tend to be a number of distinct sub-groups within any community, and the survey team sought to obtain the views of people from each of these groups, including women. The Box below shows a typical sequence for survey activities in one community.

Semi-structured group interviews, combined with visual techniques (like mapping and diagramming) in which villagers play a lead role, can provide a better understanding of the human-ecological context within which the survey is done, so that forest protection initiatives can be examined against this background. The approach tends to present a picture of community resource use as a system, because it allows the community to speak for itself to a greater degree than most research methods.

BOX Illustrative Schedule for Surveying a Community

Day 1
Introduction. History of the community
Identification of sub-groups through discussion of livelihood systems, differing degrees of dependence on forest products within the community, and *Social mapping.*

Day 2
Natural Resources Map - Discussion of reasons for forest protection. Identification of sources of forest products and other resources apart from the protected patch.
Mapping of protected patch - Discussion of the history of protection, and the institutional arrangements for its management and protection.

Day 3
Transact walk & Transact diagram (including historical transacts)

Days 4-6
Group interviews with different sub-groups.

Day 7
Presentation of findings to general meeting.

Selection of districts to be surveyed
The Indian researchers knew a considerable amount about CFM in Orissa at the start of the

project, as they had all been previously involved in related work. On the basis of this knowledge, six districts were chosen for the survey, with a view to covering:

- different forest types (Sal and non-Sal)
- different types of protection organisation
- tribal and mixed communities
- different motivations for protection and
- different ages of protection.

The researchers aimed to select equal numbers of cases for the different sub-categories of three of these variables - ethnic group, forest type and age or protection - as shown in Table 1.

Table 1 Selection Variables

Ethnic Group	Percent	Forest Type	Percent	Age of Protection Initiative (Years)	Percent
				5-10	33
Mixed	50	Non-Sal	50	10-20	33
Tribal	50	Sal	50	>20	33

The expected distribution of these sub-categories by district is shown in Table 2.

Table 2 Predominant Categories of Selection Variables by District

Districts	Ethnic Group(s)	Forest Type	Age of Protection Initiatives (Years)
Tangi-Ranpur	Non-tribal	Mixed	5-10 and 10-20
Balangir	Mixed	Mixed	5-10
Sambalpur	Mixed	Sal	10-20 and 20+
Sundergarh	Tribal	Sal	20+
Keonjhar	Tribal	Mixed	20+
Mayurbhanj	Tribal	Sal	10-20

Selection of cases to be surveyed

Most previous studies of CFM in Orissa and eastern India generally have either:
(a) not aimed to obtain a representative picture, sometimes deliberately focusing on special cases; or
(b) have not made it clear whether the cases and findings are representative.

This study aimed to present a fairly representative picture of what has been happening in a large area of Orissa, by: (a) covering a much larger number of cases than previous studies; and (b) focusing mainly on 'ordinary' cases. Twenty seven (?) of the protection cases were **'ordinary cases'**, i.e. ones which were thought to be representative of the population from which they are selected. Members of the research team took care not to select communities on the basis of the local NGO's recommendations or preferences. Instead, one or other of two systematic approaches was taken: stratified typical case sampling or stratified random sampling. The stratification was done on the basis of the three variables shown in Table 1: i.e. ethnic group, forest type and age of protection.

In addition to the ordinary cases there are seven **'special' cases**. These are cases that were purposively selected to illustrate a particular point or issue. The Magarbandh case from Nayargarh is a cluster level forest management initiative by a group of villages (as opposed to individual village or hamlet protection) which is not common in other districts of Orissa. Mahasipata in Balasore illustrates the effect of stone quarrying on initiation of forest protection by community. Gadabanikilo in Nayagarh was selected to highlight the forest management system & techniques by community. The village adopts different systems for different types of forest patches it is protecting & using. Dengajhari, also in Nayagarh, was selected as an example of conflict of interests within a forest management group that comprises of multiple villages & sub-groups. Paiksahi in Nayagarh and Ramkhol in Sambalpur were selected to illustrate the issues emerging under Joint Forest Management. Both the villages are examples of self-initiated management, which were converted into VSS. Dalua in Khurda district was selected as a special case to illustrate management of a Sanctuary area by a community.

Finally, there are 10 **non-protection cases**. A general rule of thumb was that N-P cases should be selected from an area (e.g. block) where N-P is quite common, rather than where it is the exception. This was because some areas were known to have hardly any protection cases because serious degradation had not taken place, and hence people were not experiencing product scarcity and had little incentive to protect forest. A second rule of thumb was that the N-P cases should be randomly selected if possible.

DESCRIPTION OF CASES STUDIED

In a tabular form some background information about the case studies undertaken have been provided to set the context in a general framework before we proceed to discuss the findings in details. The case studies are divided into three groups, a) Ordinary Protection cases, b) Special cases and c) Non-protection cases. Under Ordinary and Special cases there are four tables giving general information about the protection group, its management system, access regime and livelihood options followed in a village. While in non-protection cases there are two tables that give general information and livelihood options followed in a village.

A. Ordinary Protection cases

General information

Name of District and Prot. Case	Protection unit	Protection area in acres	Legal Status	Forest type	Year in which protection started	# of hh	Composition of the community
Mayurbhanj							
Kathuabeda	village	100	RF	Sal	1983	127	mixed
Rangamatia	village + hamlet	50	RF	Sal	1973	75	tribal*
Nachipur	village	50	RF	Sal	1983	119	tribal
Astajharan	3 hamlets	50	RF	Sal	1983	67	tribal
Purunapani	village	50	RF	Sal	1958	57	tribal
Nayagarh							
Samant-Singharpur	hamlet	300	RF	mixed	1985	65	mixed
Paikasahi	2 hamlets	250 + 2004.27	GJ + RF	mixed	1970, 1990	69	tribal
Gadabanikilo	village	750	RF	mixed	1940	143	mixed
Sundergarh							

Suruguda	village	895	RF+ KF	mixed	1980	117	mixed
Jarmal	village	179	RF	mixed	1970	158	mixed
Gariamal	3 hamlets (of two villages)	> 625	RF	mixed	1948	132	tribal
Phuljhari	village	> 250	KF	Sal	1965	65-70	mixed
Jharbeda	village	?	KF	Sal	1980	132-142	mixed
Balangir							
Gadiajor	village	800	VF, Gochar, Patra	mixed, bamboo	1983	46	mixed
Adendungri	village	150-170	RF & VF	mixed	1968, 1972	139	mixed
Baghdungri	village	150	VF	mixed	1972	132	mixed
Baghjor	village	300	VF	mixed	1992	67	mixed
Ballarpali	hamlet	90	VF	mixed	1986	55	tribal
Keonjhar							
Patala (Upar sahi)	hamlet	300	RF 'B'	Sal	1973	115	mixed
Rajia (Majhi sahi)	hamlet	150	RF 'B'	Sal	1962	75	mixed
Krushnapur	village	200	RF 'B'	Sal	1975	100	mixed
Sambalpur							
Sargipali	hamlet	120	VF	mixed	1978	100	tribal
Pandripali	village	25-30	VF	mixed	1960	120	mixed
Tudabahal	village	150	VF	mixed	1991-92	32	mixed

*tribal: more than 75% of the population is tribal.

* RF- Reserve forest, GJ- Gramya Jungle, KF-Khesra forest

Management system :

Name of District and Prot. Case	decision- making body (EC/GB)	Protection mechanism	Penalty system	Grazing
Mayurbhanj				
Kathuabeda	GB-implements EC	Thengapali	Warning, Penalty	open
Rangamatia	GB-implements EC	Thengapali	Warning, Penalty	open
Nachipur	GB-implements EC	Thengapali	Warning, Penalty	open
Astajharan	GB-implements EC	Thengapali	Warning, Penalty	initially restricted
Purunapani	GB-implements EC	Thengapali	Warning, Penalty	open
Nayagarh				
Samant-Singharpur	GB-implements EC	Thengapali	Social pressure, Penalty	open
Paikasahi	GB-implements EC	Thengapali	Social pressure, Seizure of axe and transport, Penalty	initially banned
Gadabanikilo	GB-implementsEC	Watchers	Penalty	open
Sundergarh				
Suruguda	GB-implements EC	Thengapali	Penalty	initially banned
Jarmal	GB-implements EC	Thengapali	Penalty	initially banned
Gariamal	GB-implements EC	Watchers	Penalty	open
Phuljhari	GB-implements EC	Watchers	Penalty	open
Jharbeda	?	Thengapali	Penalty	open

Balangir				
Gadiajor	GB, EC, President	Thengapali	Fine, Physical punishment, Social Sanction	Initially restricted, banned in bamboo patch
Adendungri	Some matters GB, some matters EC	Thengapali, General vigilance, Group patrolling	Fine & seizure, Social Sanction	Initially restricted
Baghdungri	Do	General vigilance	Fine & seizure, social sanction	Initially restricted
Baghjor	Do	Thengapali	Fine & seizure, Case to FD	Initially restricted
Ballarpali	EC, President	Thengapali	Fine & seizure	Initially restricted
Keonjhar				
Patala (Upar sahi)	Some matters GB, some matters EC	Paid watcher	Fine & seizure, Case to FD	Initially restricted
Rajia (Majhi sahi)	Do	Do	Do	Do
Krushnapur	Do	Thengapali	Do	Do
Sambalpur				
Sargipali	Do	Thengapali, general vigilance	Fine, seizure, social sanction	Do
Pandripali	None	General vigilance	Fine, social sanction	Do
Tudabahal	EC	Initially Thengapali, now general vigilance	Fine & seizure	Open

Access regime

Name of District / Prot. Case	Access for NWFP		Access for fuel material		Products collected		Payment if any for members
	mem.	Outsiders	mem.	outsiders	Subsistence	Sale	
Mayurbhanj							
Kathuabeda	open	Closed	open	closed	*fuelwood, Dry Sal leaves, tubers, edible green leaves, mushrooms	Few households – processed Green Sal leaves	-
Rangamatia	Open	Restricted	open	closed	-do-	Few households – processed Green Sal leaves	-
Nachipur	Open	Restricted	open	closed	-do-	Green Sal leaves	-
Astajharan	Open	Open	open	closed	-do-	Green Sal leaves	-
Purunapani	Open	Closed	open	restricted	-do-	Green and Dry Sal leaves	Dry Sal leaves are sold to outsiders .

Nayagarh							
Samant-Singharpur	Open	?	open	close d	fuelwood, tubers, edible green leaves, house construction material- bamboo	nil	Bamboo at nominal charge to outsiders
Paikasahi	Open	?	open	open	fuelwood, tubers, edible green leaves, house construction material- bamboo	firewood, bamboo, Siali leaves	-
Gadabanikilo	open	open	restricted	close d	fuelwood, Mahua flower and seed	?	-
Sundergarh							
Suruguda	open	?	open	close d	fuelwood, tubers, edible green leaves, medicinal herbs, fruits, house construction material-bamboo, wood	?	-
Jarmal	open	?	open	close d	NTFP	?	-
Gariamal	open	closed	open	close d	Edible green leaves, Sal leaf, Seeds, Fruits, Mushroom, Broom stick	Nil	-
Phuljhari	open	?	open	close d	Mushrooms, Sal leaves, Char fruit, house construction material	Sal seeds,	-
Balangir							
Gadiajor	Restri cted	Restricted	Restricted	Restri cted	Bamboo, poles, firewood, miscll. nwfps	Sal leaf plate, broom grass	For bamboo
Adendungri	Restri cted	Restricted	Restricted	Restri cted	Poles, firewood	Firewood	For all wood products
Baghdungri	Open	Restricted	Restricted	Restri cted	Poles, firewood, miscll. Nwfps	Broom grass, sal leaf plate	For wood of specified species
Baghjor	Open	Open	Restricted	Restri cted	Poles, firewood, miscll. nwfps	Mushroom, tubers, sal leaf plate	For wood of specified spp.
Ballarpali	Open	Restricted	Restricted	Restri cted	Poles	None	For poles

Keonjhar							
Patala (Upar sahi)	Open	Restricted	Restricted	Restricted	Dry & green sal leaves, pole, firewood	Miscll. Nwfps incl. Mushroom, tubers, edible leaves	In form of membership fees
Rajia (Majhi sahi)	Open	Restricted	Restricted	Restricted	Dry & green sal leaves, pole, firewood	Miscll nwfps	In form of membership fees
Krushnapur	Open	Restricted	Restricted	Restricted	Dry & green sal leaves, pole, firewood	Miscll. nwfps	In form of membership fees
Sambalpur							
Sargipali	Open	Open	Restricted	Restricted	Miscll nwfps, firewood	Miscll. nwfps	None
Pandripali	Open	Open	Restricted	Restricted	Miscll. nwfps	None	No incidence of payment
Tudabahal	Open	Open	Open	Restricted	Small timber, firewood, Miscll. nwfps	Miscll. nwfps	None

*fuelwood - in form of dry, fallen twigs and branches of dead trees.

B. Special cases

General information

Name of Prot. Case	Name of District	Protection unit	Protection area in acres	Legal Status	Forest type	Year of protection	# of hh	Composition of the community
Mahasipata	Mayurbhanj	4 hamlets	50	RF	Sal	1983	203	tribal
Dengajhari, etc.	Nayagarh	3 villages		RF	mixed	1979	75+	mixed
Dalua	Khurda	one village	200	DPF	Mixed	1988	120	mixed
Ramkhol	Bargarh (Sambalpur)	One Village	250	VF	Mixed with bamboo	1986	51	mixed
Sulia Paribesh Parishad, Magarbandh	Nayagarh	19 villages	2000+	RF	mixed with Bamboo & Sal	1987	1800 +	mixed

C. Non-protection cases

Name of the district and Non-Prot.Case	Distance from nearest forest	Composition	# of hh	Important non-timber forest produce: Trade	main causes of non- protection
Mayurbhanj					
Kadamsole samil Kusunpur	next to the reserve forest	tribal	106	Sal leaves	No scarcity, Smuggling route, Conflict of interest with respect to livelihood option.
Sundergarh					
Silipunji	next to the reserve forest	tribal	27	leaves, brush - sticks, tubers, flowers, fruits and sag	Lack of internal consensus and outside pressure
Jharbeda	Next to reserve forest	mixed	115	Sal leaves	Pressure from neighbouring villages; lack of unity between different hamlets; engagement of some HH in sale of firewood & timber
Khurda					
Udayagiri	DPF	Mixed	253	**?**	Outside pressure, no support of the FD to get the cashew plantation on lease even thought they were protecting
Nayagarh					
Nagajhara	RF & Rev.F	tribal	20	tubers, honey, firewood	Pressure of bigger village, forest department didn't support, fear of conflicts
Keonjhar					
Panasnasa	located within forest area	tribal	49	Firewood, sal leaves, tubers, mushroom etc.	shifting cultivation, no scarcity, firewood headloading
Brahminidihi	located next to RF	tribal	77	Firewood	most of the HH either depend on labour work in mines or on firewood headloading; infrequent interaction between HH; pressure of neighbouring villages; low productivity of agriculture land
Sambalpur					
Gunjighara	located next to RF	mixed	32	Kendu leaves, Mahua flower, fire wood, fencing material, honey, tubers, etc	Pressure by smugglers from neighbouring town; product scarcity not acute; bad experience with FD in relation to forest protection
Haripur	located next to RF	tribal	29	Firewood	Big village in the vicinity; small tribal village in non-tribal area; dependence of some HH on sale of firewood
Balangir					
Badjhola	located next to RF	mixed	42	Sal & Siali leaf plate, Mushroom	Pressure on forest from neighbouring villages; lack of unity

PART B RESEARCH FINDINGS

1. LIVELIHOODS SYSTEMS

The livelihood enterprises were found to be varied, with locality specific options playing a significant role. Agriculture, Manual wage labour, Forest products (use and/or sale) and Animal husbandry are four common enterprise in almost all case studies. In some places, manual wage labour is also characterised by seasonal migration of villagers for agricultural or construction related labour. Another option which may be limited to few households in a village is service in nearby factories, government offices or in private establishments and petty business. There is an increasing trend in which the traditional occupation is being left in favour of agriculture or manual labour.

Agriculture is generally the most important livelihood option for land owners (large & medium) and Manual wage labour for those with little or no land (small, marginal & landless). Agriculture is the main source of food for relatively well off, and manual wage labour for the poor as it provides them sometimes with grains or money to buy food. In many case studies, even though agriculture may not the most important livelihood option but it is the most preferred option mentioned by the villagers. In areas where agriculture depends on rains, single cropping is followed but in places where irrigation facilities have improved over time double cropping or mixed farming is being practices which has reduced the dependence on the forest. For example, in village Garimal, etc., Sundargarh, due a number of irrigation schemes of the government the households dependent on forest or wage labour before 1981 are engaged in agricultural activities today. During non-agricultural season, in some areas the villagers may go to work in brick kilns or work in towns as unskilled labour.

Animal husbandry has its importance mainly in relation to agriculture and as a source of income during times of distress through sale of animals. But for some castes like Gauda, cattle keeping and selling dairy products is a traditional occupation and still a livelihood option. Some villagers also keep pigs and poultry for selling but their number is less.

Agricultural fields, construction sites, stone quarries, brick kilns, coal mines, etc. are some areas where the villagers go for wage labour. The payment for agricultural labour may be in terms of grains or money. The minimum wage for a days labour as fixed by the government is Rs. 30.00 but this may vary from place to place and work to work.

Forest products supplements both food and income. Many communities we surveyed ranked NTFPs more highly, relative to other enterprises like manual wage labour in their livelihood systems, for the income they provide than as sources of food. At many places, for some group's forest become the most important source of cash income while at other places its importance for sustenance was more important. The forest based livelihood options includes different types of income based activity -- fire wood sale to collection of NTFPs for sale or consumption.

The relationship between different options is mostly complementary, with each having its own space and importance which is independent of the other. The importance of forest and animal husbandry is in relation to agriculture as well as for subsistence & income. Most of the times majority of the villagers depend on multiple options. In some situations people, depending on the availability, primarily depend on a single option. For example, in places where single crop of paddy is grown in a year, alternative livelihood options like wage labour

or trade of non-timber forest products are necessary to supplement yearly income. In almost all cases studied, it was found that the small and marginal farmers along with the landless meet their annual expenses from more than one livelihood option. Irrespective of areas small and marginal farmers along with the landless work in the fields during the agricultural season but in the post-agricultural season some take up non-timber forest produce trade while others may work as wage labourers in construction sites, brick kilns, cement factories, etc.

The importance of forest is not determined only by the attractiveness of alternative livelihood options. Its importance is due to the forest providing goods that otherwise are not easily substituted. In relation to other livelihood enterprise, the importance of forest has also undergone some changes in qualitative terms -- from a source of subsistence products to a source of income, not only through sale of wood but also non-wood products like dry and green Sal leaves, Kendu leaves, etc.

2. CONTRIBUTION OF FORESTS TO LIVELIHOOD

The importance of forest is expressed in relation to agriculture, animal husbandry, subsistence products and as income source. The nature and extent of dependence among different section of the community varies. While the poorer households tend to give importance to income from collection and sale of NTFPs and food, the better off households highlight the subsistence products like firewood & small timber. Dependence on Forest is given quite a high rank, but mostly below agriculture or (daily) wage labour which is the primary occupation of most of the villagers. Sometimes the difference is of degrees only. While some of the products collected from forest might be same, the frequency, quantity, and urgency for poorer and better off section varies.

Some sections of the community depend on forest for day to day survival. They are mostly engaged in firewood headloading on daily basis. This group ranks forest higher than either agriculture or wage labour. In villages where forest protection was initiated, this group agreed to either ‘shifted’ the pressure or ‘shifted’ to another livelihood option (daily wage labour).

2.1 Non-Timber Forest Products

Collection of NTFPs makes an important contribution, both for subsistence use and as source of income.

Generally speaking, the importance of income from NTFPs relative to subsistence use has increased: this is partly due to the monetisation of society, development of NTFP market and marketing infrastructure and partly due to increase in its demand on industrial scale. When people were asked about the contribution of NTFPs to their livelihoods, they tended to talk first about the income they derive from them.

The case studies throw a clear picture about the involvement of the poor in collection of the non-timber forest products for subsistence as well as trade. Non-timber forest produce trade may also interest the relatively well-off families if the returns from them are better. This was seen in case of Mahua flower collection, Bidi making and even Sal leaf processing. Women are more involved then the men in collection of the non-timber forest products. They tend to be the major collectors while men would join them when the returns are more, for example, during Mahua flower collection or Sal leaf processing or Bidi making.

Food subsistence products Forests have become less important as sources of food during

the last few decades, as the importance of agriculture has increased, and as tastes have changed. An example of changing tastes is people's attitudes towards Mahua flower as a food item: eating Mahua flower now tends to be seen as a sign of backwardness, whereas eating rice is seen as progressive. Notwithstanding the change in tastes, the poor women of the villages go to collect mushrooms and sag from the forest during the monsoons for sale and consumption along with berries and fruits.

Sale of NTFPs versus other sources of income Sale of NTFPs tends to be more important for poorer people, or for people who do not have alternative opportunities for earning income. It is particularly important for women who tend to stay back in the households while the males may migrate for few months in a year in search of work. In certain areas NWFPs & daily wage labour, are the only major source of cash income for the villagers.

Important NTFP activities for income-earning include:
- sale of Mahua flowers
- sale of Kendu leaves
- sale of Char seeds
- making of bidis using Kendu leaves specially in Sambalpur district
- sale and making of Sal plates and cups
- sale of Sal seeds

However, some marketed NTFPs, are obtained primarily from outside the protected patch. For example, the bulk of Mahua flowers usually comes from trees on private land, or privately 'owned' trees on common land. Kendu leaves are plucked mainly from bushes outside the patch, as bush-cutting within the patch is considered too time consuming, and sometimes not allowed by the villagers.

Some NTFP enterprises are highly seasonal, and the timing of the activity may fit conveniently into the seasonal pattern of labour, so that it complements other activities. Mahua flower collection starts after the harvesting of paddy is over and the Kendu leaf collection starts in late April when there is no agricultural work available. Other NTFP activities, such as making of Sal-plates or Siali leaf plates, are less seasonal as leaves can be collected for almost eight months in a year, and may compete with other income-earning opportunities.

In some places there are alternative income-earning opportunities that give a better return than NTFP sale. In these villages people may prefer to go to work outside to earn their livelihood. For example, in some villages, located near towns (e.g. Udala in Mayurbhanj), the making of Sal plates for sale is not found or is only done by a small minority. It appears that this is because people, including women, have the option of earning money as construction labourers, which is a more remunerative activity than plate-making. In some rural areas, working in mines or as stone-breakers provides more income than NTFPs; and so does wood-cutting, where substantial areas of mature forest remain. Fuelwood headloading may also be a preferred option as it can be collected at any time of the year and there is a regular market with increasing demand. In places where irrigation facilities has improved and people have land for cultivation dependence on forest has decreases, e.g. Gariamal, etc. Forest protection committee of Sundergarh district.

Collection of non-timber forest produce for trade sometimes also depends on the marketing infrastructure prevalent in the area. It may be collected in certain parts of the district or the

State, for example, Kendu leaves are collected on large scale in certain districts like Sambalpur and Bolangir but not in Mayurbhanj and Nayagarh. The reasons may be varied, it may be because the traders engaged in it do not find it profitable or the produce is of not good quality or there is no immediate demand for the product in that particular area. Some Non-timber forest produce trade have gained importance as income generating activity in the recent years like Sal leaf plate or cup making and Sabai grass rope making in Mayurbhanj. Sabai grass according to the villagers was a forest product but today it is being cultivated in the fields of Mayurbhanj.

Although the relatively low returns from non-timber forest produce collection may mean that it is the last resort as an livelihood enterprise but it is not always the cases as cultural differences as well as traditional livelihood may also influence people's choice of enterprise for income-generation. Within the same village one ethnic group may rely on NTFPs for income, while another earns income in the nearby town or stone quarry. Some tribes or caste specialising in basket making may (bamboo or atundi creeper) prefer their trade to other enterprise for income generation. Sometimes the choice of livelihood option also varies with the age of the person concerned. Older men and women to be more involved as they are unable to do any tedious work.

2.2 Grazing

Another NTFP benefit derived from the protected patch is the fodder it provides for the community's animals that graze there. Grazing of cattle in the forest land is important for the villagers as the practice of stall feeding is not prevalent. In past, forest was an important consideration for families migrating to a new area, as it ensured that they can keep large number of cattle (Gadiajor). Over time, as forest has reduced, the number of cattle kept by a family has also reduced, as the cost of grazing has gone up (Tudabahal).

In some case studies grazing was banned in the initial years of protection but in some cases even in the initial protection phase grazing was not banned by the villagers. The grazing of the cattle in a forest may have been regulated but not banned as they felt that forest was important resource for grazing of cattle at times when they have no other means to feed the cattle. Grazing lands have decreased over the time as they were brought under the plough and the only other alternative left with the villagers was to take the cattle to graze in the forest area for longer periods. Some case studies point out that the villagers regulate the grazing of cattle between the agricultural fields, open spaces, stall feeding and forest. With the start of the agricultural season the animals are usually looked after by graziers or members of the family. The animals are taken to grazed in open spaces, fields bunds or into the forest during the agricultural cycle. After the harvest of agricultural produce the animals are left open in the agricultural fields. During the summers the households who are able to afford feed their cattle with rice husk and hay stored in the house.

2.3 Fuel material: Wood and Dry Sal leaves

Rules for collection of fuelwood from the protected patch vary from village to village. Some villages allow collection of fuelwood by allowing cutting down of non-useful trees by individual villagers but others use cleaning and thinning operations to provide themselves with fuelwood from the protected patch. The frequency of these operations depends on the village forest protection committee. Some villages may allow collection of only dead, dry and fallen wood to be used as fuelwood. In some villages a collection fee is charged to collect firewood from members and non-members but difference in rates may be there. In some villages it is free of cost for the members while non-members have to pay a fee before they

can enter the protected forest for collection.

Dry Sal leaves is also an important source of fuel material in some areas of Mayurbhanj and Keonjhar. Dry sal leaves are often used to Par boil rice grains. According to villagers parboiling requires lot of fuel and a constant heat which is provided by these dry leaves. During the leaf shedding period dry sal leaves are collected in large quantities from the patch and stored also. Due to importance as fuel villagers restrict collection of dry Sal leaves for certain days or may not impose any restriction for collection by the members of the forest protection committee. The villagers may or may not ban entry of non-members for collection of dry Sal leaves and sell it at a certain price. In some cases in Keonjhar, the villagers have different rates for the non-members and outsiders. The method used to regulate collection of dry Sal leaves depends on the concerned village and its protection committee.

2.4 Timber

Another product from the forests that makes an important contribution to people's livelihoods is timber. By timber we here don't mean the big timber only but also small timber whose importance is overlooked or underestimated in the literature on CFM/JFM. It is a valuable subsistence product. When people are asked why they decided to protect a patch, one of the most frequent reason they give is scarcity of small timber for house construction and for the making of agricultural implements. Every farmer be he a large, small, or marginal farmer needs at least one plough a year for agriculture. A poor households needs small timber to build his house even if he uses the least possible number of poles. It is also a valuable source of income when cleaning and thinning operations are undertaken by a village.

Large quantity of fuelwood is needed for cremating a dead body which is acquired in form of timber and in most of the case studies allowed by the forest protection committee.

2.5 Ecological service functions of forests

Besides the visible benefits like the non-timber forest produces, the forest has many indirect benefits as perceived by the villagers. They feel that forest help in regulation of water flow and increasing the soil fertility of the agricultural fields near to it. The villagers are aware that the organic manure formed in the forest due to dry, dead fallen leaves, bird litter and decomposed bodies of animals washes down with the rain water to provide much needed nutrients to their fields. With loss of tree cover there is possibility of soil erosion. When forests are severely degraded, poor quality soil and gravel may be washed down into fields which has a negative effect on crop production. In some of the case studies the villagers have given the above reasons for being one of the motivating factor for initiation of forest protection.

For example, the villagers of Mahsipata, Mayurbhanj, realised that degradation of the forest cover had resulted in soil erosion of the hill slopes and rains were bringing poor quality soil and gravel to their fields. The leaf litter had decreased and what was there was flowing down into the pits formed by stone quarrying activities. Some of the older villagers stated that they observed that the crop yield had decreased. This was one of the motivating factor for initiation of forest protection by the villagers. Another village, Paikasahi of Nayagarh district also stated that they never used fertilisers in the past yet received good agricultural produce as the rainwater flowing across the forest into the agricultural carried good organic manure.

2.6 Ranking of forest products

Ranking of various forest products, which were undertaken with various sub-groups in the

village, produce some class, occupation & gender specific preferences. Women invariably gave higher priority to fuel, poor to nwfps like kendu leaves & mahua flower which fetched them handsome income; farmers to wood & small timber which can be used for fencing & construction of agricultural equipment. Village level leaders, who manage protection, gave importance to products which generates income for the community fund. The sub-group level differences are, to a certain extent, influenced by scarcity of forest products in the area. In Champua, where forest can be considered to be fairly scarce, both male & female gave first priority to dry sal leaves which is used as fuel.

The community generally divides the various species found in their forest in two broad categories – *mulyavan / baaran / darkari* (Valuable / restricted / useful) & *adarkari / akarmanya / bajey* (Useless). The distinction is generally based on what the tree is useful for. Trees which are useful only as firewood & shrubs are placed in the category of 'useless'.

3. FACTORS THAT FACILITATE AND INHIBIT THE INITIATION OF FOREST PROTECTION

3.1 Facilitating factors

Various factors are found to have facilitated forest protection by communities. In some areas, one single factor contributed to the initiation and at other places a combination of factors led to initiation. Though it is difficult to say which single factor was most important in each particular case, some factors stand out when all the cases are taken together. They are – presence of strong traditional community institutions, unsuitability of the patch for agriculture, lack of feasible alternatives or substitutes to some forest products, support from local FD staff, 'ownership' perception over revenue forests, etc. Besides, projects & programmes of government like Orissa Social Forestry Project, also helped in developing an atmosphere for forest protection.

3.1.1 Product scarcity

Communities generally initiate protection when they experience scarcity of important products that they had previously been obtaining from the forest in adequate quantities. The products most commonly mentioned as being scarce at the time of initiating protection are small timber for house construction and agricultural implements; and fuelwood availability at times of peak demand (e.g., festivals) and in some place's scarcity of dry leaves for use as fuel material was stated as the reason. In Keonjhar and Mayurbhanj dry Sal leaves is one of the major fuel material for the villagers. Scarcity of Green leaves and brush sticks for self consumption has also been stated as the reason for initiation of forest protection. Scarcity of tradable non-timber forest produce like green Sal leaves and bamboo was also one of the reasons why protection efforts were initiated in some villages of Sundergarh.

Protection by community was initiated after neighbouring forest was degraded, and villagers started feeling scarcity of certain forest products, which earlier they had taken for granted. Degradation and scarcity are both perceived differently at different places. The perception is influenced by, among other things, the rate of degradation, nature of degradation, availability of substitutes & alternatives of forest products, etc.. In a scarcity situation, the sub-group wise differences tend to get minimised, and it was easier to develop a consensus for initiating forest protection. However, scarcity was not always sufficient to mobilise the villagers, and many a times some 'trigger' was needed to initiate protection. Commonly found triggers are 'digging out of roots from the forest', 'sudden increase in pressure', restrictions placed by neighbouring village on access, etc.

The concept of scarcity is a relative one, and different communities have different ideas about what constitutes a serious degree of scarcity. Communities in an area where the forest is still in relatively good condition, have different views from those in areas where the forest is generally degraded.

3.1.2 Leadership

In most protection cases' individuals have played an important role in its initiation. There are different aspects of types of leadership. One element of leadership is the setting of an example to other villagers by the leader actually initiating patrolling himself. Another element is the ability to convince others of the merits of protection.

Individuals who have played a leadership role have tended to be better off, and well educated, although this is not always the case. Gauntias have often played a leadership role in the past. With the gradual weakening of Gauntias power, other villagers are starting to be leaders, such as teachers, political leaders and contractors.

There are still some villages where the villagers look upon the headman or Gauntia to take a decision on their behalf and without his agreement the village is unable to proceed. Here even though a substantial proportion of the community is in favour of protection, but they are unable to proceed without the approval of the Gauntia. We found this happening in parts of Rairakhol Division, where scarcity is affecting poor people more than the better off. Some Gauntias here are said to be involved in smuggling, and hence regard protection as a threat.

3.1.3 Religious significance

For certain tribal villages scarcity of the forest product of religious significance is an important motivating factor because certain types of forest products are used during rituals. In tribal villages of Mayurbhanj scarcity of Sal poles for their annual ritual was a motivating factor to start forest protection.

3.1.4 Characteristics of land

The community protection of forest, within the revenue boundary, tends to be limited to patches which are not very suitable for agriculture and where all of the land is suitable for agriculture there may not be any forest remaining. Small stony hillocks protection has been often observed in the case studies. For example in Mayurbhanj, the protected patches of the case studies are either on hillocks or on land which is full of laterite soil. The laterite soil is of two types Laterite morum and laterite rock and both of them have no productive value for agriculture purpose.

Sometimes the type of vegetation the land is supporting and how useful the vegetation is for different types of wood requirement of the villagers plays an important role in selection of the patch.

3.1.5 External pressure

Occasionally, the initiation of protection by a community is triggered by a specific pressure or threat to forest nearby, on which the community is heavily dependent, or which it perceives as its own. Examples include:

* people from one community suddenly starting to cut trees on a patch of village forest that “belong”(is within its revenue boundary, or they customary use) to another community;

* encroachment (i.e. settlement) on nearby forest by outsiders, which has sometimes occurred under the auspices of a government resettlement or land redistribution scheme;
* initiation of quarrying or mining by a company or entrepreneur in or near forest close to the community.
* Sometimes protection is also initiated when a neighbouring community starts protecting a patch and they are debarred from entering it.

3.1.5 Community's perceptions of security of rights to forest products, and ability to enforce forest protection

Village Forest is seen as more secure than Reserved forest. Therefore, where communities have a Village forest patch they tend to protect that first. This is because the villagers believe that they have a stronger claim over their village forest as it is within the village revenue boundary area, while the reserve forest is in the control of the Forest Department. They also know that other communities are less likely to challenge their rights to their village forest than to the reserve forest. Therefore whether Reserved Forest area is seen as secure or not depends partly on attitude and behaviour of local FD staff. Where the FD fines communities for removal of products from Reserve forest even though they are protecting the forest, others are not likely to initiate protection. There is widespread protection of RF in some areas and very little in others (e.g., Rengali block, Sambalpur), which is partly a reflection of differences in the attitude of the FD. In addition, if the villagers think the FD will not uphold their exclusive rights to products from the patch, they know that there is a greater risk that other neighbouring communities will challenge those rights.

3.1.6 Collective approval/decision generally needed - attitude of different sub-groups towards protection

Different groups rely on forests in different ways, and the relative importance of some forest products vary by sub-group. In addition, different groups within a community are affected in different ways by forest protection. Nevertheless, where protection has been initiated most groups in the protection community, including women, are in favour of it. There are exceptions, however, and these generally arise where the sub-group that is not in favour of protection is heavily dependent on sale of a particular product for income - for example, fuelwood headloading or making of bamboo products.

3.2 Inhibiting factors

Factors which inhibit initiation of forest protection are related to the condition of the resource, characteristics of the community & its leadership, Location & size of the village in relation to the size of the neighbouring villages, and nature of dependence on forest. Specific reasons cited by non-protecting villages include – 'most of the products easily available', 'a large number of persons would lose their livelihood if protection is initiated', 'village is too small to prevent others from coming to forest', etc.

3.2.1 Strength of protection village relative to likely challengers

Small villages are sometimes unable to sustain protection, or choose not to initiate it, because other stronger villages in the area are unwilling to accept them protecting a patch. This situation is liable to occur in places where human pressure on the forest is high, and where most of the forest is already being protected by other villages, and only a relatively small amount of forest is unprotected. The protection villages are still dependent on the unprotected forest to some extent, so they do not want the small village to start protecting it.
The stronger villages may threaten to destroy the protection initiative beforehand. When a small village proceeds with protection, there are cases where people from the stronger

villages have come and removed trees, etc., and protection has broken down. Some communities that have not initiated protection have said that they were afraid of being attacked by people from the other village(s) if they tried to do so.

Strength of other villages is obviously a function of their size relative to the small village, but that is not the only factor. Their location relative to the small village can be important, or their importance to the small village (e.g., if there is an important market there, school or other facility). Where the other village has a valuable facility that is used by the small village, people from the small village are afraid of being denied access to it. If the strong village's location is such that people from the small village cannot avoid passing through it they may be afraid of getting beaten, or not being allowed through.

3.2.2 Heterogeneous versus homogenous communities

It is sometimes said that the more homogenous the community, the greater the likelihood of protection being initiated and sustained. However, in the protection and non-protection cases we have studied this has not generally been a major factor.?? Heterogeneity is not usually a reason for non-protection, but was important in one case in Balangir.

From the case studies it is evident that heterogeneity of the forest protection group may not inhibit the villagers from initiating protection if the dependence on forest products is similar for all the villagers. Sustainability of the forest protection group at times is threatened when the group is too large and the dependence of the different groups is too different.

In some case studies we have seen that the protection unit is not the whole of the village, but some hamlets while in other cases few hamlets of different villages come together or two villages come together to protect a forest patch.

3.2.3 Proximity to smuggling routes

Proximity to smuggling routes inhibits the villagers from protecting the forest as they feel that they will have to live in constant fear of their protected patch being destroyed by smugglers. This was clearly stated by the villagers of non-protection case in Mayurbhanj, Sundergarh and Bolangir.

3.2.4 Proximity to main roads

If the patch is adjacent to a main road it is likely to be more vulnerable to theft on that side. So the villagers may not take interest to protect the forest patch. However, a strong protection system can counteract this threat to a large extent.

3.2.5 Proximity to the village

If the forest area is far away from the village it is less likely to be protected as there is danger of theft and more regularised and intensive patrolling may be needed to check it. All the villages studied have selected forest patches which are near to their village habitation. They claim, that as the forest regenerates and develops into a well established forest it is easy to detect the entry of an outsider and hear cutting of trees even during the nights. This was not found to be true in all cases as some trees have been removed by outsiders and the villagers have been unaware as to who have removed it. Also, ease of hearing of cutting and felling of the trees depends on the size of the tree and how vigilant is the forest protection group.

4. INSTITUTIONAL ARRANGEMENTS

4.1 Protection unit

The protection unit comprises of a hamlet, a village or a group of villages and hamlets. A group of villages or hamlets come together to protect a patch of forest when the patch of forest is too big to be protected effectively by any single village or when more than one village have well established traditional rights over that patch which can not be ignored. On the other hand, multi-hamlet villages are found to organise their protection hamletwise either for better management of protection or because they do not relate to each other as a community. Sometimes, in a multi-hamlet village, differences arise over matters of how protection and forest is being managed leading to either breakdown of protection or division of forest between hamlets.

4.2 Membership

Membership places obligations in terms of contribution for protection and determines the eligibility to access the benefits. Membership also means greater responsibility to follow the rules & regulations. Thus, at some places if a members breaks the rule (steals from forest), he is charged more than an offender from other villages.

Communities use various criteria for membership like, place of residence; duration of residence; willing to contribute to protection; whether accepted as member of the 'community' & contributing to other community level work or not etc. Sometimes non-resident landholders are accepted as members, if they contribute in cash or kind or labour to the community level work, including protection. 'Kitchen' is generally the unit for membership. In case of poor, two to three 'kitchen' sometimes jointly contribute to protection and jointly take share in benefits. Membership is always in the name of the male head of the family. At places new members from within the existing member households are easily accepted. New membership is difficult old protection cases, where the benefits of protection are being derived. The option for new members is not closed, particularly if one is a resident of the village and /or member of the 'community'. Mostly, the new member has to pay 'membership' fees, as decided by the members, in cash or kind. Mostly, the involvement of a new member is for all the community matters and not only for forest.

4.3 Decision-making process

The decision making processes vary in nature and depend on the organisation pattern of the village. The decision may be collective in nature where all the members sit together and decide the *modus operandi* or the executive committee may have been given the right to decide, like in case of timber allotment to a household.

In most of the case studies the decision making system is two-tier structure, constituting of general body and executive body. The executive committee members were elected or selected on the basis on their position in the village. The executive body has five to fifteen members depending on the village concerned while the general body has male members from all the member households. In some cases now women members have also been represented on the committee. The period of tenure of the working committee depends on the village. In some cases the same members have been continuing till now since the start of protection but in other cases they have been changed over the years.

In the initial stage of protection efforts nearly all the villages hold regular monthly meetings.

In addition emergency meetings were held whenever an issue arose where all members' views were needed. Subsequently the meeting was conducted only if there was a particular reason for having one.

4.4 Watch & Ward system

This varies from place to place, from year to year, and from season to season. The three basic systems are rotational patrolling (Thengapali), employment of a watchman(s) and general vigilance. The degree of protection varies according to the perceived size of the threat. The threat may be greater at certain times of the year, which means that FPCs only organise patrols or employ a watchman at those times, or that they increase the number of people on patrol at that time. Active protection makes significant demands on people's time or money, so they seek to keep down the costs of protection to the minimum required.

In some case 'Thengapali' was preferred as the villagers were not economically sound to pay for a watchman but in other places it was also seen that for the petty sum offered to a watchman, no volunteers were available. The case studies indicate that the villagers had adopted different patrolling systems which suits them the most at a particular given time.

In some cases it was found that with the increase in age of forest the protection intensity decreased as the villagers were confident that no one can cut a tree without their knowledge. A large tree is difficult to cut, process is time consuming, when it falls down more noise is created and not easy to transport. Thus informing the villagers that offenders are at work.

In areas where most of the forest area is being protected by the communities an offender may find it difficult to remove a tree from the patch, particularly during the day time, as anyone from these communities who sees it being transported is likely to challenge the offender.

Whichever system is adopted, the effectiveness is apparent by the condition of the forest. It is difficult to suggest that one system is more effective than the other, all can be equally effective, or conversely all may at different points in time, fail to protect a patch of forest.

4.5 Penalty system

Apart from patrolling, penalties like social pressure, beating, apology and fines are employed to deter offenders. In some cases monetary fines are imposed immediately while in others only warning is issued first and on second offence they are penalised with monetary fine. Subsequently they may be handed over to the forest department. Sometimes social sanctions are also applied or beating is given to the offender. In most cases the cutting instruments are seized and returned only when the offender promises not to commit the crime again and pays the penalty.

Some committees have fixed monetary fines for different types of offences keeping in mind the size of the tree cut and the type of tree; while some committees decided the monetary fine on per case basis. Penalty system varies from protection committee to protection committee.

4.6 Access regime

The CFM groups exercise graduated access regime with respect to membership and residence. Different type of access control is exercised for members, resident non-members and outsiders. Members get products free or at very low price and easily while outsiders are charged twice or thrice the price charged to members and permission depends on various other things including purpose, availability (surplus); need for money by community etc.

Access of members as well as outsiders is controlled in terms of species, type of product (wood or non-wood), size of tree, quantity, nature of need (bona fide consumption or sale), method of extraction (by hand or cutting tool) etc.

Access control is also related to 'value' attached to the product by villagers, condition of forest, availability of alternative sources, abundance (area) of resource, need for money (objective of management & protection system). Products which are critical for subsistence, or sold regularly in local market for cash income are valued more. Access of members & non-members is controlled more strictly for such products.

Application for forest products is assessed for purpose, urgency of need, and economic condition of applicant. The criterion for outsiders is more strict. The applications are generally taken up in common (general body) meetings, as the chances of difference in opinion are quite high & the possibility of favouritism are difficult to avoid. Community work, death ceremony, marriage ceremony, religious ceremony are some occasions when outside access is generally allowed.

Typical usufructary rights exercies by CFM groups
Four main types of rights are usually found. They are not mutually exclusive and co-exist in most of the places.

1. For collection of NWFPs members of the CFM group are given unrestricted access, i.e. they are allowed to collect as much as they want whenever they want, for products which are required for subsistence or for which there is not much competition for collection (Production is much more than demand). Sal & Siali Leaves, Edible fruits, mushrooms, grass etc. are examples of such NTFPs. However, it is ensured that the harvesting should not be done in a way which harms the growth of the tree. At places if it is found that the collection is negatively impacting the growth of the trees, the general reaction is to ban it completely (e.g. Breaking of sal sapling for harvesting its leaves). Generally the outsiders are also allowed access for such products.

2. A need based approach is taken for scarcer products which are required in different quantity by different families for consumption - e.g.. products like Sal, Bamboo, etc. for house repair, agricultural equipment etc. Here the committee allows access based on application by the individual. It may decide to allow access for meeting only a part of his needs. Whether the committee would charge payment and how much of his needs would be provided for depends on local situation like economic condition of the applicant, abundance or scarcity of the product applied for in the protected patch, etc. Special occasions need like death (firewood for burning & cooking); marriage (sal pole for *bed*, cooking); house damage (due to fire, heavy rain or elephant attack) of individuals are normally met by the committee subject to availability. Restrictions on sale by individuals of the products obtained thus, are strictly enforced.

3. 'Equal' share mechanism is generally applied when the committee organises harvesting in the forest (cleaning & thinning). Products like twigs, branches & poles are obtained, which are divided equally between members. At some places, after specifying the species and the quantity, the committee may allow members to harvest them over some specified number of days. The products might be priced or free depending upon the who is harvesting (paid labour or villagers); committee's need for money; type of product (firewood, poles, bamboo) based on decision taken in common meeting. Generally 'equal share' is provided only to members

in lieu of their contribution and outsiders are not allowed. At some places, the surplus is sold to outsiders (Gadiajore). This is common when cleaning & thinning operations are based on the need of forest rather than need of members. In this case, sale or barter, by individuals with surplus may or may not be allowed by the committee.

While need based share is specific to individual needs, 'equal' share access is for products which are needed by every member (fire wood. pole for house repair). The price fixed under 'need' bases system is generally higher than those fixed for 'equal' share.

4. Generally free access to outsiders is allowed for NTFP collection, but no (or highly restricted) rights to scarce products, such as small timber or even NTFPs which are commercially attractive in the area, like dry sal leaves (Keonjhar & Mayurbhanj), Char seed (Adendungri in Balangir). At times, for highly valued NTFPs outsiders are allowed free access when the peak collection period is over.

More complicated arrangements
Sometimes rights are more complicated than this, with different groups having different tenure niches. (A tenure niche is defined in terms of who will use the resource and on what terms: different community members may have different rights within different niches.) Some examples of more complicated arrangements are given below.

1. Sometimes, people who live in the village that has initiated CFM are not members of the user/management group. This is either because the people who initiated CFM chose to leave them out; or because they chose to opt out; or because they failed to comply with certain conditions of membership (such as payment of fees, participation in Thengapali). 2. In Keonjhar, people who live outside the village where the management group is based are sometimes members of the group, having paid a certain fee and/or having accepted certain conditions of membership. 3. In a minority of CFM cases special rights are given to members of a particular ethnic group whose livelihoods are dependent on the harvesting and use of a particular forest product (e.g. bamboo weavers). 4. Restrictions are sometimes place on the collection of NTFPs by outsiders. These restrictions may take various forms - they may be based on quantity, species or time (time of year, or number of days); and sometimes outsiders are required to pay for the product collected.

Interactions between CFM groups and the state over forest-related rights
Where CFM is practised on Orissa, customary and legal tenure systems may interact, and may mutually acknowledge aspects of each other. Thus, communities that are managing areas of RF are operating a customary system that has no legal status; but they liaise with the FD, and seek its permission before undertaking cleaning and thinning operations. If that permission is not given they may accept the FD's decision, even if they do not like it, recognising the legal right of the FD to make such decisions. They generally resort to 'over-harvesting' when the next permission comes or start harvesting on 'as and when needed' basis (Patala in Keonjhar).

CFM groups generally practice selective needs-based felling of trees to supply small timber. This practice is illegal, but FD staff generally accept it. The customary right is given precedence over the law, and as some observers have put it, the two parties are "conniving in illegality".

5. EQUITY

Equity in community institutions is a major apprehension, due to disparities inherent in the social & economic structure. Certain mechanisms & approach followed by the community for the management of forest tend to increase these apprehensions. They are:

Restriction on sale by individual members of their share of wood.
Use of common fund for purpose which benefit some people more than others
Complete closure of forest.
'Equal' cost sharing & 'need' based benefit sharing.
Disposal of produce through auction
Absence of women from decision making body
Focus on timber species

In discussions with various sub-groups in the villages, differences in priorities with respect to use of forest and participation in decision making of different sub-groups are brought out.

With respect to participation, the problem is more of exclusion from protection. Certain sub-groups are excluded or are forced to stay out of protection (as they can not meet the 'costs' involved). Groups that depend on daily wage labour or seasonal migration for survival & livelihood sometimes find it difficult to contribute either in cash or labour for protection, particularly in initial period. At places, two or three families combine and get 'registered' as one share/member.

Community leaders agree that the impact of closing the forest on poor is greater, but point out that the 'payoff' is also more for them, as they take out more (in number) and products and require them more than others. They argue that it is not possible to antagonise a 'group' & also continue with effective protection. Sometimes the community innovates to reduce the hardships on poor – shifting pressure; leaving a patch open for village residents, permitting harvesting of certain species either free of cost or on payment of nominal sum.

Equity in relation benefit sharing, in the context of CFM is a function of the management system. In most of the cases the community considered 'equality' of contribution and share (in benefits) in direct physical terms as being fair. Indirect costs are not taken into consideration for determining a share in benefits for a member. In general mixed forests which provide multiple products at a particular age help to maintain greater equity than Sal forests.

At the beginning of protection, the difficulties faced by different groups is of different nature. In some areas the poor may loses out most in the initial years when total ban to entry in forest is in force, for e.g. the poor has to walk further away to collect fuel while the rich can buy from the market. The extent of cost borne by different sub groups is not given importance while deciding the share in benefits. However, in long term the relative gain also seems more for the poor section of the community, due to nature & extent of their dependence non-timber forest produce collection. Non-timber forest produces collection in most cases is not stopped by the committee and the regenerating forest provides forest products for sustenance and for sale also to poor members of the committee.

In most of the cases, free collection of NTFPs is allowed, in a manner which does not harm the growth of the tree. Growth of tree is given paramount importance, and needs which come in conflict with it, are not allowed to be met. The groups which get adversely affected

because of this (like in some cases, collectors of green Sal leaf) are generally unwilling to get identified for the fear of loosing out in long run.

Equity in relation to participation in protection and decision making
In many cases, a group could be identified who were not included as members. The reasons for their being excluded from the protection effort was given in terms of they (the excluded group) being not interested or capable of contributing. In some cases, the households happened to be of 'low' caste, living at the fringe of the village, some times dependent on income from sale of fire wood for day to day survival; some times being physically or financially unable to contribute to protection; and some times as a result of the penalty imposed on them for not conforming to the rule laid down by the community for forest protection.

In most of the cases where more than one hamlet or caste group (with relatively larger number of families) or groups whose social or political identity is recognised by the community, representation is given in the decision making body, proportionate to their number.

5.1 Gender
Women, utmost, are considered to be a member of the family or women aren't considered important or relevant i.e. they are invisible and the male head of the family is assumed to be responsible for the interest of the family. The independent status of a family is recognised only if it has a separate kitchen and contributes independently for community work, in cash, kind or labour.

Women & girls, particularly from poor or low caste or tribal families, generally collect firewood and various NWFPs from forest. In certain areas, women also engage in fire wood headloading. Protection could leads to more time for collection and use of inferior quality of fire wood. Sometimes they have to travel a larger distance, and go in groups. Use of leaves for cooking means that they have to be constantly present near the stove & feed the hearth with leaves. Also cooking has to be done outside, as it causes a lot of smoke (Keonjhar & Mayurbhanj). With stoppage of headloading, women lose a source of livelihood. While men start going to / migrate for labour work to other areas, women have to look after the household alone.

Women benefit from protection in terms of easy availability of firewood, increased supply of NWFPs, including edible leaves, tubers, mushrooms, sal leaves which they use for plate & cup making, char, medicinal plants etc. In general, the women appreciate the efforts made by their village, even though at times it was felt that protection has made their life more difficult, at least in short term.

The share (in income or product) is in the name of the family & not of the individual. At many places, the committee restricts sale of individuals share outside the village. This goes in the favour of women, as they are not deprived of wood.

Impact on women from excluded group (within the village) is more severe. They do not get the benefit of the produce obtained through cleaning operations, can access protected patches for collection of dried twigs & leaves only at the pleasure of the committee, and can collect only the leftover NWFPs.

Women's participation in decision making
Women, at least from the members group, support forest protection by the village. Every day someone (in group) goes to forest for firewood or other NWFP collection. They report on offenders. They know most of the rules and regulations formulated by the committee for use & protection of forest. In certain areas, where the committee find it difficult to deal with women offenders, village women are asked to apprehend them. In a few cases they have undertaken the responsibility for protecting & managing the forest.

However, women, at best, exercise only indirect influence on the decisions made by the committee, unless the management responsibility is with them. They are generally not included in the committee. They have no formal platform through which they can communicate their concerns, problems & priorities to the committee.

6. MANAGEMENT SYSTEM

Some general characteristics can be identified of the forest management system followed by the community. These are:

- Dual objective: development of community fund and easy availability of forest products required for subsistence, particularly wood.
- Focus of management: is mainly growth of trees which provide good timber for house construction, agricultural equipment etc. and trees which provide products which are commercially important.
- Species wise management: Species are categorised as useful & useless, depending upon the produce which they provide for the villagers. Species like Sal, Bamboo, Mahua, etc. are highly valued by villages, and are strictly restricted. Species which they do not use for anything other than fire wood or fence material (*Bajey Gacha* or inferior species) are subjected to relatively liberal harvesting.
- Concept of Economic rotation: The suitability of the species for some use is dependent on the species attaining a particular size. Some species are managed on very short rotation (one to two years), some are managed on little longer rotation (five to six years) and some for medium rotation (10 to 15 years) and some on very long rotation.
- Need based harvesting: The silvicultural requirements like thinning are partly taken care of through need based harvesting & not vice-versa. Need-independent harvesting in the form of cleaning & thinning operations is sometimes taken up for generating income or when money is provided by FD for the purpose.

6.1 Grazing

During the first 2-4 years of protection few communities facilitate regeneration by banning grazing. Once stems have reached a height at which their tips cannot be reached and damaged by cattle grazing is allowed. In large number of cases grazing has been allowed. Cowmen may, however, still control the movements of cattle within the patch, steering them away from vulnerable areas or species, such as bamboo.

6.2 Extraction Rates/Levels

The villagers in some cases monitor the composition and condition of the vegetation, and this influences whether they allow harvesting of various products, such as fuelwood. In managing the forest they give preference to those species that they consider most useful, at the expense of species that have little value to them.

Harvesting is *generally* conservative and needs-based. This can be seen when we look at the

rules that a committee formulates with respect to the timber it has to extract from the protected patches. In most cases the committees do not allow small timber to be sold or given out of the village unless and until it is specially decided by the committee, may be for a religious function.

6.2.1 Timber

The supply of small timber from a protected patch is limited, so the felling of trees to provide it is usually closely regulated by the FPC and decisions about the allocation of it are based on an assessment of whose need is greatest. For example, a family whose house has been damaged by floods or fire is likely to be given priority.

6.2.2 NTFPs

Since the markets for most NTFPs are not particularly attractive, extraction is not undertaken very intensively. Consequently, some of the products are not removed from the forest floor, and some regeneration takes place. Non-timber forest produces trade also depends on the traders who collect it.

6.3 Cleaning and thinning

Where communities undertake cleaning and thinning operations they follow similar norms to the FD regarding the removal and retention of various species - with a few exceptions. Where thinning is done a multi-age crop develops. Where they feel obliged to obtain permission from the forest department before conducting these operations, the amount they extract tends to be substantially greater (perhaps 3-4 times greater) than that for which the FD gives permission. This is partly because they are unsure when they will next be able to get the FD's permission; and partly because of differences in their views about the amount that can be extracted.

7. ECOLOGICAL SUSTAINABILITY OF CFM MANAGEMENT PRACTICES

Protection leads to substantial and rapid regeneration of the protected patch. This can be seen very crudely by observing the condition of the patch as compared with other forest areas nearby, and by asking communities to describe the condition of the patch before protection. The latter can sometimes be cross-checked with FD records or with the recollections of FD staff. Where protection has been undertaken for 30 or 40 years some trees have grown very large. The management of many patches is likely to prove sustainable in the long-term - they appear to be in a very healthy condition after many years of protection. Even cases where per capita forest is low or where the community allows regular harvesting of trees not only for consumption but also for sale, the forest is in good shape.

Concerns

Leaf-sweeping There are many other patches, however, whose Sustainability is unclear. In some Sal forests, for example, leaf sweeping is very intensive. In some of these forest patches, there is some evidence that soil fertility has been declining, and/or that soil erosion is occurring, and that this is already slowing down the growth rate of the trees.

Plucking of green Sal leaves In some forests this is very intensive. Where the Sal trees have grown high, leaves can only be plucked with the help of a long stick that has a hook/scythe on the end of it. This instrument is used to cut the branch, so that it falls to the ground and the leaves can then be plucked. Sometimes this instrument is not used carefully

and damages the tree. One of the communities passed a resolution to ban the use of this instrument, although we were told that it was not enforced.

Fuelwood pressure shift When protection is initiated the obtaining of fuelwood from the patch, through cutting or breaking of branches, is generally banned for at least 4-5 years. Thus, during this time a large proportion of the community's fuel has to be obtained from other sources, which may mean that other forest patches are placed under additional pressure. Some people are concerned that where several communities initiate protection around the same time, they might all shift some of their fuel collection to the unprotected forest, leading to its over-exploitation and degradation. The forest department has always stated that the villagers are protecting their own forest patch but destroying the unprotected reserve forest patch which is under the control of the forest department.

The impact of fuelwood pressure shift outside the protected patch may not be so serious, however, for the following reasons. Community representatives suggested that: (a) some fuel (perhaps 25%) will continue to be obtained from the pp; and (b) that the area to which the pressure shifts will be further away, and so the extra inconvenience of going there encourages people to reduce consumption. A final consideration is that, after many years of protection, the patch may eventually be able to meet all of the communities' fuel needs.

Lack of seed regeneration: Regeneration is primarily through coppicing rather than seeds. Most protected forests are too young for seed regeneration. However, there is a less of seed regeneration in many mature patches, which suggests that other factors are also involved. This is a matter of concern, since regeneration through coppicing alone will eventually lead to a decline in the quality of the heartwood.

Grazing: Many FD staff have expressed concern about the impact of grazing upon the condition of the forest. Communities, on the other hand, are generally of the opinion that grazing does not have a seriously detrimental impact. As noted earlier, in some cases they ban grazing during the first few years of protection. They say that, after the ban has been lifted, there is no problem, because: (a) the cattle prefer certain species, not all of which are useful to the community; and (b) the cowherd makes sure that they do not eat useful species. In special situations, where the cattle could damage part of the forest (e.g., where there is a patch of bamboo), the cowherd keeps them out. The fact that forests have regenerated effectively despite grazing being practised suggests that grazing is not a serious problem. However, more research may be needed into the question of whether grazing contributes to the general lack of seed regeneration.

Final comment It is likely that an important influence on the Sustainability of CFM is the ratio of forest land to people. Where the ratio is unfavourable communities may be aware that they are over-exploiting the forest, but may feel that they have no choice but to do so. They may not be able to afford to buy fuel instead of sweeping leaves; or they may pluck green Sal leaves very intensively because they need to generate as much income as they can from this activity.

8. SOCIO-POLITICAL SUSTAINABILITY OF CFM

When protection breaks down or stops it is usually because of conflict. Another, less obvious factor impacting on institutional Sustainability is the absence of second generation leadership. For example, in older protection cases in Balangir, where protection was for generating

income for Jatra party, the protection was abandoned as the Jatra party became defunct (Baghdungri).

There are many different stakeholders involved with, or interested in, forest management; and conflicts may arise between two or more of them. Table 8.1 lists some of the main stakeholders in Orissa who have an interest (actual or potential) in CFM. Different stakeholders are found at different levels, and three levels are shown in the table.

The most local is the *micro* level, which is defined (arbitrarily) as up to and including the Panchayat; then there is the *meso* (or middle) level, which is in between the Panchayat and the whole state; and finally there is the *macro*-level, which includes stakeholders with mandates that cover at least the whole state of Orissa. At the micro-level a distinction is made between primary and secondary stakeholders. The former are those, such as a protection community, who depend significantly on a particular area of forest for their livelihoods.

Table 8.1 Some Key Stakeholders in Community Forest Management in Orissa

Level	Type	Stakeholders
Micro	Local on-site - primary	* Protecting community * Different sub-groups of protecting community (distinguished by class, caste, gender etc.) * Village leader(s) - e.g. Gauntia, Sarpanch * Other communities nearby who previously used the protected forest, or who are still allowed limited access to the forest and/or selected products.
Micro	Local off-site - secondary	* Traditional multi-village body * Apex body of local protecting communities * *Panchayat*
Meso	District/forest range	* Divisional Forest Office * District-level federation of protecting communities * NTFP traders, logging companies, organised timber smugglers etc. * NGOs (forest-support, environment etc) * Urban consumers of forest products (esp.fuelwood)
Macro	State	* Forest Department * Revenue Department * Ministry of Forests and Environment * Orissa Forest Development Corporation * Tribal Development Cooperative
Macro	National government	* Ministry of Environment and Forests

Conflicts may occur between stakeholder *within* a particular level (e.g. micro-micro), or between two different levels (e.g. micro-macro). Micro-micro type conflicts can be classified further into four categories (see Table 8.2), in terms of:

* whether they are within the community protecting the forest, or between that community and other stakeholders; and

* whether the conflict is directly or indirectly related to forest management.

The latter may not always be a clear-cut distinction: where there is a history of conflict or mistrust between different stakeholders regarding non-forest matters, there is more likely to be conflict between them in relation to forest management.

Table 8.2 Types of Micro-Micro Conflicts, with Examples

	Directly related to Protection	**Indirect effect on Protection**
Within protection communities[a]	**A** One sub-group refuses to abide by protection or harvesting rules	**B** Conflict breaks out between 2 sub-groups, who refuse to cooperate any longer in various matters. Forest protection is affected, sometimes leading to a tree-felling free-for-all.
Between protection community and other local stakeholder	**C** 1+ local stakeholders (e.g. communities, local FD staff, loggers) challenge or do not accept a protection initiative (and may cut down trees in the protected patch).	**D** Conflict breaks out between 2 communities, related to non-protection issues (such as party politics or personal disputes), leading non-protecting community to 'loot' the protected patch.

[a] In joint community protection (i.e. involving more than one village or hamlet) each community is classified as a sub-group.

The potential for conflicts is high in CFM and JFM, and many conflicts do occur. The survey of protection cases found that the majority had experienced conflicts that led to a breakdown (temporary or permanent) of CFM, and/or changes in the protection arrangements. In some cases this has been associated with substantial degradation of the protected forest, but a large number of conflicts are effectively resolved by communities sooner or later.

Micro-micro conflicts There were roughly equal numbers of type A and C conflicts, slightly less of Type B and none of type D.

Micro-macro conflicts Two of the special cases studied involved communities that had become VSSs and had been incorporated into the JFM programme. Both of them had experienced conflict with the FD over the harvesting of bamboo and/or the distribution of the revenue from its sale.

8.1 Factors giving rise to micro-micro conflicts

Conflicts over control of the management committee, utilisation of community fund, access, boundary etc. are quite common. The forest is linked closely to community fund and is viewed as a community resource. Therefore it is also targeted in conflicts which are not linked to forest management at all. During Panchayat elections, when attempts are made to divide the village by outsiders for political gain, the community fund is an easy target.

In the case of protection of forest on revenue land, the major conflicts are usually internal (type A or B); whereas in cases where Reserved Forest is being protected, most conflicts are with outsiders - over access, boundary etc. (type C). This is because more or less everyone formally or informally recognises the primary right of the village which is imposing restriction for UDPF. In case of RF, on the other hand, the restrictions might not be readily accepted by others. Another factor is that, since RF patches are bigger and villages may be protecting only a part of the RF, the likelihood of boundary disputes is higher.

The internal type A conflicts are more a reflection of the institutional weaknesses than anything else. Factors that commonly result in conflict within the village include:
(a) failure to recognise the varying concerns, needs, wants of various sub-groups;
(b) lack of transparency in maintenance of accounts of community fund;
(c) discrimination in access to benefits & penalty.

8.2 Conflict management

Many conflicts are minor and easily resolved. Others may be more serious, but are still effectively managed by the protection community or that community and the one(s) with which it is in conflict. Occasionally, a third party - usually an inter-village institution, an NGO or the FD - is called in to assist in managing the conflict.
This is necessitated when the offender proves to be difficult, and doesn't agree to abide by the decision of the committee or when two major sub-groups are in disagreement.

Informal arrangements are more effective than formal ones. In cases of major conflict, local leaders (including Panchayat members, legislative assembly members from the locality, or other respected persons from the area) are invited to resolve the dispute. In a few situations cases were filed in the court of law, either as a forest case (through FD) or as a criminal case (of assault). In forest cases, the offenders rarely get punished, whereas the criminal case can take a lot of time. Approaches like compromise (by agreeing to the demand of the affected party) are common. Conflict resolution is difficult when the stronger party is in the wrong or unreasonable.

9. RELATIONS BETWEEN PROTECTION COMMUNITIES AND THE FOREST DEPARTMENT

9.1 Current relationship

Relationship of the community and the forest department is varies from place to place. The relationship is both a perception of their past experience, existing perception as well as expectations for support.

9.1.1 Positive factors

Role of FD in community protection & management of forests varies from place to place. The FD staff have formally or informally supported a number of these initiatives at one point of time or the other, particularly those related to RF. They have been, at best, indifferent with respect to efforts for non-RF protection by community in most of the places. It is important to note that support in some cases required the FD staff to work against the prevailing rules and regulations, required them to go beyond their existing duties and often preceded the 1988 resolution on JFM. In cases of self-initiated forest protection, support by FD staff has been in the following forms:

- recognising the primacy of right and authority of the village involved in protection over

the rights of other villages with traditional rights; and protecting villages right to take up harvesting to meet their urgent & important needs which required small harvesting.

- motivating villages to take up protection of forest against smugglers; allocation & demarcation of RF area village wise; taking penal action on cases brought to them by villagers; resolving boundary & other forest related conflicts; financial support for protection (OSFP) and for cleaning operations; permission for cleaning & thinning; permitting (overlooking) sale of 'surplus' to outsiders by villages committees.
- helping villages to organise themselves in clusters & facilitating formation of apex bodies / confederations of protecting villages.

9.1.2 Negative Factors

The negative reaction of the community to FD is due to following reasons :

- The community feels that the forest department is primarily responsible for the degradation of the forest and not the community.
- The corruption amongst the forest department staff (and their relationship with existing & potential offenders) makes the villagers suspicious of their actions.
- They were not satisfied with the forest department as they did not support the community at the time of need specially dealing with the offenders.
- They also feel that the funds meant for their development activities under the forest department are not reaching the villagers.
- The forest department does not recognise their forest protection efforts in their present form. The community is apprehensive that the FD is devising ways to take control of their forest.

The FD staff on their part find themselves poorly equipped with resources, time & power to respond to the problems brought to them by villagers. The problem of the villagers may seem small & unimportant to the forest department who have to look after large areas of forest and may have to deal with larger group of offenders as timber Mafia.

9.2 Attitude of the community towards JFM:

The attitude of the communities towards JFM varies from village to village. It is both positive and negative depending on the situation with respect to protection in the village (extent & nature of external pressure and community's ability to handle that effectively on their own), degree of trust in the intentions of FD (history of past association), and their perception of the costs & benefits involved in formally associating with FD etc..

Positive attitude towards JFM is found where the community feels that by associating with FD, they would be able to deal with protection and management related issues more effectively. Issues which worry villagers are uncertainty over rights to forest (more if it is an RF), external pressures by organised gangs & bigger neighbouring villages, harvesting & sale of poles/firewood without legal complications, conflicts etc. At one level the community directly or indirectly articulates the need for support from FD in areas where they feel somewhat constrained. In the absence that coming up to the desired level, the communities think that probably JFM would impose an obligation FD to provide that support to the desired level. Some of the advantages perceived by the community of the existing JFM framework are better chances of FD taking action to meet their concerns, legal recognition of village level efforts for forest management etc.

The negative attitude towards JFM is partially influenced by cynicism associated with government departments regarding their commitment to do anything good. Villagers also cite

instances of local FD staff undermining community management, examples of villages where association with FD did not turn out to be a very good experience, indifference of local FD staff to villagers concerns related to protection etc.. The negative attitude is also influenced partly by the provisions contained in the state JFM resolution, like sharing of 50% of benefits and inclusion of outsiders in the committee (Naib Sarpanch, Forester etc.).

Out of 33 community forest management initiatives studied, ten converted into Van Samrakshana Samiti (VSS) under JFM, at least for some duration. The motive behind agreeing to JFM varied. In Ramkhol village, the primary motive was to get permit for harvesting & sale of bamboo which had flowered In Paiksahi village, the villagers felt that a formal structure under JFM would provide them with legal recognition and greater security against other villages in the area. Paiksahi is a small village (69 households) protecting a relatively large area (800 Ha.). In Patala village, community expected development works from FD, consequent to JFM and microplanning. Some of these villages do not feel that they have gained anything in the process. A lot of expectations were raised, but almost all of them remain unfulfilled. In a number of the villages, the VSS remains only on paper and for the benefit of the FD.

9.3 Attitude of the forest department towards JFM

Forest staff appreciates the work of the villagers in some divisions and ranges but in other places they feel that village forests are protected at the cost of the Reserved forest (e.g., Sambalpur).

Some forest department staff feel that JFM is increasing their workload rather than reducing it as they have to attend and conduct meetings every month. Secondly, conflicts are increasing for various reasons in the village or between the villages.

10. MAIN SUPPORT NEEDS OF THE VILLAGERS

Villagers feel the need of support from various departments of the state. The support needs varies from village to village and even over the geographical areas. The main support needs outlined by villagers were of livelihood (by a ‘poor’ sub-group); resolution of conflicts; legal power & authority to villagers for apprehending & penalising offenders; timely payment for kendu leaves; prompt action by FD on the problems brought to their notice by villagers; permit / authority to clean & thin the forest and sell surplus wood to outsiders; supply of seedlings for plantation by FD etc. The expectation and need for support is greater in places where the community is protecting a patch of RF, where protection is relatively recent and where it sells forest product (poles, firewood) to outsiders on a regular basis. Villagers rarely bring up the issue of NTFP prices (except for Kendu leaf in Balangir & Sambalpur) on their own. The nature of support expected from FD is very much related to their traditional role of policing & penalising offenders.

PART C PROSPECTS FOR CFM IN ORISSA

The fact that CFM is widespread in Orissa, and that, in many cases, communities have sustained these initiatives for many years, or even decades, gives some cause for optimism about the long-term prospects for CFM. However, it would be unwise to assume that the conditions that have favoured CFM until now will continue to prevail into the distant future. Furthermore, the frequency of conflicts that are not quickly and effectively managed is sufficiently high to be a cause for concern. In this section, therefore, we take a brief look at some long-term trends that might have important implications for CFM.

TRENDS IN FOREST COVER

Statistics show that the forest cover and forest area has been continuously reducing in the state, though the rate of reduction in area has somewhat slowed down after 1980, with the enactment of Forest Conservation Act.

DEMOGRAPHIC CHANGE

Population growth

The human population of Orissa has been growing quite rapidly, at an average rate of about two percent per year, to increase to 31.57 million (1991 census). An estimate made regarding demand & supply of various forest products by the year 2001 is given below (adopted from Mishra, 1993):

	Demand (2001)	Supply (1991-92)
Timber	0.56 million cu. mtr.	0.1 million cu. mtr.
Firewood	14.1 million tonne	0.1 million tonne
Fodder	34.3 million tonne	not-available
Bamboo	0.4 million tonne	0.12 million tonne

Urbanisation

The distribution of the human population is also likely to change, with a general trend towards urbanisation, i.e. a higher proportion of the population living in towns and cities. Thus, rural communities living close to urban areas (i.e. peri-urban), and nearby forests, can be expected to come under increasing pressure, in two forms. First, increasing areas of land will need to be cleared for residential development and roads and associated facilities. Second, the demand for timber and firewood will grow particularly rapidly in urban areas, and traders and fuelwood collectors will naturally look first to neighbouring areas for supplies of wood to meet this burgeoning demand. Consequently, it will be difficult for communities to start new CFM initiatives in per-urban areas, and any existing ones will come under increasing pressure.

Migration can have effects on CFM. Where the entire household migrates on a semi-permanent basis this could reduce the immediate pressure on the forests in the remoter rural areas. On the other hand, seasonal or long-term migration of able-bodied household members might make it difficult for the remaining household members to meet their obligations in contributing to rotational patrolling where a large proportion of people were

involved in migration of this kind it might also weaken the capability of the group to protect its patch.

ECONOMIC DEVELOPMENT

Industrial development

Major industrial developments have been taking place in certain parts of Orissa, and more are in the pipeline. The Box below gives some information about the situation in Sambalpur District, where there are plans for two large aluminium smelters and associated power plants, each with a capacity of about 700 MW. Two large self-standing power projects have also been proposed, one coal-fired and the other hydro-electric..

Mining and quarrying

Parts of western Orissa are rich in coal, bauxite and other minerals. The small mineral-rich Jharsuguda-Brajarajnagar-Belpahad Triangle has experienced a considerable amount of mining development since the beginning of the 1960s, including: three large open-cast coal mines, two underground mines and several small and medium-sized open-cast coal mines. Further mining developments of this kind can be expected in other mineral-rich areas (of western & southern Orissa), particularly in Sundargarh, Koraput (undivided), Sambalpur, Deogarh, Angul.

Large-scale dams and irrigation schemes

The experience with the Hirakud Reservoir provides some indication of the impact on forests that new facilities of this kind are likely to have if they are located in or near forest-rich areas of Orissa. The construction of the Reservoir itself involved the loss of 124 sq. kms. of Reserved Forests during the 1950s: in addition, a large area of Reserved Forest was lost on the periphery of the reservoirs. The Hirakud project also provided a major irrigation facility through its command area irrigation programme. Within the command area the availability of irrigation led to widespread conversion of forest lands into agricultural fields.

The impact of economic development on forests and CFM

Direct effect New industries, mines and dams and other facilities associated with them can have a devastating impact on forests. These kinds of developments destroyed a large area of forests in the Jharsuguda-Brajarajnagar-Belpahad Triangle in recent decades. Many of the planned developments in Sambalpur will take place in areas where CFM is currently concentrated, so a lot of communities that have been protecting forests for many years can be expected to lose them and may be displaced themselves.

Indirect effects Of course, economic development can bring major benefits to many people and higher standards of living. Occasionally, mining and other industrial developments may even have positive indirect effects on forests: by providing an alternative source of income for people they may relieve pressure on some of the remaining forests (Keonjhar example?), and enable them to stop removing wood from forests in the form of timber or firewood. Overall, however, even the indirect effects on CFM are likely to be negative, since by reducing the total forest cover industrial developments will place even greater pressure on the remaining community-managed forests.

Higher standards of living

In the longer term, increased incomes might lead people to switch from firewood to other sources of fuel such as gas and kerosene, thereby reducing demand for firewood and hence pressure on the forest. In the foreseeable future, however, higher incomes are likely to result in a demand for larger dwellings, and hence an increased demand for timber. Similarly, firewood use is likely to increase as people become less careful/thrifty about the way they use it.

Prospects for CFM: Case of Sambalpur District

Sambalpur district has a history of community forest management. A survey conducted in 1994 listed more than four hundred such cases, some of which are as old as 40 to 50 years.

In 1950's about 124 sq.km. of RF was lost to Hirakud Reservoir. People from the villages which came under the command area went to neighbouring blocks and cleared forest to develop agricultural land. With canal irrigation, demand for agricultural land increased, and more and more land, including forests, were brought under cultivation.

With a rich coal belt and a large water reservoir, the area had attracted a couple of big industries, besides coal mines. With a new highway connecting Sambalpur and Rourkela (a big industrial town), many new industries are in the process of coming to the area, including power plants & aluminium smelter plants. Though the information on the area and forest to be directly affected is sketchy, the available data for a few of these industries indicate that both RFs and Non-RFs would be directly affected. Indirectly, the impact is slower but sure. The forest area adjacent to coal mines remain in perpetual state of degradation, unless a nearby village has protected a small patch out of it. The population of the area has seen sudden increase in past with influx of outsiders in search of jobs & business, which puts further pressure on forests.

There is an apprehension that with the economy in not a very good shape because of sanctions in the aftermath of Nuclear testing, the Government of India might relax the terms for giving environmental clearance to the industries, particularly those with foreign collaboration.

Source: "Power, Irrigation & Mining Projects – The Greatest Threats to Forests in Sambalpur" by Ranjan Panda & Chittaranjan Hota, MASS, Sambalpur.

CONVERSION OR LOSS OF FORESTS AT THE MICRO-LEVEL

Agriculture

CFM is generally initiated in areas where forest products are already scarce. In these areas, forest lands that were suitable for agriculture may have already been cleared and converted to agricultural use. This is what seems to have happened in parts of the coastal plains, where flat relatively fertile lands are nearly all used for production of rice and other crops, and small forested areas can only be found on stony hillocks. Thus, only a limited amount of

community-managed forest is likely to be suitable for conversion to agriculture. Nevertheless, where irrigation becomes available this may make it financially worthwhile to convert some forest lands for crop production.

Even where the land is suitable, conversion would generally face institutional barriers, as the change in land use would also involve privatisation of a resource that is currently managed as a common property.

Encroachment for human settlement

In some of the cases studied there had been encroachment on nearby forests either before or after CFM was initiated. In fact, there have been cases where protection was partly triggered by the government's land distribution programme, and the arrival of new SC settlers through the programme. There has been some encroachment on patches that were already being protected, both on revenue land and Reserved Forests. CFM groups or apex bodies representing them sometimes refer encroachment cases to the FD or RD if they are not able to deal with them effectively themselves.

Is encroachment likely to be a threat in the future?? Due to displacement of communities by industrial and mining developments?

Smuggling

Timber smuggling
In parts of Sambalpur and Mayurbhanj smuggling is an important threat to community-managed forests, as well as other forest. This is because the protection community does not know the smugglers, and hence they cannot identify them if they go to the police to complain. Even if the villagers can identify the smugglers they fear to identify them as they are powerful and well-armed groups and some also have political patronage. The smugglers don't have a fixed abode; and the police can't be bothered to put much effort into controlling the smuggling as they feel it is the work of the forest department staff, so they fob off the local community if they go to complain.

Smuggling gangs have been involved in removing timber from CFM patches, as well as RF managed by the forest department. The smuggling often involves a nexus of insiders, people to remove the wood, and the forest department.

Cost/Benefit Ratio of CFM

Communities will only manage forests if they consider it to be worthwhile to do. Although forests may have a religious significance for some groups, the primary motivation is financial, and the size of the benefits derived must be large enough to justify the costs involved. The cost/benefit ratio could be affected by a number of factors, including:

(a) the amount of labour required to achieve effective protection;
(b) the opportunity cost of providing a given amount of labour for rotational patrolling, or the amount of money required to pay the watchman's wage;
(c) the price/value of forest products.

Regarding (a), communities adjust the amount of labour invested in protection according to

the perceived size of the threat to the protected patch (as was discussed earlier), and where the threat is minimal they tend to rely solely on general vigilance. Thus, if the size of the threat increases, so will the labour requirements, and hence the cost of protection. It seems likely that this will happen, since the ratio of people to forests will almost certainly increase (as the population grows and the forest area declines), leading to increased pressure on the forests.

Regarding (b), the opportunity cost of labour will depend on whether community members have alternative productive activities in which they could be involved instead of patrolling; and how much income they would be foregoing by spending time on patrol. If well-paid alternative income-earning opportunities became widely available, household members might be reluctant to go on patrol, and this could threaten the protection system. Alternatively, the CFM group could switch from *thengapalli* to a paid watchman system*, provided the watchman's wages were perceived to be affordable*. If local wage rates rose significantly the watchman's wages could be expected to rise correspondingly.

Regarding (c), it is difficult to anticipate price trends for NTFPs. However, in the case of timber it seems highly likely that prices will rise substantially due to a combination of growing scarcity and increasing demand. It may be, therefore, that likely increases in the costs of forest management are compensated by an increase in the benefits derived.

POLITICAL STRENGTH OF CFM

One positive development has been the evolutions of apex bodies composed of CFM groups, both locally and at the district level (district forest forums). These apex bodies have the potential to represent the views of CFM groups more effectively and to play an advocacy role and influence decision-making. They also provide a new third party that can assist in the mediation of inter-community conflicts affecting CFM. NGOs have also taken up the cause of CFM groups, and sought to make their views heard in policy debates. There now seems to be an emergent trend towards representation of CBOs, and perhaps NGOs, on division-level consultative bodies that provide a forum for dialogue between the FD and these groups.

State Policies and Programmes

These can have either a positive or a negative influence on the prospects for CFM. Ways in which policies and programmes can be made more CFM-friendly are discussed in Part D.
JFM as a project and target led scheme

Overall Assessment of Prospects

There are so many variables and uncertainties that it is difficult to anticipate the outlook for CFM with any confidence. One thing that seems certain, however, is that the pressures on forests will increase, and this could lead to breakdown in protection and common property management regimes degenerating into open access situations once more. The pressure will be mainly from other villages nearby, but in some cases firewood traders or organised gangs of timber smugglers may also pose a threat. CFM groups will need to be stronger to withstand these pressures effectively.

They will also need to be more unified, as the consequences of a breakdown in protection are likely to be more severe. Where pressure on forests is high, neighbouring communities will

be more desperate to take advantage of the situation, and will be emboldened to move in quickly and fell trees while they can.

PART D IMPLICATIONS OF FINDINGS FOR POLICIES, PROGRAMMES AND PRACTICE

1. BASIC PRINCIPLES AND ASSUMPTIONS

We have observed that discussions and debates about CFM and JFM in Orissa often become polarised, and that there has been a tendency to focus on areas of difference and disagreement rather than identify areas of common ground and consensus. Related to this is a tendency to become bogged down in discussions over the details of policies and programmes, while neglecting discussion of strategic issues relating to their broad thrust and direction.

For these reasons, we have set out some general objectives for forest management and a general case for the involvement of communities in forest management, and we have proposed a framework for the partnership between communities and the state in forest management. We think the majority of people with a genuine concern about the fate of Orissa's forests are likely to agree with all, or the vast majority of these principles and proposals: some of them are very much in line with policy statements of the Government of India or the state Government of Orissa. If there is a broad consensus on these points they may provide a useful basis against which to consider the more detailed proposals that we make subsequently. We recognise that there is less likely to be a consensus on these more detailed proposals: where people disagree with them we hope they will do so in a constructive way, and seek to identify alternative proposals that also build on the general framework.

Forest management policy

We have set out below three broad premises or objectives for forest management policy, the first two of which are part of India's national policy.

First, forest policy must aim to ensure environmental stability and the maintenance of ecological balance; and the derivation of direct economic benefit must be subordinated to this principal aim.

Second. the domestic/subsistence requirements for forest products (e.g. fuel-wood, construction timber, fodder and other NTFPs) of tribals and other poor people living within and near forests should be given first priority (treated as first charge on forest produce).

Third, communities should be allowed to determine how the forest they manage will be used, provided that this is consistent with substantially improving its overall ecological condition.

The case for a partnership between communities and the state

Below we list a number of assumptions that point towards the need for a partnership in forest management.

1. The relevant state agencies do not have the capacity to control use and conservation of forest resources without the cooperation of those who use them.

2. Communities will not have the capacity to manage forests effectively in the future (even if some of them are able to do so now) without the support of the state, because of growing

pressures on forests (as discussed in the previous section on Prospects for CFM).

3. Forest management should be undertaken efficiently and cost-effectively; and the involvement of communities in forest management has the potential to increase its efficiency and reduce overall costs in the medium- and long-term.

4. The large number of CFM groups in Orissa, and their protection and management efforts, are a valuable asset (social capital) that should be nurtured by the state and NGOs.

5. It is desirable *in principle* to devolve management and decision-making powers, regarding forests and other natural resources, to communities and their political representatives, as specified in the 73rd Constitution Amendment[5].

Based on the above assumptions, we conclude that only an effective partnership between state agencies and forest-dependent communities will be strong enough to ensure that Orissa's forests are safeguarded and maintained on a sustainable basis. This is in line with the policy of the State Government[6].

2. A FRAMEWORK FOR PARTNERSHIP BETWEEN COMMUNITIES AND THE STATE

General approach

The partnership between communities and the state involves the cooperative sharing of rights, responsibilities and benefits. To be effective the partnership will require an atmosphere of mutual trust and respect, and to achieve this a number of key conditions need to be satisfied. These are as follows:
(a) the allocation of rights and responsibilities to the respective stakeholders needs to be mutually acceptable;
(b) the division of benefits needs to be perceived by both major stakeholders as fair;
(c) there needs to be a system for ensuring mutual accountability;
(d) there needs to be openness and transparency in financial matters and a free flow of information *between* stakeholders, and also *within* large stakeholders.

To satisfy condition (c), we propose that the benefits derived from forest management by different stakeholders (including communities and the state) should be proportional to their respective contributions.

State agencies should take care not to force major changes on CFM as it is currently practised in Orissa: seeking to impose blanket rules and regulations is not likely to be effective, and may even undermine and erode this valuable asset. Plurality and flexibility are needed rather than a standardised, blueprint approach, and the state should discharge its responsibilities in a sensitive manner.

The general approach that we have outlined here, and the more specific rights and

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[5] However, we believe that there are serious practical concerns about the devolution of powers that need to be addressed, relating to: corruption in the election process, accountability of political representatives, and the potentially polarising effects of what is, in reality, party politics. These are discussed later.

[6] The Orissa notification (dated 3/7/1993) states that "Forest management has to be reoriented to forge an effective partnership between the Government Department and the concerned village communities".

responsibilities that follow have implications for the State Government's Joint forest Management Programme, and these will be discussed later.

Rights of CFM Groups and the State

We propose three basic rights for CFM groups. First, they should have the right to decide what the forest management objectives are, and to develop a management system to meet those objectives, subject to the policy considerations described earlier.

The identification of forest-dependent communities with the protection and management of the forests from which they derive benefits is an essential component of any effective strategy for forest management. Thus, second, CFM groups should have recognised rights to collect, process and market forest products from the patch that they are protecting.

Third, when the state or private businesses propose major developments involving changes in land use to forest land where CFM is practised, the communities concerned should have the right to present their views on the proposed development to an impartial public inquiry; and to receive compensation from the developer if the managed forests are negatively impacted by the development.

The state's rights should be as follows. First, it should have the right to intervene (only with RF??) if the CFM group is in serious breach of any of its responsibilities, and to take action to protect the forest if it is being degraded. Second, it has the right to promote: (a) equitable benefit-sharing and (b) democratic decision-making processes, in accordance with government policy.

Responsibilities of CFM groups

1. CFM groups should play the lead role in management of particular patches with which they are involved.

2. CFM groups should be responsible for protecting the forest so that it is not degraded by either its members or by outsiders.

3. CFM groups should be responsible for managing the forest in an environmentally sustainable way.

4. CFM groups (both individual ones and federations) should have the primary responsibility for managing conflicts affecting forest management, particularly conflicts within the protection group.

5. CFM groups should seek to ensure that benefits of CFM are equitably distributed within the community that corresponds to the management group.

Responsibilities of the state

1. The state is responsible for providing a supportive enabling environment in which CFM can flourish, key components of which are: (a) the provision of secure rights to forest products (including legal recognition of rights, and upholding of those rights by the state if

they are challenged); and (b) ensuring 'fair' prices for forest products (processed products as well as primary ones) by addressing market failures, such as the existence of NTFP monopsonies.
2. The state should provide technical support to CFM groups on forest management and forest product processing and marketing when requested to do so.
3. The state should play the role of a third-party mediator when CFM groups are unable to manage conflicts effectively and seek outside help from the state in doing so.
4. The state should assist CFM groups in the removal of encroachers from protected patches when the CFM groups are unable to deal with the situation satisfactorily.
5. The state is responsible for effectively enforcing law and order in relation to organised timber smuggling operations.
6. The state should provide support, when requested, to communities that wish to initiate CFM but are facing serious barriers to doing so.
7. Where communities are genuinely interested in taking responsibility for forest management, but are unable to do so because of heavy dependence for income on unsustainable harvesting of certain forest products (e.g. bamboo, firewood), the state should seek to assist them to diversify their income-earning activities.
8. The state should develop a strategy and programme for addressing situations in which there is a deficit of one or more key forest products, such as fuelwood in urban areas.
9. The state should be responsible for promoting equitable benefits from CFM, both within and between villages, in line with government policies to improve the welfare of SCs/STs and of women.
10. The state should promote democratic decision-making processes in CFM, in which all sub-groups are represented.
11. The state should ensure that the employees of relevant state agencies receive the training and resources required to discharge their responsibilities effectively.

The partnership framework outlined above is now elaborated upon, with more specific proposals in the following four sections (sections 3-6).

3. GENERAL APPROACH

Mutual accountability

This should only apply to RF???? To ensure mutual accountability, third party mediation, accepted by both the state and CFM groups, is necessary. The present situation, in which communities tend to be accountable to the FD, but not the FD to communities, breeds mistrust and antagonism. One third party option would be a committee comprising representatives of CFM groups, FD & NGOs: one such committees could be constituted for each forest division or each district. Such a body would deal with a number of issues, including conflict between local FD field staff and villagers in relation to, for example:

- lack of FD support in dealing with offenders, or upholding the CFM group's rights;
- resolution of inter-village boundary disputes over community-managed RF;
- alleged involvement of FD staff in timber smuggling from protected patches[7];
- undue interference of FD staff in the development or implementation of management

[7] We have been told of cases where FD staff were allegedly in league with smugglers and the village elite of a CFM group. The smugglers felled trees in the protected patch, and when FPC members reported the smugglers to the FD, the FD staff promptly charged them with the offence. FPC members are now afraid to report such cases to the FD for fear of being held responsible.

plans;
- concern of FD staff that management plans are not ecologically sound;
- concern of FD staff over serious deviations from the management plan (e.g. the number of trees being felled by CFM group members);
- concern of FD staff that the CFM group is not enforcing protection adequately.

Openness and transparency

The forest department should provide regular information to the communities about the changes in rules, schemes, programmes or prices of NTFP as done by the state. The forest department should practise transparency and share information regarding any project related funds with the local community so that they are aware as to how their funds are being utilised.

Benefit-sharing between Communities and the State

As stated earlier the governing principle here should be that the benefits derived by different stakeholders should be proportional to the effort or contribution that they make, or have made, to forest management.

Established Cases of CFM - Non-Reserved Forest The case studies show that, generally speaking, the FD has not played an active role in CFM that involves non-RF. For this reason, the general rule of thumb should be that the protection group retains 100% of the benefits.

Established Cases of CFM - Reserved Forests The contribution of OFD to management of reserved forest varies considerably from division to division or district to district. For example, in Mayurbhanj and Nayargarh OFD involvement has been relatively small. In other localities, such as Keonjhar, FD involvement has been greater. In some cases, the FD may have actively promoted initiation of CFM, whereas in others it may not. In addition, the size of the CFM group's contribution *over time* should be taken into account, and this will vary from case to case.

For these reasons, it would not be appropriate to apply P12 in a blanket fashion. On the other hand it would be time-consuming to determine benefit-sharing on a case by case basis.

It is worth noting that communities involved in protection of RF tend to feel strongly that their contribution greatly exceeds that of the FD, and hence that they should continue to receive all of the direct benefits. ...There are, of course, other benefits that are derived by people outside the protected forest, such as reduced siltation of dams and better regulation of water flow; and these should be taken into account when benefit-sharing is being considered.

A flexible and pluralistic approach As discussed in Part B (research findings), communities have developed a wide variety and complexity of institutional arrangements. It is doubtful whether the FD would be able to work out which arrangements would be most appropriate for new VSSs: rather, communities are generally best-placed to identify which arrangements are best for them. (However, outsiders can make them aware of arrangements from elsewhere that they might not otherwise have considered.) This is why a co-management programme between the state and communities should be flexible, and be prepared to support a plurality of approaches and arrangements.

4. RIGHTS OF CFM GROUPS AND THE STATE

CFM groups' right to determine management objectives and system

This right is subject to the forest policy objectives mentioned earlier, including the primacy of environmental concerns. While accepting this is principle, it has to be recognised that community's interest in forest is primarily economic. In order that the argument of environmental sustainability or ecological balance is not unfairly used against the community, safeguards could be provided by pre-defining and communicating the "thresholds" of various forms and various types of economic exploitation of the forest resource to the community. The case studies indicate that the community is quite "prudent" in exploiting the resource and their decisions on 'what to harvest', 'how to harvest' and 'how much to harvest' takes into account, among other things, the condition of the forest and the consequent impact on the forest, in short as well as long term.

However, concerns are raised about some of the activities whose impact is not easily visible -- like 'leaf sweeping' in Sal forests of Mayurbhanj and Keonjhar. Application of a very 'rigid' or 'strict' environmental or ecological framework, ignoring the 'logic' adopted by the community, might prove counterproductive. The framework should not discount the gap in the existing technical knowledge and the community's perceptions & knowledge on environmental or ecological impacts. The primacy of environmental objectives can only be enforced if there is a feasible 'alternative' or 'option' to the planned activity of the community is available for meeting the economic objectives, particularly if the objective relates to subsistence needs of the community.

Communities should have the right to decide when cleaning and thinning will be undertaken, without requiring permission from the FD; but on RF the FD should be informed in advance (???) and have the option of observing the operations.

The management plan as envisaged by the community can be shared by the community with the FD, based on which the FD would have the right to point out whether any component of the plan goes against the sustainability principle. In case of RF, the FD can advise the community to develop a plan which would stand the scrutiny of the State.

CFM groups should have recognised rights to collect, process and market forest products from the patch that they are protecting.
The right to collect most of the NWFPs existed (*de facto or de jure*) even when the community was not involved in management of forest.

CFM groups' rights in relation to major developments

The state's right to intervene (only with RF??) if the CFM group is in serious breach of any of its responsibilities, and to take action to protect the forest if it is being degraded.

The state's right to promote: (a) equitable benefit-sharing and (b) democratic decision-making processes, in accordance with government policy.

5. RESPONSIBILITIES OF CFM GROUPS

CFM groups should play the lead role in management of forest patches

The FD should not impose any particular kind of protection system or harvesting rules on VSSs. It should give them discretion in the system that is used.

In this respect it would be better if the community is seen as the supplier of fuelwood and timber then forest department.???? Community should decide how much they need for self consumption and how much to be sold outside the village. ?????

Grazing In some parts of Orissa the FD has a policy of banning grazing in forests managed by VSSs; and in other parts the FD's approach is to encourage communities to adopt rotational grazing. However, observations from the case studies suggest that there is no need to ban grazing on a long-term basis; and since such a ban is likely to cause significant inconvenience to livestock owners, and may even limit the number of animals they are able to keep, we recommend that such bans should not be applied. Instead, the community and the FD should discuss grazing regimes and seek to agree what approach should be taken, perhaps including a plan to monitor the capacity of the forest to sustain the adopted regime and alternatives.

CFM groups should be responsible for protecting the forest so that it is not degraded

CFM groups should be responsible for managing the forest in an environmentally sustainable way.

CFM groups (both individual ones and federations) should have the primary responsibility for managing conflicts affecting forest management, particularly conflicts within the protection group.

CFM groups should seek to ensure that benefits of CFM are equitably distributed.

6. RESPONSIBILITIES OF THE STATE

Creating a supportive enabling environment
The most important role of the state (at both state and national levels), in relation to community involvement in forest management, is to provide a supportive enabling environment: this includes ensuring that laws, policies and practices are consistent with communities' needs. (Secure rights to forest products are perhaps the greatest need of forest-protecting communities.)

Legal recognition of FPCs' rights
The Forest department continues to look upon Forests as Government property and plays the traditional role of the protector and scientific manager of the state forests. Thus, until recently the village level efforts have generally been ignored or recognised in a patronising manner but not viewed seriously. Villages have been protecting for years but the forest department does not even know about them and has not made any effort to understand them. The village communities who have been involved in protection efforts for several years, need to have their rights to forest products legally recognised with retrospective effect.

There is a need to clarify the legal standing of the communities with respect to forest protection on revenue lands. The land of these forest belong to the revenue department but the control over the forest is in the hands of the forest department.
One option is that all revenue forest should be declared as village forests as well as the reserve forest being protected by the villagers.

A strategy should be developed for allowing the sale of trees by protection communities within the local section/range/division, without significantly increasing the risk of widespread felling of trees by outsiders. This would enable peripheral villages that do not have their own protected patches to obtain timber: limited sale of timber, as is already happening in some communities.

State support for dealing with offenders
Villager's response to offenders at village level has been to combine social & penal sanction to make protection more effective. Thus forest department has to support them as best as possible within the frame work of the law under which they operate as villagers have been more effective in forest protection efforts.

Almost all cases taken-up in reserved forest or forests outside their village boundary revel that due to lack of any legal powers entrusted to the villagers to apprehend offender, villagers are helpless in face of this common rejoinder *'tuma bapara jungle ki'* when they are protecting a forest. Thus to deal with this situation with authority some legal power should be given to the villagers to penalise the offenders.

Non-timber forest produce
Technology for processing of NTFPs; Institutional & Physical Infrastructure for marketing NTFPs; Credit support; Support price for NTFPs; Liberalisation & multiple licensing; Preferential treatment to FPCs, particularly women & groups dependant on NTFPs.

The survey of non-protection cases highlighted the fact that it is desirable to make NTFP-based income-earning activities more attractive, so that people dependent on wood-cutting or fuelwood headloading have another alternative. Primary collectors should not be treated as wage labourers as done by the state today while fixing the prices of an non-timber forest produce. While fixing a minimum support price the government should do it through a committee having a representative of the local communities and it should be linked to value of the processed product in the market. Increasing prices through the decisions of price-setting committees has been done in some areas, e.g. in Balangir. However, this may not be enforceable and effective.

Restrictions on the sale and processing of NTFPs can be important factors in limiting the income that people derive. These need to be removed or relaxed. Moreover, the state should not give monopoly leases as it may lead to loss of income for the villagers when the traders no longer come to their area to buy them. The state (which department?) should facilitate the formation of local level primary collector's institution for procurement, processing and marketing. It would be cost effective to facilitate local based non-timber forest produce enterprises.

Lifting of state ban on felling of trees
For some protection communities small timber is such an important benefit from protection that if they were not allowed to fell trees or conduct thinning operations this could undermine

the protection initiative. The Orissa Government has, of course, introduced a ban on green-felling, which means that any felling of green trees is illegal.

In practice, however, communities (and sometimes the FD) ignore the ban, and continue to practise selective felling. The community takes up on its own as and when required while in some cases they have asked permission of the forest department. If forest department staff does not object than he has committed a legal crime according to the forestry laws and if he does then he is perceived as anti-people.

Strict enforcement of the state ban would thus pose a serious threat to CFM. By reducing the benefits obtained from protection it could lead communities to decide that it is no longer worth protecting their patches (see example in the Box below), which could then result in people from other communities taking advantage of the situation and stealing trees from the patch. Alternatively, if protection communities perceived the state as reclaiming the forest from them, they might decide to obtain some benefit for their many years if effort while they can, and undertake a mass-felling of the trees in their patch. The state ban should therefore be relaxed, so that selective felling by protection communities for subsistence needs becomes legal again.

EXAMPLE

In at least one case in Keonjhar (Patala) the FD's refusal of a permit for cleaning and thinning contributed to serious problems in protection. Community members have to make payments to be entitled to a share of the benefits from the patch; and wood derived from cleaning and thinning is an important benefit for them. When permission for cleaning and thinning was refused, the members decided not to continue with their payments. The community had been employing a watchman to patrol the patch, and were no longer able to pay his salary. The committee decided to start small scale harvesting (so that it can not be noticed), to deal with the situation.

Provision of technical support to CFM groups

The primary role of the Forest Department in relation to forest management by communities should be the provision of technical support. The FD should advise on technically sound options for managing the forest, in line with the management objectives that the villagers have identified, including: silvicultural practices, nursery raising, selection of species for plantation, harvesting.

There is some demand from Apex FPC bodies for training in NTFP processing, marketing etc. Thus, the appropriate state agencies should take up the initiative to upgrade the skills at community level for value addition, packaging, stocking and marketing.

Third-party conflict mediation

FD could be third party in mediating RF inter-village boundary conflicts, which arise quite often. where conflicts involve more than one protecting community the FD may be able to function as a neutral party. Where the dispute is between a CFM group and a non-protecting community, the latter might (understandably) have serious doubts about the FD's impartiality.

Training of FD in conflict mediation would be desirable. Special unit might be needed.

FD could also assist with issues requiring legal interpretation.

Removal of encroachers

Controlling organised groups involved in timber removal
Although the community has the main responsibility for preventing degradation of the patch by outsiders, there may be some situations that the community is unable to handle, because an organised group of is too large or is armed. (In one case we were told of community members stopped a truck full of smuggled timber. The smugglers subsequently returned to the village and paraded the members involved around the village, in a display of power and as a warning to the community not to interfere with smuggling operations again.) In these situations the state (police and/or FD) should intervene quickly to ensure that law and order are restored. In some places (e.g. Sambalpur) organised criminal gangs are involved in timber smuggling, and the FD argue that they do not have adequate resources and powers to deal with the smugglers.

Facilitating new CFM initiatives

Diversification of income-earning activities of forest-dependent groups
Assistance may be needed by groups depending on forest for day to day survival with developing alternative income-generating options, or with using fuels more efficiently??. Heavy dependence on timber or fuelwood headloading is often a barrier to the initiation of protection; and where particular sub-groups are involved in these activities it can give rise to conflicts after protection has begun that communities are often unable to resolve. Government agencies like the DRDA, Animal Husbandry etc. can be approached directly to provide technical inputs for income generating scheme like lac making, bee keeping, pisciculture etc.; or the forest department can liaise with them on behalf of the communities. Programmes for addressing this kind of situation could be developed by govt agencies in conjunction with CFM apex bodies and NGOs.

Providing incentives for initiation of protection
In a number of cases, the sensitisation and financial support for a watcher by Orissa Social Forestry Project has evolved into protection of natural forests. Similarly, in early nineties, the Collector Balangir initiated 'Kalyan Village' Scheme which proposed that those villages which fulfil five criteria would be given priority in all the development work undertaken by district administration. One of the criteria was protection of forest & environment. In different districts the annual prize announced for protection of environment and forest by the State & Central Government has proved to be a big incentive, particularly when they have seen a village from their area winning it.

Strategy and programme for deficit situations
There is little doubt that the Orissa's forest in their present condition would not be sufficient for meeting the biomass requirements of the state population. The state should encourage more prudent use of the biomass, use of alternatives, etc. for dealing with the deficit situation. In small towns or big villages which are located near the villages involved in forest protection, temporary deficit creates a situation when the protection by smaller villages breaks down.

Promoting equitable benefits from CFM

As the findings indicated, no proper measures have been taken by the communities to represent all the sections of the community, nor have women been given any importance while forming the committees. Equity has never been the main concern of the villagers when they took up protection nor in terms of area to be protected, representation from all communities or all sections of the society. The concept of the equity should be gradually introduced to the community, and methods to remove inequitable arrangements should be discussed rather than forcing them to include the women or excluded sections in their committees.

Promoting democratic decision-making processes in CFM groups

Institutional strengthening of FPCs is required, through training & leadership development: for more democratic, transparent, participatory & equitable decision making by managing committee/executive. The FPCs should be offered training in how to maintain their records and accounts.

Provision of training and resources to relevant state agencies

The forest department field staff needed to be sensitised to the concept of Community forest management as well as how to cope with the emerging issues related to conflicts, gender and equity. DFOs told us that there has been an almost total lack of training for field-level staff who are at the interface with local communities.

7. IMPLICATIONS OF THE PARTNERSHIP FRAMEWORK FOR THE JFM PROGRAMME

Conceptually JFM & CFM can be taken to mean differing extent of management control to be exercised by the State (FD) and the Community over forest resource. The two management regimes can be depicted at different places on a continuum of 'total State control' to 'total Community control':

The existing situation with respect to JFM & CFM falls in between. In moving from the situation of total state control to total community control, there has to be a process of devolution / transfer of power, authority, control, decision making power, ownership, together with responsibilities. The difference between JFM & CFM can be characterised in terms of degrees to which the devolution of power & authority takes place along with transfer of responsibilities.

The partnership framework that we are proposing goes further along the spectrum towards community control than JFM does. Examples of community and FD collaboration are found at various places in Orissa, which were evolved even before 1988, when the State Government issued its first resolution on JFM. These were evolved by the local field staff of FD working together with villagers, mostly with support from their DFO. Some of these models are given in Annexure 1.

JFM as currently practised in Orissa has a number of weaknesses in relation to the framework which we have listed below.

First, there is a lack of mutual accountability - the communities are much more accountable to the Forest Department than the FD is accountable to them. The FD's right to dissolve an Executive Committee makes it an unequal partner: it is obliged to reconstitute the committee, of course, but it can delay doing so for as long as it likes. The community has no rights or powers to take action if it thinks that the FD is not performing its responsibilities satisfactorily.

Second, the way in which the programme is implemented tends to be rather rigid and formulaic, rather than flexible and pluralistic - for example, regarding membership of the committee, or the area of forest allocated to a particular VSS. This kind of approach is not confined to Orissa: it is characteristic of JFM generally[8].

Third, the requirement that a forest officer attend all the meetings as the Secretary? is undesirable from the point of view of the FD, as it means that the potential of community management to reduce FD costs is not being achieved. Three DFOs expressed concern to us about the amount of time that their staff were having to spend attending VSS meetings, and said that this leaves them less time to protect forest that the FD is managing directly itself. It should not be necessary for the FD to become involved in management at this level of detail.

Furthermore, this requirement is also undesirable from the point of view of the communities, who complained about forest guards failing to attend VSS meetings, and the problems this creates. We do not think it is necessary for a forester to be represented on executive committees. Physical presence of the external institutions representatives in day to day functioning of community institution is neither desirable nor feasible. However, if a forester were on the EC it should be in an advisory capacity, and (s)he would not be expected to attend all meetings of the committee.

Fourth, under the JFM programme it is not communities who play the lead role in deciding management objectives and formulating a plan to achieve them. Microplans tend to reflect FD agendas, rather than community needs; and they are drafted in a traditional silvicultural format.

Fifth, the JFM programme has been implemented largely on a target-driven basis, with the FD at times only making one visit to each village, and not holding thorough discussions with communities. As a result, if protection is initiated at all, it does not usually last very long. In one block/panchayat we visited in 1997, 32? communities had been approached by the FD in 1993/94 to join the JFM programme, but protection was only functional in three of these.

Sixth, where existing CFM groups have been approached by the FD to join the programme the FD has won them over with material incentives. This is very different from an approach in which communities enter a partnership with the state out of choice and without being under pressure to do so.

Seventh, the requirement that the Naib Sarpanch be the chairperson of the EC is objected to by most communities. This is a clear example of a condition being imposed on communities

[8] Hobley (1996) observed that "The proponents of JFM often appear blind to the social, ecological and political diversity of the nation, and apply the model irrespective of the location".

by the FD on a blanket basis and against their will.

Eighth, the concepts of 'final harvest', and even 'major harvest', that are expressed in JFM resolutions are alien to most communities. They belong to conventional plantation forestry, and are not appropriate to the multi-species, multi-purpose forestry practised by CFM groups.

The Forest Department's support to CFM should not be organised on a project basis, with quantified targets and a fixed-term duration. It should be seen as an integral part of the FD's everyday work, as it has been seen and practised by some officers and divisions in the past.

7.1 Re-orientation of the Forest Department

It is important to recognise the nature and size of the challenge posed to forest departments by the shift to collaborative or co-management of forests. The following quotations describe that challenge.

> *"Can India's forest departments shift to collaborative forms of management after over a century of unilateral custodial control? With over 100,000 staff, the reorientation required is certainly dramatic....[in] the professional books of 1950's and 60's ...[there is] virtually no mention of community roles in forest management " (Asia Forest Network, 1997)*
>
> *Participatory forestry requires "innovation, responsiveness, willingness to take risks, learning from experience and flexibility - all attributes that are unlikely to be nurtured in the highly structured bureaucracy of the usual forest department" (Hobley, 1996b).*

Bearing this challenge in mind, there is obviously a need for major changes in the way forest departments operate and for re-training of FD staff. This applies as much to the Orissa FD as to any other. FDs are being asked to support a new kind of forestry - with different objectives and different silvicultural requirements. They are being asked to take a bottom-up approach instead of the traditional top-down one. They are being asked to expand their responsibilities, so that they are no longer an essentially technical agency, but one with a mandate that embraces social issues, including:

- promoting greater equity;
- promoting the interests of women;
- promoting more democratic processes; and
- resolving community conflicts.

While it is important that FDs become better-equipped to handle these issues, a more realistic approach might be to mandate other agencies to support them in addressing these issues. It is generally accepted that NGOs have an important role to play here (see section 9 for further discussion of their role)- but their contribution is seriously limited by their limited resources and geographical coverage. In Orissa, apex CBOs also have an important role to play (see section 8) We suggest that serious consideration should be given to involving, for example, organisations mandated by government to look after the interests of women and other weaker sections of the society. The FAO has pointed out that it may "be necessary to examine which state institutions are most likely to be effective in providing support to local collective management of forests... On occasion this may be more appropriately handled by an

institution other than the forest department" (Arnold, 1998).

8. ROLE OF FEDERATIONS

In some of the districts like Bolangir, Nayagarh and Mayurbhanj federations of villages involved in forest management have been formed. These federations have been formed with following objective :

- To help in forest protection efforts and establish Cooperation amongst the protecting village
- To help in resolving conflicts which the villagers have not been able to solve mutually.
- To help linking forest protection committees to the forest department in time of need.

Thus more federations need to be formed and existing ones need to be strengthen to make them more effective.

9. ROLE OF NGOs

NGO's have a major role to play as facilitators between the forest department and the villagers. Some of the specific roles they should play are listed below:

- Strengthen institutions at community level
- Networking amongst the communities and facilitate in formation of federations at all levels.
- They have a major role to play in documentation, training and information dissemination , at the community level and at the state level.
- They can help in non-timber forest produce value addition, processing and marketing.

10. ROLE OF PANCHAYATS

Due to 73rd amendment to the Panchayati Raj Act, it is felt that Panchayat will play a major role in future in the affairs of the forest also. Hence, there is a need to do an in-depth study about the implications of this act with regard to the relationship of forest protection committees and Panchayat. The gram panchayat in their existing form is in a conflicting situation. They do not relate to the village level institutions and a number of conflicts are arising due to politicisation of its structure. Forests are a valuable assets which is not easy to recreate. Thus, it becomes suitable for politicking and may be lost if care is not taken.

Three major problems with regard to Panchayati Raj Act and forest protection committees comes to our mind which may be significant as the Panchayats become effective in their roles:

- According to the Panchayati Raj Act the right to distribution of benefits belongs to the 'gram' which may consist as many as 10 villages in Orissa, while the forest department recognises vied its Joint Forest Management resolution only the VSS which may have be formed by only one 'gram'. The VSS cannot have a privileged position with respect to the Panchayats as it has legal validity in court of law.
- Under the Joint Forest Management resolution some financial benefit is provided for the development and regeneration of the forests. All the community funds are to be channelised through the Panchayats for any village level work. The distribution of benefit sharing and banking of funds, as provided in the Joint Forest Management notification is not enforceable.

- The forest area boundaries are not coterminous with the Panchayat boundaries and establishing special rights of a VSS may come in direct conflict with other villages. This has to be resolved.

Even then there are areas where Panchayat can play a significant role. These are :

- Support the forest protection efforts of the villages under it and facilitate new protection efforts.
- Help in resolving conflicts at Panchayat level.
- Integrate various developmental activities at village level to keep up the interest for forest protection.

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Annexure I

JFM Models: Alternative Options for Collaboration

A comparison of CFM with respect to the role of FD in various parts of the State brings out different possibilities and options for collaboration between community & FD. For the sake of discussion we would term them after the district/cluster where they are most prominent or the programmes to which they owe their initiation.

Champua model[9]

In Champua range, a number of villages of Champua block have been involved in protection of Sal forests since mid-sixties and early seventies. Protection is common in RFs as well as non-RFs. Most of the forests which fall in Champua block are B class RF, which have traditionally been meant for meeting the needs of villagers. Forest Department has encouraged communities situated in the periphery of these forests to protect them since long (The Working Plan, 1945 provides for propaganda to involve communities in protection of these forests). The FD helps the villagers to take action against offenders, when the matter is taken to their level. Before the ban on green felling, the FD also used to give permits at regular intervals to such groups for harvesting trees in form of cleaning & thinning. In some villages the arrangement has worked for now more than 20 years. Prior to Government resolution, the FD didn't bother about constitution of committee, and intervened in the matters of the village when invited by villagers themselves (in case of a conflict or breakdown of protection). The communities on their part expected mainly three things from FD – legal support to deal with offenders who prove difficult; assurance that the prerogative of sanctioning access to forest products would be with the community & not FD and lastly, the FD would provide permits & sanction for any major harvesting.

Budhikhamari model

In Budhikhamari cluster which covers four Ranges in Baripada Division of Mayurbhanj, communities have mainly been involved in forest protection since mid-eighties. Most of them are protecting RFs. The villages in the cluster have joined together to form a confederation. The confederation operates as a *quasi* FD, organising a mobile party for group patrolling, catching offenders & penalising them and even to the extent of putting restrictions on who can buy a leased NTFP item from the area. The FD, and particularly the local DFO and some Range Officers have contributed to the initiation, spread and consolidation in different ways. Support from FD has been of varied nature including allocation & demarcation of area; providing registers, identity cards, whistles, sticks which helped the villagers more confidence to take action against offenders & organise protection more effectively; providing scope for sharing experience by organising meetings of different villages; encouraging individual leaders promoting community protection & protection committees by providing merit & recognition certificates; not undermining the authority of community groups over the forest protected by them; siding with the community when a conflict with one of their local staff who was in wrong; helping the community members when legal cases were filed against them by offenders; advising the committees & confederation on various matters related to effective protection; providing material support in form of a meeting hall etc. The confederation on its part has also taken up issues which are of concern to FD, like encroachment of forest for Sabai grass cultivation & agriculture. Their representatives have been to other places on invitation from FD for spreading awareness and encouraging villages to take up forest protection.

[9] See "District Report – Keonjhar" for details.

Salebhata model

The Salebhata section of Balangir forest division covers part of Agalpur block, and contains three important RFs. In 1989-90, the local forester organised the villages involved in forest protection in his section in three cluster level committees, each committee constituting of villages located in the periphery of a RF. These cluster level committees were supposed to sit regularly and discuss problems related to forest protection, including conflicts. The forester was invited to these meetings, and helped in resolution of conflicts. The individual committees were also provided with cleaning permits which helped them to take up controlled harvesting in the forest patch protected by them. As many of the committees also sold their surplus material, support of forester was necessary for problem free transit of produce. It was also necessary that different committees organise their cleaning in such a manner that there is no glut of such produce in the locality, forcing the prices down. The forester rarely intervened in individual committees matters, and confined himself to inter-village disputes. This helped him to reduce his workload.

The three models described above are of situations where villagers had started facing scarcity of forest products and protection was more or less self initiated. The community had more or less made up its mind to protect forest, but there were doubts about their rights, particularly in cases of RF. Support & assurance from FD was sufficient to trigger protection. Roles for FD that emerge out of these models are – providing assurances regarding community control of access & over benefits; demarcating & allocating forest patches to different villages; support the villages to strengthen their protection; developing mechanisms to reduce the possibility of breakdown in protection; helping the villagers to realise the benefits expected from protection etc..

2. Conroy, C., Rai, A., Singh, N. and Chan, M-K. (1998) *Conflicts Affecting Participatory Forest Management: Some experiences from Orissa, India*. Paper presented at the Workshop on Participatory Natural Resource Management in Developing Countries: Mansfield College, Oxford, 6-7 April, 1998.

This paper was virtually the same as Reference 3 (see below), so is not reproduced separately here.

3. Conroy, C., Mishra, A., Rai, A., Singh, N. and Chan, M-K. Conflicts Affecting Participatory Forest Management: Their Nature and Implications. [Project report]

CONFLICTS AFFECTING PARTICIPATORY FOREST MANAGEMENT: THEIR NATURE AND IMPLICATIONS

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NRI Report No: 2533

1999

PROJECT REPORT NO. 2

Research project on LEARNING FROM SELF-INITIATED COMMUNITY FOREST MANAGEMENT GROUPS IN ORISSA

CONTENTS

Foreword

This report is one of several being produced by a two-year research project (R6787) funded by the UK Department for International Development's Natural Resources Systems Programme, in which 33 community forest management (CFM) initiatives have been studied and 10 non-protecting communities. The project is coordinated by Czech Conroy, a senior socio-economist at the Natural Resources Institute, University of Greenwich. The Indian authors have been working with and researching forest management communities in Orissa for several years.

The project aims to improve understanding of: (a) the conditions that lead to the initiation of CFM; (b) the factors affecting its sustainability; and (c) the size and nature of the benefits, and how they are distributed among the various sub-groups of a community. The project has also been studying communities' support needs; and is seeking to identify the implications of the experiences of self-initiated CFM for policy and for the design of joint forest management programmes and other initiatives promoting participatory forest management. Conflicts affecting CFM have been a particular focus of the research since they are quite widespread, and can be a threat to its sustainability.

This document is an output from a project funded by the UK Department For International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.

1. INTRODUCTION

Participatory forest management (PFM)[1] is a complex business. Forests provide a wide range of products of subsistence and/or commercial value (direct uses); as well as performing environmental services (indirect uses), and often having religious or cultural significance (non-use values). Even small 'patches' of forest may be used by people from several villages or hamlets; and different sub-groups within a particular hamlet or village may derive different products from the forest. Management of larger areas of forest is even more complex, as they may transcend administrative, political and social boundaries. Given the complexity of forest management, designing PFM programmes, or working out how best to support community forest management (CFM)[2], is not easy, and conflicts are probably unavoidable, if not inherent (Anderson *et al*, 98). The factors giving rise to conflicts need to be better understood, and are discussed in this chapter.

This report draws heavily on our research and other knowledge of self-initiated CFM in the state of Orissa, India, where a few thousand[3] communities are managing forests. Their experiences have been documented and analysed in a number of studies[4]. Many communities initiated CFM more than 20 years ago, and hence there is an extensive body of information on what can happen to CFM initiatives over time, and the kinds of conflicts that can arise. Since 1988 the state government has taken a more active interest in CFM, and encouraged CFM groups to join its Joint Forest Management (JFM) programme: in some cases this has generated new forms of conflict between communities and the state.

The report is structured as follows. Section 2 describes some of the main types of stakeholders that have interests in forests and their products. It highlights the fact that even within communities there may be different sub-groups with different, and sometimes conflicting, interests. Section 3 goes on to describe the various types of conflict that can affect PFM. Conflicts relating to, or affecting, PFM are quite common in Orissa, and occasionally undermine it. Section 4 considers what implications the various types of conflicts have for external interventions to promote PFM. It describes various measures that can help to identify, avoid, minimise or better manage conflicts: participatory natural resource management projects have sometimes been weak in recognising and taking account of conflicting interests (Grimble *et al*., 1995).

Attention is drawn to the fact that PFM does not take place in a policy vacuum and that a PFM programme may require changes in the macro-environment. The use of stakeholder analysis is discussed, particularly in relation to improving the design of policies, programmes or projects. However, many conflicts cannot be anticipated and taken into account at the

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[1] PFM is used as an umbrella term covering joint forest management, collaborative forest management, community forestry and, in some cases, social forestry. 'Participatory' has been defined as a process whereby those with legitimate interests in a project both influence decisions which affect them and receive some, or all, of any benefits that may accrue (ODA, 1996).

[2] CFM can be described as a system where a community has "developed institutions, norms, rules, fines and fees to sustain forest resources. CFM systems characteristically involve one or more communities (social group, village) protecting and using a specific forest area" (IUCN, 1996). While the forest may not be under the legal jurisdiction of the community, "…the community management groups strongly identify with the resource and perceive they have special rights and responsibilities for its management".

[3] Nobody know exactly how many cases there are. The total number of villages in Orissa is about 50,000: of these, there are probably 4,000-5,000 villages involved in managing natural forests. This is probably more than in any other Indian state or comparable geographical area anywhere else in the world.

[4] Valuable general references on CFM in Orissa include: Conroy *et al*., 1999; Jonsson and Rai (eds), 1994; Kant *et al*., 1991; Poffenberger *et al*., 1996.

design stage, particularly since some conflicts that negatively impact on forest management are primarily concerned with other issues. Thus, it is desirable for PFM projects and programmes to include capacity building for conflict management as an important component. Alternative Conflict Management (ACM) is an approach that has proved effective in other sectors, and has great potential for managing conflicts in participatory NRM. Section 5 contains some general conclusions.

2 MULTIPLE STAKEHOLDERS MEANS MULTIPLE INTERESTS

Table 1 lists key stakeholders with an interest (actual or potential) in forests and PFM: it is based on the situation in Orissa, but a similar set of stakeholders would be found in most countries. Stakeholders have been defined as "any group of people, organised or unorganised, who share a common interest or stake in a particular issue or system" (Grimble and Wellard, 1997). They can be at any level or position in society, from global to household or intra-household. A distinction is made between primary and secondary stakeholders. The former are those who depend significantly on a particular area of forest for their livelihoods: they usually live in or near the forest. There is plenty of scope for conflicts, as each stakeholder is likely to have different interests and objectives: those of poorer and weaker groups could easily be disregarded or marginalised.

Table 1 Key Stakeholders in PFM: the case of Orissa

Level	Stakeholders
Local on-site - primary	* Management community * Different sub-groups of protecting community (distinguished by class, caste, gender etc.) * Village leader(s) * Other communities nearby who previously used the protected forest, or who are still allowed limited access to the forest and/or selected products.
Local off-site - secondary	* Federation/apex body of protecting communities * Traditional multi-village body * *Panchayat*
District/forest range	* Divisional Forest Office * Private sector commercial bodies (e.g. NTFP traders, logging companies, organised timber smugglers, mining companies). * NGOs (forest-support, environment etc) * Urban consumers of forest products (esp.fuelwood)
State	* Forest Department * Revenue Department * Watershed mission * Ministry of Forests and Environment * Orissa Forest Development Corporation * Tribal Development Cooperative
National government	* Ministry of Environment and Forests
International donor agency	* Swedish International Development Agency

2.1 Communities and Conflicts of Interest

The term 'Community Forest Management' is widely used. The word 'community' is sometimes taken to imply a group of people living in harmony with each other and with a common set of interests. In India there have been many studies of the impact of JFM, and '[m]ost … have tended to gather aggregated data on overall increases in production of selected species and products from forests brought under JFM … and reached conclusions about the present and future benefits to the "community", "the people" or "the villagers"' (Sarin *et al*., 1998).

In many villages, however, there are numerous sub-groups: the land-poor and the land-rich; men and women; people of different castes, etc (Guijt and Shah, 1998). The relations between these sub-groups have tended to be neglected in the literature on CPR use, at least until recently (Beck, 1994). Yet 'control and conflict over such resources [can be] .. closely tied to power relations [within villages]' (Beck, 1994), as is illustrated by the conflict example in Box 1.

Different sub-groups may have different priorities regarding the benefits to be derived from the forest; and hence different objectives and motivations for forest protection. Thus, CFM or JFM may have a differential impact on different sub-groups (Saigal *et al*., 1996; Sarin *et al*., 1998), and this may be a source of conflict. Some sub-groups may object to the placing of restrictions on the harvesting of products: for example, in Orissa, groups that make a living from selling fuelwood, or making bamboo products, are sometimes opposed to CFM. Yet few studies of the impact of JFM have examined "who, within communities and households, has gained and who has lost by class, caste, ethnicity and gender" (Sarin *et al*., 1998)

The above considerations do not invalidate the concept of a community, but they do mean that the term needs to be carefully defined. The following definition is assumed for the purposes of this chapter:

> a set of people (i) with some shared beliefs, including normative beliefs, and preferences, beyond those constituting their collective action problem, (ii) with a more-or-less stable set of members, (iii) who expect to continue interacting with each other for some time to come, and (iv) whose relations are direct (unmediated by third parties) and multiplex (Ostrom,1992).

3 THE NATURE OF CONFLICTS AFFECTING FOREST MANAGEMENT

A wide range of conflicts has been experienced in Orissa in PFM. Nobody knows exactly how prevalent they are, but they are certainly not unusual. When CFM breaks down or stops it is usually because of conflict. The majority of CFM initiatives surveyed in our current research project have experienced conflicts that have led to a breakdown (temporary or permanent) of CFM, and/or changes in the protection arrangements. In some cases this has been associated with substantial degradation of the protected forest. It should be noted, however, that the majority of micro-micro level (see below) conflicts are effectively resolved by communities sooner or later.

The relationships between various stakeholders may involve occasional (acute) conflicts, or ongoing (chronic) ones. Some may be readily visible to outsiders, while others may be almost invisible or 'subterranean' (Sarin, 1996). Simplifying things somewhat, one can say that conflicts occur at micro or macro levels, and between these levels, and can be classified as follows: micro-micro, micro-macro, or macro-macro[5]. Examples of various types of conflicts in PFM are given below.

3.1 Micro-Micro Conflicts

Micro-micro type conflicts can be classified further into four categories (Conroy *et al*., 1999 - see Table 2), in terms of:

* whether they are within the community protecting the forest, or between that community and other stakeholders; and
* whether the conflict is directly or indirectly related to forest management.

The latter may not always be a clearcut distinction: where there is a history of conflict or mistrust between different stakeholders regarding non-forest matters, there is more likely to be conflict between them in relation to forest management.

Boxes 1 and 2 contain examples of type A and B micro-micro conflicts respectively. The example in Box 2 has been classified as intra-community, because the two villages involved were *jointly* protecting the same patch of forest. Out of 33 CFM initiatives studied in Orissa several had experienced either type A, B, or C conflicts. None had experienced type D, although it is possible that in some cases what have been categorised as Type C conflicts may be Type D.

Table 2 Types of Micro-Micro Conflicts, with Examples

	Directly related to Protection	**Indirect effect on Protection**
Within protection communities[a]	**A** One sub-group refuses to abide by protection or harvesting rules	**B** Conflict breaks out between 2 sub-groups, who refuse to cooperate any longer in various matters. Forest protection is affected, sometimes leading to a tree-felling free-for-all.
Between protection community and other local stakeholder	**C** 1+ local stakeholders (e.g. communities, local FD staff, loggers) challenge or do not accept a protection initiative (and may cut down trees in the protected patch).	**D** Conflict breaks out between 2 communities, related to non-protection issues (such as party politics or personal disputes), leading non-protecting community to 'loot' the protected patch.

[a] In combined community protection (i.e. involving more than one village or hamlet) each community is classified as a sub-group.

[5] Some authors (e.g. Grimble *et al.*, 1995) identify two combinations involving micro and macro (i.e. micro-macro and macro-micro), in which the first half of the 'pair' is the active decision-maker, and the second half the passive party. In practice; however, it can be difficult to distinguish the 'active' from the 'passive' party, so we have only used one combination in this chapter.

BOX 1 ADENDUNGRI: A TYPE 'A' MICRO-MICRO CONFLICT

Adendungri is a village of 139 households in Balangir District, Orissa. It is dominated numerically, as well as economically, by people of the Kulita caste. Kulitas, together with people from some other 'backward castes', account for 82 households (hh); followed by the Mirdha (42 hh), who are tribals, and scheduled castes (15 hh). Protection was initiated in 1968.

In 1973 it was decided that the village should have a temple, and that its construction should have first claim on any income from sale of forest products. (The temple is not completed yet.) The Mirdhas were not directly involved in the initial phase of protection. They had no representation on the temple committee that was also acting as the management committee for the forest: on the other hand, they did not contribute voluntary labour or materials towards the construction of the temple. From the mid-eighties, some of the Mirdha families, who had been living at the fringe of the village, started moving inside it. They then began to feel that they were entitled to equal rights over the forest resources being protected. In the late eighties and early nineties incidents of theft from the forest increased, many of them involving Mirdhas.

In 1992 *Panchayat* elections were held. The Mirdhas voted for the candidate from the neighbouring village, and attitudes against them within Adendungri hardened. The newly elected village leader organised group patrolling of the protected forest. Later in 1992 a patrol group was attacked with sticks by a Mirdha group, and two of them were seriously injured. A police case was filed against the Mirdha. Protection broke down, and a free-for-all situation ensued, in which the villagers of Adendungri, and also people from some neighbouring villages, cut and took away almost 50 percent of the trees. Protection has since been re-initiated, but both groups remain bitter. The Mirdha men say that they have not benefitted from the forest being under protection; and that the decision-making body still represents the interests and priorities of the Kulitas.

BOX 2 KESIYAPALLI & KULASARA - A TYPE 'B' MICRO-MICRO CONFLICT

These two villages are located in the Tangi area, south of Bhubaneswar, Orissa's capital. They started forest protection in 1975, when the patch concerned had become highly degraded. Four villages decided to protect, but for practical reasons relating to the size of the protected patch they split the protection responsibilities. Kesiyapalli and Kulasara formed one CFM group, and the other two villages formed another. The combined management system functioned well for nine years, but in 1984 protection broke down.

Causes of the conflict One factor was that Kesiyapalli wanted to build a road to link up with another road, so that there would be an alternative route to their village for people coming by vehicle from one side. The most direct route to the road they wanted to link up with would have required filling in some of a village pond that they shared with Kulasara. Any other route would have needed to go round the school and hence would have required more labour and money (more purchasing of land). Secondly, around this time there was a dispute between the two villages over their respective shares of the produce from the pond. Thirdly, there was a *Panchayat* election around that time and the two villages had voted for different candidates: this had also increased tensions. Kesiyapalli people had voted for a candidate who belonged to their caste and who ultimately won the election.

The combination of factors caused an escalation of tensions that resulted in the protected patch being severely degraded. Kulasara villagers started cutting trees, people from neighbouring villages soon joined them, and there were soon virtually none left. The Kesiyapalli villagers attempted to save the patch, but things happened so fast that there was not time to resolve the conflict.

3.2 Micro-Macro Conflicts

These are conflicts between micro-level stakeholders and higher-level stakeholders, such as government agencies. The relationship between the state and forest management communities is obviously very important in JFM, and can also be important in self-initiated CFM: various types of conflict may exist or arise between communities and state-level bodies. The legal and policy environment (e.g. regarding tenure, or collection and marketing of non-timber forest products - NTFPs) may have a major influence on the success or otherwise of PFM: hence it needs to be reviewed, and changed if necessary to make it conducive to PFM. Interventions at the micro-level alone may be inadequate. The influence on PFM of the macro-environment for NTFP collection and marketing will now be examined.

3.2.1 Micro-macro conflicts: the case of non-timber forest products

Staff of forest departments in India still tend to see timber as the most important product to be derived from the forest, and to regard any other forest products as of minor importance. For local communities involved in forest protection, however, NTFPs are sometimes the most important. This is largely because the benefits from NTFPs are available during the first few years, and are fairly certain; whereas the benefits of timber are many years in the future, and are likely to be perceived as uncertain. For these reasons, the size of the benefits available from NTFPs may have an important bearing on a community's willingness to become involved in, and to sustain, forest protection (Saigal *et al*., 1996).

BOX 3 MICRO-MACRO CONFLICTS IN THE COLLECTION AND MARKETING OF NTFPs: SOME EXAMPLES FROM ORISSA

Bamboo Bamboo forests have been assigned to the paper industries, who have been appointed sub-agents of the OFDC. Despite the prescription in the Forest Policy 1988, that the needs of forest dwellers will constitute the first claim on forest produce, the poor in Orissa have to meet their demand for bamboo by stealing, while the industry receives subsidised bamboo and has first access. Leasing of bamboo coupes to industry may exclude such areas from being brought under participatory management. Alternatively, in one case a community (Paiksahi) that had been protecting a predominantly bamboo forest for several years entered into a JFM arrangement with the FD: but when the bamboo in the protected forest came to be harvested in 1997 it all went to a private contractor, to whom the state government had given a 10-year licence in 1989. Another, more detailed, example of a conflict between a local community and state agencies over bamboo harvesting is given in Box 4.

Hill broom Legislation in Orissa only allows processing of hill broom to be done by the lease holder, TDCC or its traders. Local people can collect hill broom, but they are not allowed to sell the materials freely on the open market, or to bind them into a broom. It has been estimated that a substantial profit could be made, even after paying the prescribed royalty to the Government, if people were allowed to sell their produce on the open market (Anonymous, 1996, cited in Saigal et al). The state government machinery took action against a women's group that set out to help poor tribal women obtain higher revenue, by binding the material they collected and marketing the brooms: the stocks were seized.

Main source: Saxena, 1997.

Unfortunately, the legal, policy and marketing environments for NTFP collection and processing in India generally operate to the detriment of local people who want to derive an income from NTFPs. In most Indian states "the marketing environment for realising the full value from NTFPs is constrained by exploitative governmental regulations restricting sale, processing and transport" (Saxena, 1997). Often local people have no right to process NTFPs or sell them on the open market. Consequently, although some people, and particularly poorer groups, are critically dependent on NTFP collection for both subsistence and cash needs, the returns are low and it appears that in many cases "people take it up only for want of any other alternatives" (Saigal *et al*., 1996).

In Orissa, the Forest Act gives the state the right to exercise a monopoly over any declared forest produce. Almost all of the important NTFPs have been nationalised, which means that they can only be sold to government agencies or to agencies nominated by the government. The major institutions set up by the State were the Orissa Forest Development Corporation and the Tribal Development Cooperative (TDCC). Collection rights for a large number of NTFPs have been given to various private sector companies and traders, leading to the creation of private monopolies. Thus, there are major market imperfections (Saxena, 1997).

Conflicts relating to NTFP collection and marketing are described in Boxes 3 and 4. The latter example illustrates how the policies and practices of state agencies, lack of clarity on the part of state agencies over legal/administrative powers, and a lack of concern about the livelihoods of local communities can seriously damage the financial interests of a community. It highlights the need for sharing arrangements between forest departments and communities to be clearly spelt out and understood at the outset of any agreement.

BOX 4 A SPECIFIC MICRO-MACRO CONFLICT OVER BAMBOO

Ramkhol is a small village with 55 households. Since 1987, it had been involved in protection of its bamboo forest located within the revenue boundary of the village. The management system followed by the villagers was protection, combined with controlled felling of bamboo for *bona fide* needs of community members. In 1995, bamboo in the Ramkhol forest, together with other bamboo in the region, bore flowers. As bamboo dies following its flowering, the villagers approached the local FD officials to allow them to cut down the bamboo in their forest and sell them. Their request for a transit pass, which would have allowed them to transport the bamboo for sale, was refused, as they had not entered into a JFM agreement with the FD. They were assured by the Divisional Forest Officer (DFO) that the matter would be taken care of within fifteen days if they entered into such an agreement.

When the rains started, the villagers became agitated because they knew the rains would destroy the dead bamboo. There was some confusion within the Forest Department about its powers to harvest or sell the produce. In fact it had no power to harvest forest produce on its own, as that rests with Orissa Forest Development Corporation (OFDC); so it needed to coordinate with OFDC. OFDC was in no hurry, and once the rains started, it was not clear whether it could go against the traditional rule of not harvesting and/or transporting bamboo for the next six months.

In January 1996 a federation of about 40 CFM villages was formed in the area, whose committee took up the issue on behalf of Ramkhol. The committee threatened to take legal action against the FD, to claim for the loss incurred by Ramkhol village, if it did not act promptly. After much negotiation, it was decided that the FD should organise the felling and sale, deduct the costs, and provide half of the remaining amount to the village. The bamboo was harvested by OFDC, which retained 40 percent of the net income. The remainder was shared equally by the FD and the community. The villagers felt cheated, and believe they should have received about 60 percent of the net income, not 30 percent. They regretted not having proceeded with harvest and sale of the bamboo themselves. The FD argued that it only receives a royalty from OFDC, so only that can be shared with the villagers.

3.3 Macro-Macro Conflicts

State governments in India tend to treat JFM as another isolated programme, which they think can be implemented without making any changes in other sectoral programmes (Saxena, 1997). However, several aspects of policies, programmes and laws may have a strong influence on the success of JFM.

In Orissa, there appears to be a conflict between the government's JFM programme (and overall forest policy) and the macro-environment for NTFP collection and marketing.

In communities that are not protecting nearby forests there is often a high degree of dependency of some community members on *unsustainable harvesting* of timber and other forest resources, which can serve as a major *deterrent* to initiation of protection (Conroy *et al*., 1999). These community members perceive that CFM would oblige them to reduce their exploitation of forest resources (e.g. timber, firewood, bamboo),

and they were not prepared to accept this because of their high dependency. Community members said that they would be happy to switch to collection of NTFPs as a major source of income if NTFP collection and marketing became sufficiently remunerative for them. Thus, the poor returns available under the government's current NTFP policies and practices are fuelling deforestation, whereas the general policy objective, and a major objective for the JFM programme, is forest conservation.

4 THE IMPLICATIONS OF CONFLICTS FOR EXTERNAL PFM INTERVENTIONS

Conflicts are liable to occur from time to time, and are not necessarily undesirable. In PFM initiatives that have been promoted by state agencies, such as forest departments, they may sometimes indicate where improvements need to be made (e.g. where group formation had been unsound), and provide an opportunity for change. Interventions by external agencies to support conflict management are not always necessary, as communities may be able to manage conflicts satisfactorily on their own; nor are they always desirable (Warner and Jones, 1998).

In PFM, however, if conflicts escalate rapidly they can undermine, almost overnight, several years of community effort in protecting a forest patch. Thus, development agencies should:

(a) do what they can to avoid creating or exacerbating conflicts;

(b) seek to minimise conflicts when designing PFM initiatives; and

(c) assist in conflict management where local mechanisms are inadequate or non-existent, either by acting as a relatively neutral third party, or by supporting the development of local institutions.

4.1 Designing PFM Interventions to Accommodate Different Stakeholders and Interests

The formulation of policies, programmes and projects to promote PFM should be sensitive to issues of: differential impacts, including potential winners and losers; political economy; and the likely attitudes and behaviour of different stakeholders.

Stakeholder analysis (SA) can make a useful contribution to the design of policies and interventions in natural resource management. In the NRM sector any policy or intervention is likely to have consequences that bear differentially on different groups and individuals, and on 'society' as a whole: and "unless we know what these differential effects are likely to be, it is impossible to assess the value or worth of that intervention or policy" (Grimble and Wellard, 1997). SA attempts to identify winners, losers and 'payoffs'; and to assist the development of 'socially-best' policies and interventions (ibid). Stakeholder analysis can be used: (a) to improve the effectiveness of policies and projects; and/or (b) to address their social and distributional impacts (Grimble and Chan, 1995). Its proponents argue that, by

identifying potential conflicts between the interests of different stakeholders, it "helps avoid the unexpected, facilitates good design, improves the likelihood of successful implementation, and assists the assessment of outcomes" (Grimble and Wellard, 1997).

SA can help to make different objectives mutually compatible by identifying common ground, if it exists, between a number of stakeholders; and hence can assist in the designing of policies and interventions that result in win-win situations (see Table 3).

It should be borne in mind that some stakeholders may not want to acknowledge some of their interests. For example, FD staff are unlikely to admit to receiving income from their collusion with timber smugglers: or government officials to receiving money from private traders to whom they have awarded NTFP collection and processing contracts.
Such hidden agendas can be brought out into the open by asking different stakeholders to specify what they see *each other's* interests as being, as well as their own, and by asking them to provide supporting evidence based on their experiences.

4.2 Changing the Balance of Power Between the State and Communities

It would be extremely naïve to assume that the application of SA will ensure that the interests of weaker groups/stakeholders are respected (Hildyard *et al*., 98). The stronger stakeholders can be expected to continue to dominate decision-making; and, when conflicts arise, to promote their interests over those of others. Many state agencies may be opposed to giving more power to local communities; and may see it as a threat to established patron-client and rent-seeking relationships (Hobley, 1996). There may even be a reverse tendency whereby the state seeks "to expropriate the initiatives of the people" (Jodha, 1990); and, as in India, a history of conflict between certain state institutions and forest-dependent communities over forest resources (Pathak, 1994).

Traditional relationships between state agencies and communities are likely to manifest themselves in shared forest management initiatives. This is illustrated by JFM programmes in India, in which FDs (or individuals or groups within them) often have an ambivalent or hostile attitude towards devolving powers to forest protection committees (FPCs), and they:

- sometimes unilaterally over-rule FPC decisions, without explanation; and
- dominate the preparation of micro-plans, which become an instrument by which the FD retains control over the community (Saxena, 1997).

Power relations between the state and communities cannot be changed overnight, but in certain institutional and political situations there may be room for manoeuvre within which steps can be taken to promote changes. Three types of measures will now be described.

4.2.1 Creating a legal or administrative basis for mutual accountability

In many state JFM programmes in India, FDs have the power to cancel or dissolve FPCs for failing to comply with certain provisions of the JFM resolution or other

state rules and regulations. Furthermore, the reasons for the dissolution can be formulated in such a way that the decision does not appear arbitrary (Saxena, 1997). The FPCs, on the other hand, are not given any formal rights or mechanisms by which they can bring the FD to account. Thus, the FPCs are accountable to the FD, but not *vice versa*, making the relationship between them highly unequal. Legal or administrative orders embodying some form of mutual accountability would contribute to a shift in power.

4.2.2 Creating multi-stakeholder decision-making fora for PFM

In most countries, PFM involves a major shift from state management of forests to some form of shared management, involving at least two (usually several) major sets of stakeholders. Thus, new multi-stakeholder fora will generally be required (Anderson *et al*., 98), which should ideally have decision-making powers rather than merely having consultative status. If forest-dependent communities are represented on them, they can:

- strengthen communities' bargaining power vis-à-vis the state (Vira, 98); and
- help to ensure that negotiations and decision-making will be mutually acceptable to (or at least accepted by) all major stakeholders.

District or division-level fora For Orissa, it has been proposed that committees be established comprising representatives of CFM groups, OFD & NGOs: one such committee could be constituted for each forest division or each district (Conroy *et al*., 1999). The establishment of this kind of committee or working group is being given consideration by the state government. They would deal with the following kinds of issues (Conroy *et al*., 99) (and could also have a general responsibility for monitoring the performance of PFM initiatives (Vira *et al*., 98)):

- lack of FD support, either in dealing with offenders or upholding the CFM group's rights;
- resolution of inter-village boundary disputes over areas of Reserved Forest managed by several communities;
- alleged involvement of FD staff in timber smuggling from protected patches;
- undue interference of FD staff in the development or implementation of management plans by communities;
- concern of FD staff that management plans are not ecologically sound;
- concern of FD staff over serious deviations from the management plan (e.g. the number of trees being felled by CFM group members);
- concern of FD staff that the CFM group is not enforcing protection adequately.

State and national level fora A similar body is also desirable at a higher level to influence the broader enabling environment, including policy and legislation. Ensuring authentic and effective representation of FPCs at this level is more difficult, however.

4.2.3 Creating and developing forest community apex bodies

Forest-dependent communities involved in PFM tend to be weak, to function in isolation from each other, and to interface with the state individually. Their

bargaining power would be strengthened if they could collaborate, and take a united stance on certain issues. In Orissa, it is quite common for several communities to work together in CFM, particularly where there is a large tract of forest, and they often form apex bodies to coordinate their activities, assist with conflict management and provide an interface for dealings with the FD (Saxena, 1997; Poffenberger et al, 1996). Some NGOs in Orissa, such as Vasundhara and the Regional Centre for Development Cooperation, have also encouraged the development of apex bodies, including district-level federations.

4.3 Political Economy, Equity and Conflict at the Community Level

Most donors and governments promoting PFM initiatives are, at least nominally, committed to benefitting the poorest groups. Since the poor tend to be the most dependent on forest products, they may also stand to lose most from protection - at least, in the short-term; and they are the ones whose priorities are most likely to be ignored. Where SA (or any other approach) is used with this objective in mind, the stakeholders selected for the analysis should include *all* those groups, including minorities and the poor, that will be affected in some way by implementation[i].

In promoting equity the political economy of the situation needs to be taken into account, as power relations within communities cannot be changed easily. Table 3 provides a useful classification of strategies in relation to their political feasibility. An attempt to redistribute benefits radically (Type D strategy) may undermine any chance of effective implementation: in practice, therefore, the major opportunities lie with Types B and C strategies. B type approaches may be the only feasible option where the poor are weak and unorganised, but C type becomes possible where the marginal groups are strong and united.

Table 3 Distribution Strategies and their Political Feasibility

Strategy	Rural elite	Rural poor	Political feasibility
A	Gain	Lose	High
B	Gain	Gain	High
C	No change	Gain	Medium
D	Lose	Gain	Low

Source: adapted from Chambers et al, 1989.

4.3.1 Appropriate decision-making processes for FPCs

The research in Orissa found that conflicts are likely to be minimised where the decision-making processes are transparent and perceived to be fair (Conroy *et al*., 1999). For example, conflict is less likely where all sub-groups are represented on the management committee, where meetings take place regularly, and where records are kept of decisions and financial matters. Mis-appropriation of funds from CFM by one or more members of the management committee is sometimes a source of conflict between sub-groups, and is likely to be minimised by these processes.

Some conflicts will occur in PFM no matter how well the programme or policy has been designed. Not all conflicts will be directly related to forest management, but they may nevertheless impinge on it. It is important, therefore, that strong and effective conflict management mechanisms and institutions are available. When conducting SA, any existing ones should be identified and their effectiveness assessed; and, where necessary, new ones should be introduced.

There are various options available for conflict management, the main ones being: force (e.g. adversarial negotiations and legal processes; physical force, public protest); withdrawal; accommodation; compromise (arbitration, trade-offs) and consensus. Force may be necessary for dealing with particular stakeholders and their activities (e.g. timber smugglers, encroachers, poachers), in which case suitable legislation should be in place and the resources needed to enforce it made available to the forest department, police etc.

4.4.1 Consensus-based approaches

Where different stakeholders are prepared to negotiate peacefully, consensus-based approaches (sometimes called *consensual negotiations* or *alternative conflict management*) may be best, as they seek to generate mutual gains with the minimum of compromise and trade-off (Warner and Jones, 1998). Alternative conflict management (ACM) has evolved primarily from experiences and thinking in peace-building and business, and environmental disputes. A summary of the principles of ACM is given in Box 5. Further information about the application of ACM in participatory natural resource management can be found in ODI, 1998.

Box 5 Principles of ACM

- full stakeholder analysis (including those who might contribute to a resolution and those who might undermine it)
- cultural differences accommodated in the design of capacity-building and negotiation strategies
- perceptions acknowledged and then transformed
- meaningful communication pathways constructed
- a 'level playing field' for genuine collaborative negotiations created
- rapport built and maintained
- negotiations focus rapidly onto underlying needs and motivations
- common ground identified and exploited
- creative options brainstormed and widened
- motivations and options re-framed and clarified
- mutual gains facilitated
- agreements tested for financial, technical and democratic feasibility

Some observers have expressed scepticism about the feasibility and efficacy of consensus-based approaches in natural resource management, arguing that "consensus on questions of substance…. is highly unlikely or partial and temporary at best" (Anderson *et al*., 98); while others are more optimistic (ODI, 98). Scepticism seems

premature at this point, given: the effectiveness of ACM or related approaches in other sectors, such as principled negotiation in business (Fisher *et al*., 97); and the fact that it has hardly been tried yet in NRM. It may be most effective in micro-micro conflicts, where the number of stakeholders is small and power relations between them are not highly skewed.
Two broad types of conflict management assistance can be built into projects and programmes (Warner and Jones, 1998), namely:

- direct provision of facilitation or mediation services; and/or
- training in consensual negotiation, facilitation and mediation skills.

The goal of both types of assistance is 'facilitating people to bring about change of their own choosing' (Resolve, 1994).

4.4.2 Training in consensual negotiation/ACM

Training can be provided for communities themselves (including apex CBOs), for NGOs and/or for forest department staff (see next section). Where there are effective indigenous approaches to conflict management, training in consensual negotiation can build on them.

4.5 Who Should Manage Conflicts?

Ideally, CFM groups themselves should manage micro-micro conflicts affecting them; and it appears that the majority of cases of conflict in Orissa are dealt with effectively by them (Conroy *et al*., 1999). The conflict may be addressed by the forest protection committee itself. Alternatively, there are often traditional institutions or authorities (e.g. village leaders) that play a role in conflict management at the community/village level, and at the multi-village level. However, the Orissa experience shows that their power and influence may wane over time, and often new bodies are required, particularly at the multi-community level.

The evolution and strengthening of *apex organisations* of forest management communities can create new fora for conflict management between member communities. In Orissa there are many examples of such bodies being initiated and developed by the local communities themselves, and they generally identify inter-community conflict management as one of their main functions. *NGOs* may sometimes have a direct role to play in conflict management. NGOs in Orissa sometimes assist as neutral third parties; and have been able to break situations of deadlock and create an environment for the conflicting parties to come to negotiations.

Forest department staff may also have a role to play. In Orissa they are frequently called upon by CFM groups managing Reserved Forest to provide third party mediation, usually over conflicts relating to boundary disputes. It should be borne in mind, however, that FD staff are not always neutral parties; and that conflict management may not come easily to them, and may be perceived as an extra burden on their time. For shared forest management programmes there may be a case for creating one or more units specialising in conflict management.

4.6 Conflict-Prone PFM Implementation Issues

4.6.1 Determining the forest management unit

JFM programmes in India tend to recognise only legally designated Revenue villages as forest management units, although some Revenue villages are composed of a number of hamlets. The JFM approach is too rigid in this respect, and tends to be conflict-prone. The CFM experience shows that forests are sometimes managed by one or two hamlets, and that other hamlets in a Revenue village may not be involved or may have established a separate CFM initiative (Conroy *et al*., 99). There may even be forest-related conflicts between different hamlets in the same Revenue village. Thus suggests that a more flexible approach is needed.

4.6.2 Determining forest management objectives

The objectives of forest management will strongly influence the way in which the forest is managed and the silvicultural practices that are adopted. Different stakeholders may have conflicting management objectives. For example, JFM resolutions refer to the concepts of 'final harvest' and 'major harvest': these terms belong to conventional plantation forestry and reflect the objectives of forest departments. They are alien to most communities, and are not appropriate to the multi-species, multi-purpose forestry practised by CFM groups.

BOX 6 AN EXAMPLE OF CONFLICTING MANAGEMENT OBJECTIVES WITHIN COMMUNITIES

Sal forests are widespread in parts of Orissa. Sal trees (*Shorea robusta*) can produce several valuable products, notably: good timber, fuelwood, leaves that are widely used to make plates, and seeds from which oil is extracted. If sal was being managed solely for timber production, all the coppice shoots except one would be removed; and the number of green leaves available, particularly at lower levels within the reach of collectors, would be reduced. Thus, women for whom sal plate-making is an important livelihood enterprise would be losers under this management system.

Even within a community, the objectives of one group may conflict with those of another, as Box 6 illustrates. Thus, it is important that the management priorities and objectives of all sub-groups are clarified at the outset. In self-initiated forest management in Orissa, as in FPCs established through JFM programmes (Sarin *et al*., 98), it tends to be the case that an elite group plays the lead role, and formulates management plans without much consideration for weaker ethnic groups (see Box 1 for an example) or for the interests of women (see Box 6). On the basis of this information it may be possible (though not necessarily always) to develop a management plan that benefits the poorer groups, and ensures that no one group loses out.

5 CONCLUSIONS

There is usually a large number of stakeholders to consider in PFM, many with different priorities and objectives regarding forest management. Consequently, there is plenty of scope for conflicts of interest. Generally speaking, participatory forest management initiatives have not given adequate consideration to these issues, although that is starting to change (Anderson *et al*., 1998; Vira *et al*., 98); and conflicts are common in PFM programmes. Related to this has been the general tendency to ignore power relations between different sub-groups within a given community. There is evidence that the interests of the poorer groups and women have often been overlooked in India's JFM programmes.

Stakeholder analysis can play a valuable role in identifying all of the stakeholders, and in identifying ways of reconciling their priorities and objectives. It is also important that macro-level factors, such as NTFP policies and practices, are taken into account; and, if necessary, revised so as to provide a supportive enabling environment for PFM. Discussions among different stakeholders involved in PFM need to be ongoing and institutionalised, and this is likely to require the creation of new fora.

Some conflicts are inevitable in PFM programmes. It is important, therefore, to ensure that there is adequate capacity to deal with conflicts when they do arise. PFM programmes should, therefore, include provision for capacity development for conflict management, which can take two forms:

- the creation of new mechanisms and bodies for mediation of conflicts; and
- training in consensual negotiation, facilitation and mediation skills.

Forests are different from many other renewable natural resources, in that the resource, or a large proportion of it, can be removed virtually overnight. Thus, failure to resolve conflicts quickly may result in local communities losing much of the assets that they have spent years building up.

4. Mishra, A. (1999) An Overview of Community Forest Management in Mayurbhanj District, Orissa. Chatham, UK: Natural Resources Institute [Project report].

AN OVERVIEW OF COMMUNITY FOREST MANAGEMENT IN MAYURBHANJ DISTRICT, ORISSA

Abha Mishra

NRI Report No: 2537

1999

PROJECT REPORT NO. 4

***Research project on* Learning From Self-Initiated Community Forest Management Groups In Orissa**

Collaborative initiative between:
Natural Resources Institute, U. K.; Abha Mishra, Puri, Orissa; and
PRAVA, Balasore, Orissa

CONTENTS

Foreword

This report is one of several being produced by a two-year research project (R6787) funded by the UK Department for International Development's Natural Resources Systems Programme, in which 33 community forest management (CFM) initiatives have been studied and 10 non-protecting communities. The project is coordinated by Czech Conroy, a socio-economist at the Natural Resources Institute, University of Greenwich. The project aims to improve understanding of: (a) the conditions that lead to the initiation of CFM; (b) the factors affecting its sustainability; and (c) the size and nature of the benefits, and how they are distributed among the various sub-groups of a community. The project has also been studying communities' support needs; and is seeking to identify the implications of the experiences of self-initiated CFM for policy and for the design of joint forest management programmes and other initiatives promoting participatory forest management.

Mayurbhanj is one of the six districts in Orissa where fieldwork was undertaken. This report gives a general overview of community forest management in the district, and summarises key findings from the case studies undertaken there. The fieldwork was undertaken by Ms. Abha Mishra, a consultant based in Orissa who specialises in social and cultural aspects of forest use and management, in collaboration with two local NGOs. Further copies of this report can be obtained either from NRI or from the local NGO, PRAVA.

Czech Conroy

Acknowledgements

Field-based research cannot be done by an individual alone -- he/she takes the help of many people to complete the study. We would like to take this opportunity to thank the staff of the collaborating ngos who provided assistance with the field work in their operational areas. They are Sanjeev Padhi, Gopinath Rana, Ranjan, Sanjeet of PRAVA; and Kumar Babuli of Banipitho. We are also grateful to the forest department field staff who shared their valuable time with us. Last, but not least, we would like to thank the seven village communities that were surveyed for sitting with us to share their knowledge, patiently replying to our queries, and showing us the protected patches and giving us their valuable time. We wish them all success in their endeavours.

Abha Mishra

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COLLABORATING NGOs

'PRAVA' (Professional Assistance for Voluntary Action) is a Balasore based NGO, working in Mayurbhanj and Balasore districts. It was started by a group of eco-concerned people from various walks of life in 1989. The motto of the organisation is "Let us act and live together". PRAVA works in two major ecosystems: the hilly forest ecosystem of extended Chottanagpur plateau of Mayurbhanj district, and the coastal-estuarine ecosystem of Balasore district. The main goals and objectives of PRAVA are eco-restoration and development through: sustainable microplanning of Natural and Human resources, and strengthening people's institutions and voluntary agencies. They are involved in watershed management programmes and income generating activities; as well as undertaking studies and conducting workshops on issues related to forestry and bio-diversity.

Prasant Ku. Das
PRAVA
O.T. Road
Sadar P.S. Square
Balasore -756001

'Banipitho' is based in the village of Haldipada in Badasahi block of Mayurbhanj District. It was established by Lakshmidhar Rout a revenue inspector who loved to organise cultural activities. The staff work mostly on education and health-related projects. They publish a monthly children's magazine called 'Suna chand' and other children books in the local language i.e. Oriya. They sometimes also publish books for adults. They have maintained a public library in the village 'Haldipada', where people can come and read during their leisure time. They organise health camps in their block with the help of health department and have recently opened an Electro-Homeopathic college in their village. They are also been involved in spreading the message of forest protection while undertaking education awareness programmes. They initiated the formation of a forest protection committee in their village and have undertaken plantation activities in other villages.

Kumar Babuli
The Banipitho
Haldipada
Po: Kendudiha
Via: Barasahi
Baripada -757026

A. BACKGROUND INFORMATION ON THE DISTRICT AND ITS FORESTS

1. District Profile

The district is called Mayurbhanj after the ex-state Mayurbhanj which merged with Orissa on 1st January 1949 and constituted the entire district. The Mayurbhanj district is named after the contemporaneous medieval ruling families Mayuras and Bhanjas. The Mayuras as known from their records were ruling over Bonai Mandal contemporaneously with the Bhanjas of Khiching Mandal (Bonai and Khiching Mandal were the names of their Kingdoms).

Mayurbhanj is the northern-most district in the state of Orissa. With a total geographical area of 10,418 sq.km, forests covered 39 percent of land area in 1989. The district lies between 21 16' and 22 34' north longitude and 85 40' and 87 11' east latitude. It is bounded in the north by Midnapur district of West Bengal and Singhbhum district of Bihar, in the south by Keonjhar and Balasore districts of Orissa, in the west by Singhbhum and Keonjhar districts and in the East by Midnapur district of West Bengal and Balasore district.

The district of Mayurbhanj is divided into four administrative sub-divisions, namely:

- Sadar Sub-division, with headquarters at Baripada.
- Bamanghaty Sub-division, with headquarters at Rairangpur.
- Panchpir Sub-division, with headquarters at Karanjia.
- Koptipada Sub-division, with headquarters at Udala.

It is further divided into 9 Tahasils and 26 Community Development blocks. The blocks are divided into 316 Gram Panchayats and the total number of inhabited villages is 3718. (Ref. Annexure-1)

According to the Mayurbhanj Gazetteer, topographically the district can be divided into three distinct natural divisions. The hill ranges serve as the dividing line running due north and south from the central group. There are two ranges of hills of lesser elevation dividing the plains of the district into two halves- the eastern and the western. The western part is further subdivided into two portions by another hill range running in a westerly direction from the northern portion of north-south line.

The eastern division slopes gently from the foot of the hills towards the sea. It is served by a number of hill streams, and forms an ideal region for irrigation. It has two subdivisions, namely Koptipada and Baripada. The western portion is mainly a plain rising and falling in gentle slopes studded with rocky mounds and hills. The soil of northern portion is very fertile and lends itself to extensive cultivation. It has Bamanghaty subdivision in the north and Panchpir subdivision in the south.

The population of the district is 1884580 (1991 census), of which about 7% are Scheduled Caste and 57.9% are Scheduled Tribes. Chief among the tribal community are the Santals, Kols(Ho), Bhunyas, Kurmis, Bathudis, and Bhumijas: there are several other tribal groups who are numerically smaller. General caste (Oriyas) and other backward castes are found all over the district.

Paddy is the principal crop grown by the villagers in Mayurbhanj. Many major and minor irrigation schemes have been constructed and, depending on the availability of irrigation facilities in an area, double cropping or single cropping of paddy is taken up. Besides paddy, other crops grown in the district are: Wheat, Maize, Ragi, Greengram, Blackgram, Horsegram, Til, Groundnut, Mustard, Potato, Jute and Sugarcane.

Employment is chiefly in the agriculture sector, which is seasonal in nature. This leaves most of the rural population with no employment during non-agricultural season. The rural population depend on forest products, small industries, mining and quarrying activities and construction work to fulfil their needs. Migration to other parts of the district and neighbouring districts takes place during the agricultural season usually to work as agricultural labour from areas where there is less agricultural land and where no irrigation facilities are available. Migration to work as labourers on construction sites, in towns and cities, is also important.

2. Forests Of Mayurbhanj

The total forest area of the district is 4678.41 sq. Kms. It has been divided into two divisions i.e. Baripada and Karanjia. Parts of Baripada and Karanjia divisions have been further demarcated as Similipal Tiger Reserve (STR), which comes under the Wildlife wing of the forest department.

The distribution of the forest areas under different legal status in different divisions is given in the following table:

(area in sq. kms.)

Type	RF	DPF	UDPF	Unclassified forest	Total
Baripada division	894.38	122.54	624.44	0.53	1641.89
Karanjia division	1610.23	225.50	353.34	1.45	2190.52
S.T.R., Baripada	845.70	-	-	0.30	846.00
Dist. Total	3350.31	348.04	977.78	2.28	4678.41

Source: District Statistical Handbook, Mayurbhanj, 1995

For our study in Mayurbhanj district we have taken up case studies only in Baripada Forest division. The forest of Baripada division is broadly classified into different categories according to standard classification laid by Champion and Seth. These are:

1. Northern tropical semi evergreen forests (in the deep and narrow valleys of Similipal hills)
2. Northern tropical moist deciduous forests (in Similipal hills)
3. Plain Sal Forests
4. Dry deciduous hill forests (on the steep eastern and southern faces of the Similipal hills)
5. Dry Sal forests (Noto, Satkosia, Badampahar, Tanger, Saranda etc. Reserve forest)
6. Hill level Sal forests (above 2800’ in Similipal hills)
7. Grass lands and Savannahs (in Similipal hills)

Economically, Sal (*Shorea robusta*) is by far the most important species. It is found all over the forests, whether it be in the plains, hills, valleys, hilltops or plateau. It occurs as the overwhelmingly dominant species in many tracts, but in others it is scattered. It has a large number of tree, shrub and herb associates. Abundance of grass is a remarkable feature of the extensive forests of Similipal.

2.1. Forest history

From the annexation of Orissa in 1803 by the British to the close of the century there is very little written record on the condition of the forest. There was a small reference by W.W. Hunter, the first British Commissioner, in History of Orissa, Volume II at page 113 where he wrote: "herds of elephants still roam through the forests and mountains of Mayurbhanj and the English officer in charge of the operations for catching them has lately bagged upwards of a hundred fine animals during two seasons". After that during the years 1895-96 C.C. Hart described the plains and accessible areas as being denuded of mature Sal, but the Similipal hills forest was preserved, as it was not accessible. It was only after C. C. Hart's tour that a systematic working plan was formulated. A separate forest department was created in 1897.

According to the working plans outlined by Mr. C.C. Hart, in 1896-97, forests were divided into reserve forests and protected forests. The former were under the management of forest officers; whereas the latter were initially under the management of revenue authorities, but were later brought under the management of forest officials after introduction of the Indian Forest Act and private (Lakharaj) forests.

After the creation of the forest department exploitation of the forest reserves was allowed through small contractors. The exploitation of the forest reserve in 1906-07 was given as a long term lease of 10 years for North- western parts of Similipal Hills, North of river Buhabalang to M/S B. Borooah and company; while other parts of the Similipal forest were being exploited by other contractors. In 1907 correspondence with the Mr. Borooah was started to become a co-partner to finance and undertake the construction of a railway track in Mayurbhanj. Mr. Borooah entered into another contract which gave him a 30 year monopoly lease for extraction of timber from whole of Similipal reserve forest area on the terms and condition of the earlier 10 yr. lease. On the expiry of the lease in 1916 it was extended for another 30 years. The contract for exploitation of the total Similipal forest area was given exclusively to the M/S B. Borooah and company.

After the expiry of the 30 year lease a working plan was compiled by B. M. Dasgupta, D.D.R.(Retd.) but it was only in force for a short duration, 1947-48 to 1952-53. Then a new plan was prepared by Sripal Jee, I.F.S. (retd.) for the reserve forest of Mayurbhanj district which came into force in 1953-54. The next working plan was completed by Sri. S. Bose, DFO, Forest Resource Survey Division and was deemed to be operative from 1973-74 till 1993-94. According to the forest department, a new working plan has since been prepared but has not yet been passed and published.

2.2. Causes of deforestation

The destruction of Reserve forest in Mayurbhanj district started with the lease given for coupe cutting to the contractors after the formation of the forest department. The

characteristics of the lease were that it was for long term and for vast areas of forest and at low rates of royalty. These contractors got a ready market for the timber extracted from Mayurbhanj as the railways on both north and south sides of the state were being constructed. Over-exploitation and depletion of mature Sal trees was the result of these operations. Many sawmills were established by the contractors; sawyers were brought from Singhbhum (in Bihar) and their descendants are still found in Mayurbhanj. The exploitation of the forest in this form continued till the merger of the Mayurbhanj state with the State of Orissa in 1949.

Besides the commercial exploitation, exploitation by local people for timber, fuelwood, non-timber forest produce and grazing was permissible from time to time from Protected or Reserved forest under rights and concessions granted under the Mayurbhanj Forest Manual of 1911. The lower officials who were responsible for the issue of the pass, sometimes engaged in indiscriminate issue of passes to the detriment of forests. Grazing and fire were considered by the department to be other causes of degradation of the forests. The protected forest that was under the control of the Revenue Department was subjected to clearing for cultivation.

According to the Mayurbhanj Gazetteer, in late 1960s and early 1970s people in the plain areas, where agriculture was the mainstay, faced continuous crop failure due to drought (1965, 1966, 1967, 1971 and 1976 and later). This compelled the villagers to search for alternative means of income. The ever increasing demand for fuelwood and timber in the urban areas encouraged the villagers to exploit the remaining forest areas for income. The pressure from the plain areas gradually shifted inwards as the forest in plains became incapable of yielding good timber.

After independence an era of developmental activities started whose broad goal was to make the country self-sufficient. To increase crop production and bring about green revolution many developmental activities were initiated in the district. Medium and minor irrigation projects were promoted; mining activities were taken-up in different areas; and roads were constructed. People from outside the district came to work as labourers in the mining areas or on construction of dams. They cleared vast areas of forest to build dams etc.; and subsequently cleared more to settle down.

The forests that were initially cut were not given a chance to recover: the post-harvest management could not be enforced. Many persons from Baripada town as well as from the neighbouring villages became engaged in firewood cutting and sale. A few from these areas also took up timber smuggling. The larger and better timber trees were removed by coupe contractors. The smaller trees and regenerating plants were periodically harvested by fuelwood sellers.

3 Evolution of Forest Protection by the Communities

As stated earlier, the population of Mayurbhanj district is about 58% tribal. In some of the blocks the tribal population may constitute as much as 70-80%. The tribal people depend on the forest for providing them with some food materials (like mushrooms, berries, edible green leaves), and with other forest products to generate cash (like Mahua, Sal seeds, and Sal leaves). Due to increase in demand from the urban areas for fuelwood and timber, there has been a reduction in numerous non-timber forest products; and scarcity has also been felt by people in many rural areas for the basic

requirements of fuel, and timber for construction or agricultural implements. The scarcity experienced by the villagers has resulted in formation of forest protection committees by them.

Even though scarcity was felt way back in late sixties in the vicinity of the villages, there were still some forest areas remaining from which people were able to meet at least some of their needs. Thus, the formation of the forest protection committees (FPCs) in most areas is more recent i.e. in the mid-eighties and early nineties; although one of the cases studied has a protection history of 40 years.

It has been stated that nearly all the blocks of the district have forest protection committees, but according to some the main forest protection zone is in and around Baripada block. No agency has a complete estimate of the number of the FPCs in the district. MASS, a federation of NGOs in Mayurbhanj, is working with 600 FPCs in the district. Mark Poffenberger[6] gives a rough estimate of over 1000 FPCs; while the Forest Department has produced a list of 109 Vana Samarakshan Samiti and 160 Village Forest Protection Committees (February, 1998).

MASS	600
Mark Poffenberger	1000
Forest Department	109 VSS & 160 VFPC

The history of protection efforts in the district can be divided into three phases:

Phase I: Formation of the forest protection committees

By late sixties and early seventies the villages had started to feel the impact of the degradation of forest. The scarcity of the forest products useful for their sustenance of livelihood and religious purposes was felt by the tribal communities who were the major users of the forest products. This motivated some of the villages to take care of the forest area in the vicinity of their village.

Phase II: Formation of the federations

By early eighties some forest department staff also started to take interest in the protection efforts. This was due to the creation of a Social Forestry project funded by SIDA. During mid-eighties and early nineties a large number of villages had formed forest protection committees. In some areas villages came together and formed federations for better functioning.

The best known case is of Budhikhamari joint protection group, which started with five forest protection committees in 1986[7]. Its establishment was facilitated and encouraged by Mr. K.C. Mishra, Ranger of Pithabata range. In 1987 a meeting was held and about 60-70 neighbouring villages were invited to discuss forest protection. The message spread and other communities started protecting forest: today the federation boasts a membership of 55 villages. The federation was formed with the following main objectives in mind:

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[6] In his debriefing note on "Qualitative assessment of CFM/ Joint Forest Management issues in Mayurbhanj district" (April 13, 1998)

[7] Jonsson, Stefan and Rai, Ajay, (1994) [Eds]. "Forest, People & Protection: Case studies of forest protection by communities in Orissa". SIDA: New Delhi.

- To help in forest protection efforts and establish co-operation amongst the protecting village
- To help in resolving conflicts which the villagers have not been able to solve mutually.
- To act as a link between forest protection committees and forest department as a larger group can stake its claim with greater intensity.

Phase III: Formation of the VSS by the forest department and entry of the NGOs.
With the passing of resolution by the government in 1988 where the villagers were to be involved in forest protection efforts, the forest department (territorial) started to take some interest to involve villagers in protecting the forest. Budhikhamari joint protection committee was the only case in the district where the Forest Department's interest encouraged the protection of natural Sal forest. Instances of promotion of protection efforts for plantation of Teak can be found in certain villages, but motivation to protect natural Sal forest was not there. After the passing of 1993 Joint Forest Management resolution, the Forest Department took steps to promote Vana Samarakshan Samitis (VSS). Many villages were already protecting forests prior to the resolution, so the existing committees are being encouraged by the Forest Department to convert to VSS and obtain official recognition under the Joint Forest Management resolution.
MASS is a federation of 40 NGOs that was formed in 1991, and has been supported by Ford Foundation through CENDERET, Xavier Institute of Management, Bhubaneswar. MASS has its own office bearers and is in the process of registering itself as an NGO. MASS has tried to weave 600 affiliated forest protection committees present all over the district into a federation. The federation is a three-tier structure: 1. cluster-level group comprising of village FPC representatives; 2. regional level group, composed of cluster leaders; and finally the district-level federation, which is comprised of representatives from the regional groups. They discuss various issues relevant to forest protection and then take them up at other district and state level forums. In addition, MASS has conducted training programmes to strengthen these institutions, and has taken up documentation.

PRAVA, another NGO, has been conducting meetings and working with some of the forest protection committees in Udala and Koptipada blocks, since 1991. It has also been holding workshops, along with other NGOs, at the district-level.

B. SURVEY METHODOLOGY AND FINDINGS

4. Methodology

4.1. Background

The survey was undertaken in four forest ranges of Baripada forest division, namely Udala, Koptipada, Badasahi and Nilgiri. Udala, Koptipada and Badasahi come under Mayurbhanj district, while Nilgiri Range comes under Balasore district. Six ordinary cases in three blocks (namely Barasahi, Udala and Koptipada) were taken up for study, of which five were protection cases and one was a non-protection case. Demographic and other information about the three blocks is given in the table below.

Study Blocks	Geog. area (sq. km.)	*No. of villages	No. of households	Population	% ST

Barasahi	312.13	224	22114	114197	48.24
Udala	283.05	84	10714	56343	75.34
Koptipada	530.05	141	18405	102222	63.51
Dist. Total	10418	3945	363672	1884580	57.87

* total no. of inhabited and uninhabited villages
Source: District Statistical Handbook, Mayurbhanj, 1993

In addition, a special protection case was taken-up in the Nilgiri block of Balasore district.

4.2 Land utilisation pattern of the study blocks

The distribution of land by category in each of the three survey blocks in Mayurbhanj is given in the following table.

(area in Hectare)

Categories of land	**Barasahi**	*Koptipada*	**Udala**	**Dist. Total**
Forest area	656	10790	704	72847
Misc. Tree crops and groves not included in the net area sown	1705	132	203	30605
Permanent pasture & other grazing lands	1321	1356	342	28509
Cultivable waste	1517	3587	877	51819
Land put to non-agricultural uses	3235	3628	1984	58666
Barren and uncultivable land	7	2562	492	12658
Current fallow	1217	3073	1734	43065
Other fallow	3311	1801	10801	43724
Net sown area	19168	10905	10905	350643

Source: District Statistical Handbook, Mayurbhanj, 1995

4.3 Selection of the study villages

We selected blocks in the hills because community forest management (CFM) in blocks in the plains areas, such as Baripada and Betnoti blocks, has already been relatively well covered by others. A second criterion for the selection of blocks as that there should be at least one NGO active there, so that:

- we could easily obtain general information about forest protection efforts in the block
- we could select after stratification randomly from a reliable list of villages with forest protection committee (supplied by the NGO)
- the NGO being known in the area, could introduce the researcher to the communities and enable a rapport to be developed quickly.

The majority of cases covered by the survey in both this and other districts were intended to be representative of the locality in which they were found. These are called ‘ordinary’ cases, and in Mayurbhanj District they were selected though stratified random sampling (see below). The survey as a whole (which covered six districts) also studied several ‘special’ cases, which were purposively selected to illustrate certain points or issues.

PRAVA helped in selecting four cases, two in each block of Udala and Koptipada of Mayurbhanj district. Another NGO, 'Banipitho', helped in selection of two sites in Badasahi block. PRAVA also helped identify the special case in Nilgiri block of Balasore district.

In selecting the ordinary protection cases four main stratification criteria were applied. These were: i) its age of protection should be at least five years; ii) the protected patch should be predominantly Sal forest[8]; iii) at least 75% of the population should be tribal; and iv) it had not been taken up previously for detailed study. The second and third criteria were used because the survey as a whole was seeking to achieve a roughly equal balance between tribal and mixed cases; and between Sal forests and other forests.

The sample from which the cases were selected for study was quite small. This was due to the criteria that it should be 75% tribal and Sal forest, which excluded a large number of cases. All possible measures were taken to remove any bias from the small list of villages which fulfilled our criteria.

Block	# of Protecting cases	# of Cases fulfilling the criterion of tribal village
Udala	17	8
Koptipada	24	9
Barasahi	57	14

The selection of one non-protection case was done through random selection from a cluster of five non-protection cases near to the Similipal forest in Koptipada block. One special case was also studied, which was selected to illustrate the effect of stone quarrying on forest protection efforts.

In Udala block, we had to select Kathuabeda as a tribal village, despite the fact that only 65% of its population were tribal. This was because some of the tribal villages in the block were not protecting Sal forest, but teak or eucyplatus plantations.

As there was only limited reliable background information about CFM cases in relation to the stratification criteria, some of the cases had to be replaced after the first visit. For example, some of the cases did not involve protection of Sal forest but were protecting mixed forest or plantation.

In one of the protecting villages, 'Astajharan' we were not able to motivate the people to participate in our discussions properly. We followed the same procedure as followed in other villages, introducing ourselves and the purpose of the study. Villagers responded well in the first meeting, but subsequently only a few people attended the group meetings, despite the fact that they had been arranged according to the convenience of the people. There are various possible reasons for this lack of participation. One of them could be, as pointed by the forest department staff, the fact that a large number of families are involved in timber smuggling from Similipal hills, even if they deny this in front of outsiders. Another reason was that Banipitho did not

[8] A list of tree species found in the villages is given in Annexure-II.

have a particularly strong rapport with the villagers, as interaction between the villagers and NGO is limited to certain youths of the village.

5. Description of Case Studies

The cases have been divided into two categories, protection and non-protection. An overview of these cases has been given in the table below to set the context for a detailed discussion of the findings.

Basic Information about the Protection Cases

District	Mayurbhanj	Mayurbhanj	Mayurbhanj	Mayurbhanj	Mayurbhanj	Balasore
Forest division	Baripada	Baripada	Baripada	Baripada	Baripada	Baripada
Forest range	Udala	Udala	Koptipada	Badasahi	Badasahi	Nilgiri
Village	Kathuabeda	Rangamatia and Begunidiha	Nachipur	Purnapani	Astajharan	Mahsipata
Block	Udala	Udala	Koptipada	Badasahi	Badasahi	Nilgiri
Cluster type	village	1 village & one hamlet of another village	village	village	three hamlets	4 hamlet
# of hh	127	75	127	70	70	203
Social composition*	mixed	tribal	tribal	tribal	tribal	tribal
Start of Protection	1985	1975	1988	1958	1983	1963
Area in acres	100	50	50	50	75	125
FPC	Informal	**Informal /Formal	Informal	Informal - Youth club	Informal/ formal	**Informal/ Formal
Method of protection	Thengapali	Thengapali	Thengapali	Thengapali	Thengapali	Thengapali
Subsistence Products***	Non-timber forest produce, large timber	Dry Sal leaves, non-timber forest produce, large timber	Non-timber forest produce, small timber	Non-timber forest produce, large timber	Non-timber forest produce, small timber	Non-timber forest produce, large timber
Marketed NTFPs	Sal leaf plates by a few households	Sal leaf plates by a few households	Sal leaf plates by all households	Sal leaf cups, Dry Sal leaves for fuel, Sal seeds	Sal leaf plates, Sal seeds	Sal leaf plates, Fruits, Seeds

* We have defined villages with more than 75% tribal population as tribal villages.
** Informal /Formal: because even though a VSS has been initiated no proper functioning is there of the VSS.
*** Non-timber forest products for sustenance include green leaves, mushrooms, fruits, seeds, and flowers.

Basic Information about the Non-Protection Case

Name	Distance from	Composition	# of hh	Important non-timber

	nearest forest			forest produce: Trade
Kadamsole samil Kusunpur	next to the reserve forest	tribal	106	Sal leaves

6. Livelihood Analysis

The livelihood activities are varied and site specific. Agriculture, forest product-based enterprises, manual wage labour and animal husbandry are four common activities. Besides these some villagers are service holders in government and private sector enterprises. The most important livelihood activities are: agriculture for large land owners; and manual wage labour for marginal and small farmers and the landless. Manual wage labour may be in: agricultural activities, the construction sector, or stone quarrying; and sometimes in labour-intensive industries like stone crushing. For some groups – such as the Bathudis of Mahsipata, Santals of Purnapani, Harijans of Rangamatia - forest product-based enterprises are the most important source of cash income. The value of animal husbandry is mainly in relation to agriculture and as a source of income during times of distress.

Livelihood analysis reveals that all groups from agriculturist to landless to service holder have some stake in the forest, although there are important differences in the degree and type of dependence. The forests provide products both for self-use and sale. All members of the community, irrespective of their socio-economic status, need the forest for fuel and housing materials. In addition, the farmers obtain timber from the forest to make agricultural implements; while the small and marginal farmers, and landless, may need the non-timber forest produce to provide them with additional income.

The livelihood activities are often complementary to each other as the villagers take up more than one activity to sustain themselves. Different activities are undertaken at different times of the year, or may be simultaneously undertaken in a households by different members, the activity selected depending on the person's sex and age.

Another livelihood activity is Sabai grass rope-making. In three villages this activity was done by a small section of the community. In Astajharan, some Santals and all Mahanto households did not take to Sal-leaf stitching but made sabai grass ropes in non-agricultural season. Some members in a few households in Purunapani have also taken up this activity. According to the villagers, rope-making is difficult and needs practice, but it fetches more income then non-timber forest produce trade[9]. Some farmers who grow Sabai grass keep it for their self-use (i.e. make ropes) or sell the grass to traders in the open market.

According to the villagers, some non-timber forest products are more important than others due to their usefulness to the households or due to the monetary benefit derived from their sale. In Mayurbhanj, the most important non-timber forest products in the study villages were green and dry Sal leaves. Green leaves were made into leaf plates or cups by the villagers in all the villages. Leaf-plates and cups were also traded on a large scale in four villages; but not in the other two villages, where alternative income-generating opportunities were available. Dry Sal leaves were collected by households in all the villages, but were traded only in one village. All the other non-

[9] Editor's note. Sabai grass was obtained from the forests in the past, but it is now widely cultivated as a cash crop.

timber forest products were primarily for self-consumption. The collection and processing of non-timber forest produce is a more important activity for the poorer sections of the community.

There is evidence from the case studies to support the view that collection of NTFPs for sale is only undertaken as a last resort, because the returns to labour are relatively low (see table below). We found that when people have an alternative income-generating activity they opt for this in preference to sale of non-timber forest produce. For example, in Rangamatia-Beguniadiha and Kathuabeda, the making of Sal leaf plates for sale is restricted to a very limited number of households, as people, including women, have the option of earning money as construction labourers, which is a more remunerative activity than plate-making. Similarly, in Mahsipata working in the stone quarry provides people with more income than NTFPs.

Comparison of Daily Income from Different Activities (Rs)

Sal leaf plate making	Construction work (Udala town)	Stone quarrying (Near village Mahsipata)	Agriculture wage labour	Sabai grass rope-making
10-15	20(F), 25-60(M)	20-40(F), 60-100(M)	10-15(F), *20-25(M)	14-30 (F) 28-40 (M)

F = female, M = male

Males are less involved in Sal leaf plate-making and only get involved when they have no other work. While working on a construction site or mining site, males take up different types of activities, for example, on a construction site he may work as a labourer, as a mason, etc., hence the wage range is wider as it depends on the type of work he is undertaking. In village Kadamsole, some men migrated for a short duration to other areas like Balasore to work in the agricultural fields where they earned Rs. 30-35 per day besides food, but migration for agricultural work was not found in any other of the other villages studied.

Cultural differences also play an important role in selection of livelihood activities. For example, in Rangamatia the Harijans make the Atundi baskets and prefer to go to the forest to collect athudi creeper rather than work as construction labour. In Mahsipata, one tribe, the Bathudi, generally prefer to go to the forest to collect non-timber forest produce; while another, Bhumija, work in the stone quarry instead[10].

7. Initiation of Forest Protection

7.1 Factors giving rise to initiation of protection

The factors affecting the initiation of forest protection are many. In some cases only one factor has played an important role, while in other cases it has been a combination

[10] Editor's note: Differences between ethnic groups in work activities may reflect differences in preferences, but could also reflect differences in options available to them. For example, it may be that the Bhumija have exclusive access to work in the quarry through influence over the recruitment process, and are able to exclude the Bathudi.

of several factors. The underlying force behind the initiation of forest protection has been the increasing scarcity of products from the forest. The major factors giving rise to initiation of forest protection in Mayurbhanj, on the basis of the case studies, are:

- scarcity of forest products like timber for agricultural implements and housing materials, and fuelwood.
- Sal tree plays a very significant role in the lives of the tribals, who have "Jahira" (Sacred grove), a place of worship which consists basically Sal trees. Offering during the Puja has to be kept on Sal leaves and the tree itself is important during all ceremonies related to their cultural life.
- another 'trigger' factor is the debarring of villagers from entering the forest patch of another nearby village that has initiated protection.

7.2 Factors inhibiting initiation of protection

Again, it is usually a combination of factors that inhibits forest protection but sometimes one factor is sufficient to deter a community from starting forest protection: e.g. headloading as a means of livelihood. The following factors were found to play an important role in inhibiting forest protection in the non-protection case studied.

- No strong leadership in the village;
- Negligible scarcity of forest products for sustenance or trade of non-timber forest produce felt by the community;
- The livelihood of the villagers is in direct conflict with forest protection, as in case of timber smugglers or fuelwood collectors;
- The village is situated near a route used by timber smugglers;
- The location of nearby forest makes it difficult for the community to enforce protection, because of distance from the village, proximity to other villages or roads, etc.
- Sometimes smaller villages are at a disadvantage when they have to defend their forest area and this may deter them from protection[11].

The villagers of Rangamatia started protection but when they felt that they alone are not capable of protecting the forest from other neighbouring village due their village size they approached village Beguniadiha and together they started protection.

7.3 Process through which protection is initiated

The initiation of the forest protection has been through the interest of an individual or group of individuals who have motivated other villagers to take up protection. The group may consist of 'council of village elders' or group of youths who have formed a 'youth club'. Before starting protection the village always holds meetings to discuss the idea, to which all interested male inhabitants are invited.

In many cases socio-economic importance of individuals have played an important role in initiating and spread of forest protection. For example, in Kathuabeda it was

[11] However, sometimes they may be able to form an alliance with another neighbouring village to protect a forest patch.

the efforts of Mangal Murmu and Lal Mohan; while in Mahsipata, it was Kalicharan Singh and Sachidananda Sahoo who motivated the villagers to start protection efforts.

7.4 Facilitating factors

Several factors have facilitated the widespread presence of CFM in Mayurbhanj and other parts of Orissa. One is the fact, as evidenced by the case studies, that protection efforts are generally found only on those lands which are not suitable for agriculture. The protected patches of the case studies are either on hillocks or on land which is full of laterite soil. The laterite soil is of two types: Laterite morum and laterite rock, and both of them have no productive value for agriculture purpose (Mayurbhanj Gazetteer, 1967, pg. 202).

Another facilitating factor in Mayurbhanj is that the extent of dependence on forest is very high, because the livelihood activities are limited and hence forests have been an important part of the tribal culture of the major tribes residing in the district. So motivation to protect the forest is very high.

Strong leadership is very important for facilitating as well as sustaining the institutional arrangements for forest protection. If the leader is strong then others listen and follow him, as they feel that what he is saying is for their mutual benefit.

8. Institutional Arrangements

8.1 Protection unit

The protection unit may be a hamlet, a village or a group of villages or hamlets. Rangamatia-Beguniadiha, the case described above, comprises one village and one hamlet of another village. Mahsipata village has two separate committees, as it is a large village and households are scattered over a large area.

8.2 Membership

Membership is always in the name of the male members of the households. The membership is open to all the villagers who are interested in forest protection. Membership to new members from within the village is only after payment in cash or kind as decided by the committee. For example, in Kathuabeda village new members had to pay Rs. 6.00 instead of 50 paisa as they joined the committee after one year of protection. In our case studies, membership has not been granted to anyone outside the village.

8.3 Decision-making process

Decision-making in the villages is collective in all the cases. All the members sit together and decide the *modus operandi*. The executive committee decides about the day-to-day affairs, allots timber to households and issues permits for collection of forest products where applicable.

Even in the informal set-up the decision-making system is two-tier, consisting of a general body and an executive body. The members of the executive body are selected through consensus, and the process is influenced by their position in the village. It usually has 5-15 members, all of whom are male. Due to intervention of the forest department, Mahsipata village also has women members on its VSS committee. Women are also invited when forest department staff hold meetings, but their contribution is limited to attending the meeting rather than actively participating.

Earlier, the forest protection committee was more informal in nature and it consisted of village elders or like minded people who looked after all the affairs of the village. Today, in at least two cases the youth clubs in the village have taken over forest protection. Of course the village elders are still involved but their involvement has reduced.

8.4 Watch and Ward

The villages have a patrolling system called "Thengapali". This is a daily rotational patrolling system, where all the members are involved and have to take their turn in patrolling the protected patch - or arrange a replacement at their own expense.

Women have been asked to keep an eye for the offenders when they are in the forest. Sometimes the FPCs have appointed paid watchers to patrol the forest patch. However, lack of volunteers (given the very low 'wages'), or the inability or unwillingness of the member households to contribute, have forced them to shift to 'Thengapali'. For example, in the case of Rangamatia, after the death of the initial women watchers they were not able to motivate or get any other person interested to patrol for handful of grains; while in Mahsipata, some households were unable to contribute in cash or kind towards the keeping of the guard.

Village	**Initially**	**Middle phase**	**Presently**	*Modifications*
Mahsipata	Watchers (3 yr.)	Thengapali (31 yrs)	Watcher left in March '98	More appointed during Mahua flower collection and after agricultural season
Purunapani	Thengapali	Thengapali	Thengapali	More persons patrol during Sal leaf shedding season.
Rangamatia	Watchers (7 yrs)	Thengapali	Thengapali	Additional persons after agricultural (Summer) season
Nachipur	Thengapali (5yrs)	General vigilance	General vigilance	Nil
Kathuabeda	Thengapali (5-6 Persons)	Thengapali (4 persons)	Thengapali (2 persons)	Additional persons in Summer season
Astajharan	Thengapali	Thengapali	Thengapali	Additional persons in Summer season

The precise nature of rotational patrolling depends on the season (in certain seasons there is a greater likelihood of theft), and the size of the threat to the forest from neighbouring villages. For example Purunapani increases its guards when the Sal

leaves are shed, as they sell dry Sal leaves to other villages. Kathuabeda, on the other hand, increases its guard during the summer, when work is less for men and hence there is more likelihood of theft of timber (small or big) and fuelwood.

The rotational patrol was less active in cases where trees in the protected patch were quite mature. According to the villagers this is because it is difficult for outsiders to fell and remove big trees without being heard from a distance, so regular patrolling is not vital. This contradicts the widely held view that the threat of theft by outsiders grows as the forest matures and increases in value.

CONCERN

After a long period of protection and good regeneration, the institutions have become slack, in terms of holding meetings or regular patrolling. In the initial days of protection it was necessary to hold regular meetings to take stock of the protection efforts and to remind everyone of their commitment to the cause. With the passage of time the non- members of the village as well as the neighbouring villagers have accepted their right over the protected forest and hence the villagers only hold meetings occasionally, when there is a particular need to do so.

As the patrolling becomes loose, illicit felling becomes an issue again even though everyone is aware of the protection efforts.

For example, in the village Purunapani, due to lack of effective leadership amongst the second generation committee members, some felling of trees has taken place without committee's permission.

The villagers do not see any point in patrolling regularly, if protection is reasonably effective without this. They presumably aim to minimise the cost of patrolling, provided they do not seriously jeopardise the benefits from the forest.

8.5 Penalty system

Besides patrolling, FPCs also have various penalties to deter theft, for example fines and confiscation of the offender's cutting instrument. The penalties tend to be graduated, as is often the case (Ostrom, 1990). The villagers usually start with a warning for a first offender, and take away his instrument. However, if offenders persist then they are fined. The size of fines to be levied is determined by the committee members. Finally, in the case of a serious repeat offender, villagers may resort to handing him over to the forest department.

In some of the villages separate penalty system has been adopted for the members and non-members, while in others the penalties are the same for all offenders. In some villages the fine is fixed, while in others they are variable, decided by the general body on case to case basis.

Penalty System in Case Study Villages

Village	First offence	Second offence	Third offence	Remarks
Nachipur	Warning-members Fined/handed over to	Fined on case by case basis-	-	

	police-outsider	Member		
Mahsipata	Warning-members Fine- Outsiders (no fixed amount, as decided by PC)	Confiscate implements & handed over to FD	-	Fine for the non-member offender decided by the general body.
Kathuabeda	Warning and asked to beg forgiveness	Fined- Rs. 5-10 and sign a statement	Handed over to the police	-
Purunapani	Rs 100.00-200.00	-	-	-
Astajharan	Fine- Rs. 100.00-500.00 (VSS) & confiscate implements	FD	-	After formation of VSS fine increased: 50% paid to the person who has caught the offender & 50% to committee
Rangamatia	Fine (no fixed amount), Rs. 1000 (VSS)			The fine during the informal set-up was decided by the general body.

9. Benefits, Rules and Access Regime

The benefits derived by the community depend partly on the nature and age of the forest, and partly on the access rules[12] adopted by the CFM group. In some cases the rules only permit extraction of forest products for self use, whereas in others extraction for trade is allowed. For example, in the Rangamatia-Beguniadiha case extraction of non-timber forest produce (apart from Sal products) is only for self use; while in Mahsipata village, Bathudi tribals are involved in trade of all non-timber forest products found in their protected forest patch.

In formulating its rules the CFM group tries to ensure that any damage to the trees in the protected patch is minimised. For example, in Mahsipata the villagers passed a resolution in one of their meetings to ban collection of Sal leaves from high branches when it came to their notice that trees were being damaged as a result of this practice.

9.1 Products for subsistence use

Timber Green felling is banned by the government. Nevertheless, the villagers practice need-based felling for timber for house construction and agricultural implements.

Fuel In all the case studies the villagers are allowed to collect dead, dry and fallen twigs to be used as fuel wood. Dry Sal leaves are also collected by the villagers to be used as fuel.

NTFPs In all the villages the members are given unrestricted access for non-timber forest produce, i.e. they are allowed to collect as much as they want. Some of the major products collected are edible leaves, fruits, mushrooms, and Sal leaves.

Grazing is another benefit which is derived from the forest patch. Grazing of cattle in the forest is very important for the villagers as stall-feeding is not generally practised by them.

9.2 Sale of forest products

In the study villages Sal leaves are the only non-timber forest product collected by the villagers on a large scale for trade. Some villagers also trade in Sal seeds, Char, Mahua flowers, etc. but in very limited quantities.

9.3 Access and harvesting rules

The access rules may involve a partial or complete ban on the use of the forest patch by members for collecting certain products. There are also rules governing the collection of forest products by outsiders. For example, in one village outsiders are

[12] Editor's note. The rules are likely to reflect (a) the availability of forest products from sources other than the protected patch, and also (b) the degree of biotic pressure that the CFM group believes that its patch can sustain.

allowed to collect dry Sal leaves for a price after members have collected them for a few days.

Non-timber forest produce collection by outsiders was restricted in two villages, closed in two and open in two village. The restriction on entry of outsiders in one of the villages is for green Sal leaves and in other it is for dry Sal leaves. The villagers say that this is because these are the two main products needed by the members.

Name of Case	**Access for NTFP**		**Access for fuel material *(W/L)**		**Products collected**		**Payment - if any**
	Mem.	Outsiders	Mem	Outsiders	Subsistence	Sale	
Kathuabeda	open	Closed	open	closed	*fuelwood, Dry Sal leaves, tubers, edible green leaves, mushrooms	Few households –processed Green Sal leaves	-
Rangamatia	Open	Restricted	open	closed	-do-	Few households –processed Green Sal leaves	-
Nachipur	Open	Restricted	open	closed	-do-	Green Sal leaves	-
Astajharan	Open	Open	open	closed	-do-	Green Sal leaves	-
Purunapani	Open	Closed	open	restricted	-do-	Green and Dry Sal leaves	Dry Sal leaves are sold to outsiders.
Mahsipata	open	open	open	closed	-do-	Green Sal leaves, fruits, seeds	-

*W/L: wood/ leaves

Fuel The members are allowed to collect as much fuel material as they need, provided they do remove green wood. There is no restriction on the quantity that can be collected by a single household, but no one can sell it outside the village. Special arrangements for fuel are made at the time of death, marriage, or house damage due to natural calamities.

Timber can be obtained from the protected forest patch, provided an application is made to the forest protection committee, and its approval is obtained. The committee decides the amount of product to be given to the applicant, with approval of the general body. Control is strictly enforced by the committee, which may specify the trees to be cut, and may supervise the process.

Grazing In only one case was grazing restricted in the initial years of forest protection efforts. In the other five cases grazing has never been restricted. Grazing is regulated by the villagers between agricultural fields, open spaces, stall-feeding and forests.

10. Gender and Equity

10.1 Involvement of women

In the cases studies the participation of women is limited to joint patrolling with the men or in separate groups. Women are not involved in the decision-making process as yet. According to the NGO, PRAVA, there is one all-women forest protection committee in the district.

In all the case studies, invariably men have said that women, either insiders or outsiders, are the major "offenders" (rule-breakers) as they are more dependent on the forest than men. They are the ones who collect various forest products for self-use or for commercial sale regularly; while men may only join them when they have no other work or when the returns from a particular product are high. Women are regularly engaged in collection of green or dry Sal leaves and fuelwood. Protection rules are often in direct conflict with women's needs, because they have not been consulted during the formulation process, and thus their priorities and needs have not been taken into account.

10.2 Relationship between male patrollers and female collectors

In recent years men have discovered that they are at risk when stopping women offenders. This is because women offenders sometimes file a case against them for harassment, which may be false. The protecting village usually talk to the men folk of the offending women to resolve the issue. As a result, in some cases women of the protecting village have had to become more active in patrolling and protection generally. They have been asked to look out for women offenders who are outsiders and ask them to stay out of the protected area.

> For example, during a conflict in Kathuabeda village, a woman went to the police and complained against harassment even though she did not belong to the protecting village or the offending group of women. She was the third party and had interfered in the conflict. The case was resolved only when the woman's brothers intervened and talked to the villagers.

10.3 Equity

The forest protection committee decides the rules and regulations. In doing so, the committee tends to think primarily in terms of sustainability of the protection efforts. Equity considerations and the impact of rules on the poor may receive little attention. It seems that better-off groups dominate the decision making: and the decisions made suit their own interest, while ignoring the interests of certain marginalised groups such as the basket-makers. The better off group disputes this view saying that, as all other non-timber forest products are free for collection, the poor do benefit from the rules.

The more influential villagers are of the opinion that protection efforts will be sustained only if the end products are equal for all the villagers, irrespective of their

socio-economic status. They do not believe in giving preferential treatment to poorer groups.

11 Sustainability

11.1 Ecological Sustainability

Protection by the villagers has lead to visible and rapid regeneration in the protected patches. One of the factors on which ecological sustainability of the forest is based is its regeneration capacity. The forests in the villages surveyed are predominantly Sal forests. Sal coppices well and also regenerates through seeds, and we have taken it as our basis to estimate the percentage of seedling and coppice regeneration taking place in the protected forest patches. Other associate species of Sal are also found in the forest patch and their regeneration is mostly through seedling. The table below indicates the percentage of coppice and seedling regeneration of Sal trees in the quadrants studied in the protected patches of three villages.

Village	**Mahsipata**	**Rangamatia**	**Nachipur**
Year of Protection	1963	1975	1988
% Sal Seedling regeneration	5	10	8
% Sal Coppice regeneration	95	90	92

(On the basis of two sample plots taken under the study in each of the village)

There may be various reasons for the low level of seedling regeneration and more in-depth study is required. Some reasons given by villagers of Rangamatia were:

- collection of Sal seeds for trade or subsistence use (oil);
- browsing by cattle, as forest patches are open for grazing; and
- unfavourable agro-ecological conditions, such as low soil fertility.

The number of non-timber forest products available in the protected forest patch has also increased as regeneration of trees has taken place. Some concern was being raised by villagers in at least two villages where green Sal leaf plucking is done, about the damage this causes to the Sal trees. However, no one is unduly concerned about the ecological sustainability of the protected patch.

Sometimes, due to favourable market forces the villagers may be overexploiting non-timber forest produce and may not be aware of proper management practices[13]. In the case of Purnapani village, for example, both green Sal leaves and dry leaves are being extracted for both self- consumption and sale by nearly all the households: this degree of pressure could disturb the total ecosystem of the forest. In addition, Sal leaf plate making has increased since 1974 in Kadamsole village, where earlier they were only made for self use or during rituals or on demand.

11.2 Conflicts and sustainability

The conflicts are either within the protection community, or between the protection community and other local stakeholders, e.g. other non-protecting villages. Many

[13] Editor's note. This may be true, but only limited evidence has been cited by the author in support of this observation. This issue merits more systematic and in-depth investigation.

conflicts occur after the trees start regenerating and neighbouring villages realise that as a result of protection the useful forest products are present again. They then want to exploit the resource as they did in the past, and may see themselves as having customary rights. When protecting a forest patch outside their revenue boundary, communities are often viewed by neighbouring villages as lacking authority and rights on the forest being protected by them. Thus, the latter may challenge their authority.

As we can gather from the next table, the communities are usually capable of resolving their conflicts amicably amongst themselves[14]. If they need assistance then they sometimes turn to the concerned departments.

[14] Editor's note. In some of the cases studied in other districts conflicts have led to protection arrangements breaking down, and to extensive felling of trees in the forest patch.

Village (Year of Initiation)	Nature of Conflict	With/ Between	Trigger	Period of conflict	Vegetation degradation	Impact and current status
Kathuabeda (1985)	Collection of NTFP	neighbouring village	Fuel wood & Sal leaves collection	1986	no	resolved the same year
	Interference in protection matter	neighbouring village	collection of fuelwood by third village	1991	no	resolved the same year
	mistrust	between hamlets	construction of new house	1997	no	continuing
Nachipur (1986)	Pressure on forest	neighbouring villages	Cutting of trees	1989	no	resolved
	Pressure on forest	neighbouring villages	cutting of trees	1990	yes but in a limited area only	resolved by reducing the size of the protected patch
	Pressure on forest	neighbouring villages	fuelwood collection through 'Baramasi'	1990	no	resolved with support of FD
Purunapani (1958)	Pressure on forest	neighbouring villages	Cutting of plantation trees	1994	no	resolved with the help of FD
Mahsipata (1963)	Pressure on forest	Hamlets	cutting of trees	1977	no	resolved
	Initiation of Stone quarrying activities	Stone quarry owners and villagers	quarrying in the forest area	1979	no	resolved with help of FD
	Plantation of exotic species	FD and villagers	Digging of roots	1985	no	resolved
	Mistrust	amongst villagers	opening of passbook	1993	no	not known as villagers unwilling to discuss
Astajharan	mistrust	amongst hamlets	cut tree stumps found	1997	no	mistrust is increasing.
	socio-political	amongst villagers	difference of opinion due to political affiliation	1993	no	resolved
Rangamatia	Use of resource	between hamlets	cutting of trees	1986	no	resolved
	Socio-political	Between members	cutting of tree for local MLA	1991	no	resolved with help of FD
	Pressure on forest	Neighbouring villages	collection of fuelwood and stopping of children from attending school	1994	no	resolved with help of police
	Pressure on forest	Neighbouring villages	collection of dry Sal leaves	1995	no	resolved

12. Relationship with External Agencies

12.1 Forest department

The forest department has not played any role in the formation or management of the protection committees in the cases studied, but they have played a significant role in other parts of the district. They may have supported the villagers once or twice when they have caught the offenders, but usually they have taken no active interest. The villagers said they are not informed of the actions taken by the forest department against any offenders whom they handed over, but they would like to know.

With the passing of JFM resolution by the State government, the forest department initiated the formation of VSS in four of the cases studied with one meeting. However, they have not taken any further steps, and the informal forest committee has continued to look after the forest protection affairs. Regular meetings have also not been conducted by the forest department under this formalised set-up. We came across representation of forest department staff in few meetings only in one case study, Mahsipata. In two cases they have not established a formal VSS committee.

The villagers are still suspicious about the involvement of forest department in protection efforts, as they fear the take-over of "their" protected forest by forest department. Some villagers are of the opinion that the forest department staff are corrupt and are afraid that if the FD became involved in forest protection then all their good work would be undone.

12.2 NGOs

Interactions between the villagers and NGOs working in the field of forestry are very limited. 'MASS' has been in contact with the villagers in some of the case studies, but has only played a limited role. MASS representatives have visited the villages and talked to the President and Secretary, but village level dissemination of information on the forest protection issues has not been done. In some cases they have invited one or two members of these villages to their meetings held at a cluster level or district level (see section 3). On the district level they have conducted workshops and training programmes for the member villages.

PRAVA has been active in promoting and disseminating information with respect to forest protection through holding of workshops at the district and block level. However, its work is limited primarily to a relatively small number of villages in the two blocks where it has an operational presence.

13. Issues

The survey work in Mayurbhanj District has highlighted several issues that require attention from development agencies and policy-makers in Orissa. These are briefly summarised below.

13.1 Functioning of FPCs

Equity The forest protection committee decides the rules and regulations. It does not think in terms of equity but in terms of sustainability of the protection efforts and the basic needs of the community. The circumstances and needs of the poorer sections of the community are not always taken into account.

Women's participation The women are still shy and lack confidence to speak out on matters beyond the household domain. They are not being given any opportunity by their male counterparts when decisions are made outside the household domain, as the males believe that it is their prerogative to take decisions on non-domestic issues.

Weakening of protection Loose functioning of the institutions, in almost all the communities studied, has resulted in some illicit felling at certain times. In the second generation committees, such as Purunapani village (40 yrs of protection), lack of effective second generation leadership can weaken the institutional arrangements.

Ecological sustainability of management systems Various measures are taken by the communities for proper management of the forest, such as: tightly controlled and selective felling of trees for use as small timber; and regulation of the harvesting of green Sal leaves when this is found to be damaging. Nevertheless, the villagers may not always be fully aware of the carrying capacity of their forest resources. In some cases, they may have started to stretch its limits by overexploiting due to favourable market response.

13.2 The Forest Department and JFM

Relations with FD Some forest department officials are helpful while others are not. The villagers are at a loss when they find the new man who has been transferred from another area is not as supportive as the earlier person was to their cause. The degree of importance given to their complaints depends on which officials deal with them and not on their seriousness as perceived by the villagers.

Conflicts With regeneration of forests, conflicts arise, as the protecting communities have no legal authority or right to stake their claim. This is because they are protecting Reserve Forest areas, as very few communities in Mayurbhanj (unlike some other districts) have Protected forest areas to protect near to their village. These communities need recognition and support from the FD.

JFM There are three issues here. First, there is no clear understanding amongst the people about the Joint Forest Management resolution. In none of the case-study villages that had joined the JFM programme did we find a copy of the resolution. Further, they are also not aware of the subsequent changes made to the original resolution of 1993. Neither the forest department nor the NGOs have taken any initiative to tell them in detail about the resolution. Nor have they cleared up local people's doubts or uncertainties that have arisen due to the little knowledge they have acquired either through discussions in workshops or from the occasional visits of forest department staff or NGOs.

Second, when the village is large there may sometimes be conflict of interest between the various hamlets. Thus, subsequently, two or more forest protection committees may be formed in a single village. Their recognition under Joint Forest Management

approach as a legal committee is uncertain, and is at the discretion of the Forest Department.

Third, the villagers are in a dilemma with respect to their potential involvement in the Joint Forest Management programme. The villagers want to register their forest protection committee as a VSS with the forest department as it would give them the legal status and help in reducing conflicts with other villagers. On the other hand, the villagers fear that they will not be able to take any independent decision when they form a VSS without the involvement of the forest department staff, given that the rules require a forester to be the *ex-officio* secretary. They are afraid that they will be at the mercy of the forest department for holding of meetings, and will not able to take important decisions immediately as they are presently doing.

13.3 Improving livelihood options

Alternatives to timber smuggling The commercial smuggling of timber in the fringe area of Similipal forest is rampant, and villagers sometimes act as supply agents to the traders. As many villagers have no means of earning income except agriculture, which is seasonal, they have no choice but to get involved in smuggling of timber and fuelwood. Thus, unless some alternative and remunerative livelihood activity becomes available to them, it will be difficult to stop timber and fuelwood smuggling in the black market. Many argue that better non-timber forest produce prices may reduce smuggling.

Marketing & processing of NTFPs Most forest protection committees do not have means to improve their income from non-timber forest produce as they do not have proper knowledge of markets some distance from their village where prices may be considerably higher. Secondly, they also do not have the capital and facilities for local processing and value addition. For example, machine-pressed Sal leaf plates and cups fetch higher prices than hand-stitched ones, but they do not have access to the pressing machine and power supply that are required to produce them.

ANNEXURE -I

GENERAL PARTICULARS	
AREA (SQ. KM)	10418
%TO TOTAL STATE AREA	6.69
SUB-DIVISION	4
TEHSILS	7
BLOCKS	26
GRAM PANCHAYATS	316
TOWNS	4
VILLAGES	3945
% OF FOREST AREA	44.86
% OF NET SOWN AREA TO TOTAL AREA	49.46

DEMOGRAPHIC/SOCIO-ECONOMIC PARTICULARS

POPULATION(IN 1000)	1884580
POPULATION, FEMALE	932390
POPULATION, MALE	952183
POPULATION, RURAL	1768331
POPULATION, URBAN	116249
SEX RATIO (FEMALES/1000MALES)	979
DENSITY OF POPULATION (PER SQ. KMS)	181
DECADAL GROWTH RATE (1981-91) +19.14	
% OF ST POPULATION	57.87
% OF SC POPULATION	7.00
% OF URBAN POPULATION	6.15
% OF CULTIVATORS	48.50
% OF AGRICULTURAL LABOUR	31.86
% OF LITERACY RATE	30.73
% OF LITERACY RATE, FEMALE	19.20
% OF LITERACY RATE, MALE	42.01

ANNEXURE- II

List of species found with their local & Botanical names

Local Name	**Botanical name**
Amla	Phyllanthus emblica
Asan	Terminalia tomentosa
Atundi	Combretum decandrum
Bhelwa	Sermicarpus anacardium
Char	Buchanania latifolia
Dhua	Anogeissus latifolia
Harada	Terminalia chebula
Jia	Lannea grandis
Kendu	Diospyros metanoxylon
Kurchi	Holarrhena antidysentrica
Kusum	Schleichera oleosa
Mahua	Bassia Latifolia
Phalsa	Butea monosperma
PiaSal	Pterocarpus marsupium
Ria	Dillenia pentagyna
Sal	Shorea robusta
Simuli	Bombax malabaricum

5. Rai, A. and Conroy, C. (1999) An Overview of Community Forest Management in Balangir District, Orissa. Chatham, UK: Natural Resources Institute [Project report].

AN OVERVIEW OF COMMUNITY FOREST MANAGEMENT IN BALANGIR DISTRICT, ORISSA

Ajay Rai & Czech Conroy

NRI Report No: 2534

1999

PROJECT REPORT NO. 3

Research project on LEARNING FROM SELF-INITIATED COMMUNITY FOREST MANAGEMENT GROUPS IN ORISSA

Collaborative initiative between
Natural Resources Institute, U. K., Ajay Rai, ECC Pvt. Ltd., New Delhi
& RCDC, Bhubaneswar, Orissa

Background

The district report for Balangir is an outcome of the field studies taken up under "Effective Local Management of Forests: Learning from Spontaneous Management Institutions in Orissa" Project. Six case studies covering five C. D. blocks were undertaken between April, 1997 and May, 1998. Five cases of self initiated forest protection and one case of non-protection (in a protection environment) were studied in the district.

The field work was undertaken in collaboration with Regional Centre for Development Cooperation (RCDC), Balangir. The villages taken up for study were selected from the list provided by RCDC.The local staff of RCDC, participated in PRA, which was the underlying approach for collection and analysis of information, on various aspects of community forest management.

District Profile

Balangir (old) district is located in western Orissa between 20 11' N and 20 9' N latitude and 82 41' E and 84 16' E longitude. It is bound by Sambalpur (north), Boudh & Phulbani (east) and Kalahandi (west & south) districts. The population of the district is 1.2 million (1991 census), of which about 15% are Scheduled Caste and 22% Scheduled Tribes. In 1993, the old district was divided into two -- Balangir & Sonepur. The new Balangir district contains fourteen Community Development (CD) blocks and 1761 inhabited villages.

Agriculture is the primary occupation of the villagers. Paddy and *kulthi* are, production wise, the main crops. The district is prone to drought. In last twenty years, it faced three major droughts (1979, 1987 & 1996). Yield rate of summer paddy is only 20.31 Qtls./Ha. which is much below the State average of 31.96 Qtls./Ha.. The agricultural land prices are low. A hectare of *Bahal* (low lying land generally used for paddy cultivation) fetches Rs. 11, 000 to Rs. 25, 000 whereas a hectare of *Att* (high land generally used for minor millets cultivation or left fallow) fetches around Rs. 2, 500 to Rs. 5, 000 only. There are 209, 000 recorded cultivators and 131, 000 agricultural labourers. About one percent of the operational holdings account for about ten percent of the total area under agriculture. Small (less than two ha.) and marginal (less than one ha.) farmers account for about 70% of total operational holdings. Seasonal Migration for agricultural labour to irrigated area in neighbouring Bargarh & Sambalpur districts is common, for three to four months in a year.

Apart from agriculture and seasonal migration, the livelihood of villagers is characterised by high dependance on income from sale of forest products. While the incidence of fuel wood headloading varies from area to area, dependence on income obtained from kendu leaves (bush cutting and collection for sale) and sale of mahua flowers is found every where in the district.

Forest Profile

According to the Working Plan of Balangir Forest Division, the forests of Bolangir district are mainly tropical Dry Deciduous and of Xerophilous nature. Except for a few scattered and irregular patches of pure Sal forest, most of the forest are of mixed type, in which Karla and Dhaura dominate. Miscellaneous species constitute bulk of the forest crop, and the number of Sal is very less. Most noticeable features of the forests are openness of the crop, high proportion of unsound and malformed stems, poor growth of trees and less number of economically important (timber) trees.

Most of the forests of the district fall under the administrative boundary of Balangir Forest Division, which besides Balangir also includes parts of Sonepur district. Total forest area of the district as per the records available with FD is 1543.7 sq. km., out of which 1105.7 sq. km. is Reserve Forest (RF) divided in 109 blocks, 3.6 sq. km. is Demarcated protected Forest (DPF) divided in four blocks and 434.4 sq. km. is Undemarcated Protected Forest (UDPF). 'A' & 'B' class RFs cover 908 Sq. Km. and 295 Sq. Km. respectively. Records available from the Revenue Department show that the total UDPF (including Village Forest, Patra Forest, Khesra Forest, Protected Forest etc.) in the district (old) is 637 Sq. Km. About 23.5% of the gegraphical area is/can be legally

Area (in sq. km.) under different categories of forest in Balangir Division

	1954	1984
Division area5052.8	8084.5	
Forest area	1155.4	1848.4
RF 'A'	568 908	
RF 'B'	172 275	
Total RF	740 1183	
DPF	Nil	247
UDPF	575 400	
% of RF & DPF	64	77
% of RF 'A' 49	49	

classified as forest. According to Forest Survey of India Report, 1995, only anout 12% (1078 Ha.) of the total geographical area of the district (old) is covered by forest, out of which only 50% can be considered as dense forest (canopy density more than 40%).

Forest resource in the district can be placed under three broad categories based on different tenurial rights exercised by villagers & extent of control exercised by FD -- RFs & DPFs under direct supervision of the Forest Department; *Patra* Forest within the village revenue boundary over which a neighbouring agricultural land owner exercises informal customary rights for 'extending' cultivation and 'Other' Forests (under different names like village forest, khesra forest, grazing land, hillock etc.), within the revenue boundary of village theoretically under the control of Revenue department, and common resource for the village under whose revenue boundary it is contained. Within RF & DPF category, different extent of access was allowed. While in RF 'A'

The process of Reservation of forests formally started in 1907 in the district, and last major reservation of forests was completed in 1979, when fifteen forest blocks were converted into RFs. All non-reserved forests are included within the revenue boundary. In mid-sixties portions of revenue land were classified as *gramya jungle* (10%) & *gochar* (5%). The *Patra* Forests are generally found on land which can be converted into agricultural land and border the existing agricultural field of villagers.

History of forest degradation

The process of degradation of reserved & unreserved categories of forest is different but interlinked. The RFs suffered initially due to irrgular, heavy and selective over-exploitation at different times. Maximising extraction and returns was the major concern for the contractors who took forest coupes on lease. Initially the bigger and better quality timber trees were extracted. As forest resources became scarce and local market for poles and fire wood developed, over-exploitation became the norm. Post-harvesting management, necessary for ensuring regeneration, was found to be rarely effective due to heavy biotic pressure, indifference and unscrupulous considerations of local FD staff, inadequate logistics etc. RFs which got harvested even under FD prescriptions, rarely got a chance to regenerate.

The non-reserved forests initially bore all the pressure from villagers for their forest based needs. Extraction in most of the cases was unregulated. New families were encouraged to come and settle in the village, and were allowed to encroach a patch of forest land and clear it for cultivation. Families got divided and encroached more forest for extending agriculture. The contractors who had taken lease of neighbouring RF coupe, sometimes extracted timber even from these forests, with the connivance of local FD staff. Similarly, those having permit to purchase tennants timber also extracted timber from these forests. Once the bigger trees were cut, the regenerating crop rarely had a chance to regenerate due to heavy biotic pressure for fire wood, fence & grazing.

Timeline of Important Events

1886:	First attempts at forest conservancy by State
1911:	*Zamindari* forests taken over by State
1917:	Graphite mining started
1920-28:	Lease of forest for Railway Sleeper
1928:	First Working Plan
1931:	Raipur-Vizianagram Railway line completed
1938-48:	Working Plan prescriptions suspended to meet war time requirements
1956:	Severe Drought
1960:	Long term lease given for mining
1964:	Severe Drought
1973:	Nationalisation of Kendu leaf collection & marketing
1975-79:	More forests brought under reservation
1979:	Severe Drought, Fire wood sale for survival observed on large scale for first time.
1980-84:	Tennants Timber system
1980-81:	Migration for labour work picked up.
1985:	SFP initiated in the district
1987:	Severe Drought
1988:	Tree felling banned in Balangir division; RF patches allotted to villagers for protection
1992:	'Kalyan' village scheme by District adm.
1993:	New JFM Resolution by Government

Even after degradation of PFs, and with restriction on access to RF, some of the needs (for small timber) was met by villagers from trees standing on their own land. However, in late seventies, the government, considering the high demand and low supply of timber from RFs in market, started giving permits for sale of 'reserved' trees (tennants timber) from private land. This virtually finished the bigger timber trees in the district. The

trees from private land were mixed with trees from PFs and taken away by contractors with the connivance of local FD staff.

The reason for forest degradation was two fold -- over-exploitation of forest by unsrupulous contractors with the connivance of local FD staff coupled with inadequate attention towards ensuring regeneration and continuous reduction in area of accessible forest for meeting the local demand with time due to reservation, conversion of forest land for agriculture etc., which led to indiscriminate extraction by villagers. Export of wood by railways, both legally and illegally and failure of agriculture due to drought acted as catalysts to the degradation process.

Methodology

Selection process for case studies

C.D. Blocks, where self-initiated forest protection by community is widespread were shortlisted. Five blocks, Deogan, Saintala, Patnagarh, Agalpur, and Loisingha were selected for studying five protection cases, as these blocks were covered under the 'cluster organisation' programme of the local NGO. These 'clusters' were taken as the unit of selection. In each cluster a shortlist of cases where protection is older than five years, was drawn up. Villages which had already been studied for protection and management arrangements were removed from the short list, and one case was selected from one cluster per block. The secondary information available from each selected case was analysed with respect to whether the case was representative of the situation in the respective cluster or not. If the case seemed to be an 'exception' it was rejected and other case was randomly selected from the list. The factors which were analysed for 'representativeness' included size of village, ethnic composition, age of protection, type of village institution (management body) and type of forest.

Clusters as identified by the local NGO consisted of one or a group of Panchayats. The Panchayat in which the selected case was situated was taken as 'cluster' for the purpose of this study. The situation in each Panchayat was analysed with the help of the field staff of RCDC prior to PRA in the village. It was later complemented with discussion in the slected village, about the situation in their Panchayat, regarding spread of community involvement in forest protection, scarcity of forest products, market for forestproducts, characteristics of protection, breakdown of protection etc.

Discussions were also held with the local staff of the FD, based at the division level as well as field level, in order to clarify and verify some of the information obtained during the field work in the villages. Current & old Working Plans for the division were studied in order to understand the history of forest management in different areas.

The preliminary findings from the district were presented and discussed with the DFO, and members of District Forestry Forum and RCDC.

Study Blocks Profile

The blocks characteristics vary in terms of geographical area, population pressure, ethnic composition and land utilisation pattern. Patnagarh has the highest percentage of tribals (32%) and Agalpur the lowest (12%). The density of population varies between 168 per sq. km. (Patnagarh) and 263 per sq. km. (Agalpur). The average size of village varies between 150 HH (Agalpur) and 119 HH (Deogaon).

Study Blocks	Geog. area (sq. km.)	Population	No. of HH	% ST	No. of villages
Patnagarh	591	99, 538	20, 240	32.44	164
Saintala	460	86, 855	18, 537	21.13	135
Deogaon	432	75, 040	15, 094	21.59	126
Loisingha	319	77, 050	14, 571	18.56	107
Agalpur	296	78, 024	15, 357	12.29	102
Dist. Total	6551	1, 230, 938	249, 478	22.06	1, 761

Source: District Statistical Handbook, Balangir, 1993

The land utilisation pattern across different blocks also varies widely as shown in the following Table. The average forest area per village varies. For Agalpur and Loisingha it is as low as 16.5 Ha. and 29.3 Ha. respectively, whereas for Deogan and Patnagarh it is as high as 104 Ha. & 82.6 Ha. respectively. In Saintala, the averageforest area per village comes to about 44 Ha. Most of the time, the area classified as Cultural waste or Pasture support forest vegetation.

Land Utilisation Pattern[15] (Area in Ha.)

Study Blocks	Forest	Miscl. tree & groves	Pasture	Cult. Waste	Uncult. land[16]	Agri. land[17]
Patnagarh	13, 544	64	4, 250	3, 370	4, 298	32, 730
Saintala	5, 944	64	4, 320	510	4, 261	27, 989
Deogaon	13, 193	19	3, 767	814	4, 300	21, 038
Loisingha	3, 131	70	3, 121	1, 282	3, 658	20, 251
Agalpur	1, 688	25	1, 872	1, 563	4, 317	20, 309
Dist. Total	65, 936	1, 007	39, 838	19, 676	57, 403	3, 53, 069

Source: District Statistical Handbook, Balangir, 1993

Community Forest Management (CFM) in Balangir

Spread of CFM

The district has about 580 villages involved in natural forest protection, out of total of about 1700 villages. Forest protection by village communities is found in 13 blocks. Out of these, it is particularly prominent in Agalpur, Balangir, Saintala, Deogan, Patnagarh, Loisingha and Khaprakhol blocks. At various times, different figures have been quoted. There has been no reliable estimate except the survey currently being undertaken by RCDC.

No. of protection cases reported from Balangir district

Source	Year	No. of cases listed	Area protected (Ha.)	Comments
PCC (P) Ltd.	1989	86		gross underestimate
Vasundhara	1992	200	10, 000	rough estimate
OSFP	1994	197	12, 155	survey done by VFWs; doubtful process
RCDC	1994	217	25, 000	10 CD blocks, partially covered.
FD	1994	462	1, 01, 451	VFPCs formed in 1989-90 involving 582 villages
FD	1996	120	12, 700	Active VFPCs as surveyed in 1994
		69	6, 775	VSS formed after 1993
		38	6, 216	Unregistered 'active' groups
RCDC	1998	580		Provisional estimate

In the Blocks and clusters, taken up for the study, the spread of CFM varies, as indicated by following tables.

Study Blocks	No. of villages	No. of FPCs	Active FPCs[18]	Population density/sq.km	Av. forest[19] area per village (Ha)

[15] The estimates exclude urban Area, Reserve Forests, Protected Forests, Project Area, Hill Blocks.
[16] includes barren & uncultivable land plus land put to non-agricultural use
[17] includes net area sown, current fallows & other fallows.
[18] Figure based on estimates provided by field staff of RCDC. The term FPCs has been used in general sense, which includes village level organisations of different types involved in forest protection.

[19] Forest contained within the revenue boundary, and as recorded in the revenue records.

Patnagarh	164	72	65	168	82.6
Saintala	135	60	45	189	44
Deogaon	126	76	45	173	104
Loisingha	107	42	42	241	29.3
Agalpur	102	36	30	263	16.5
Dist. Total	1, 761	580			

The above table indicates some relation between the average forest area, and the number of protection cases. In Agalpur, forest protection is mainly in RF area, as there is little or no forest on revenue land. The population density could influence the extent of pressure on the forest, which in turn would determine how stable a protection effort is, and the nature of institutional arrangements adopted by the villagers.

In each block, there are clusters where protection is widespread & clusters where protection is not so mcuh common. The general impression is that all the villages which have a patch of forest within their revenue boundary, are protecting at least a part of that patch, and at least against outsiders. The reasons for non-protection might be non-availability of a 'common' patch with adequate root stocks. In some places attempts to protect were taken up but soon withdrawn, as they were not able to resolve certain issues related to encroachment or outside pressure. Active FPCs are those which organise regular meetings to discuss problems related to forest protection, where they are providing active watch & ward, take prompt action if theft from forest is discovered etc. A number of FPCs have become inactive due to conflict within the village or with a neighbouring village.over issues like forced access by 'outsiders', boundary conflict, village politics etc.

Cluster Profile & Analysis

The six villages taken up for field study were part of six different Panchayats, which was taken as the unit for cluster analysis. The analysis was mainly done with the information provided by the villagers (of the study village) and field staff of RCDC. Sometimes discussions were also held with FPC members of other villages in the cluster. Some of the CFM related cluster characteristics are provided in the following Table. In the first five Pancahayats, protection cases were studied. From Phatamunda Panchayat, non-protection case was studied.

Panchayat	No. of villages	No. of FPC[20]	Forest Scarcity	Legal status of forest prot.	Oldest protection	Nature of instituion
Dangbahal	9	8 (1)	Low	UDPF	1983	FC
Mahalei	10	1 (2)	High	UDPF	1985	VC
Saintala	17	10 (2)	Low	UDPF & RF	1980	VC & FC
Rengali	8	7 (1)	Medium	UDPF & RF	1972	VC & FC
Jharnipali	10	8 (1)	Medium	UDPF & RF	1967-68	YC & VC
Phatamunda	12	11	Medium	UDPF	1987	FC

Forest scarcity is relative, and based on perception of the villagers, as well as such factors like distance from the nearest block of RF, general observation on the condition of forest, incidence of firewood sale within the Panchayat etc.

Certain characteristics & issues which were highlighted through cluster analysis are:

- In some places, hamlet wise protection is more common, particularly where the size of the village is big, and the habitation is divided into different hamlets, which are located at some distance from each other. Generally hamlets are socially (& politically) more homogeneous.
- In certain places, two or more FPCs exist within a single village. The multiple FPCs are results of two different processes -- two hamlets starting separate protection at different times, the later one as a reaction to protection by first one, it might sometime involve the first one leaving a patch for the second one & the initiative of combined protection breaking down due to political (or social) differences or dissatisfaction with the way forest related issues are being handled, resulting into separation of common patch among the conflicting parties which take up protection independently.

[20] Figure in bracket indicates the cases where protection was initiated but broke down.

- Most of the protection is in forests which are within the revenue boundary or Protected Forests (PF) of the village. At some places RFs are protected together with the PF. Generally, RF protection has been taken up in cases where the villagers feel that the area under present protection (of PF) is insufficient, or it does not have some species which RF has (like Bamboo) or it is not very difficult to manage protection in RF because of its location or because they feel that protection of RF would mean better protection of their PF. At few places only RF protection is found (Agalpur).
- Different types of institution are involved in forest protection, most common being the Forest Committee (FC), which is a group of persons selected by villagers to deal with forest protection matters. In some places, the traditional Village Committee (VC) takes responsibility for managing the forest related issues. They are sometimes supported by a group of youth or the village based youth club, particularly in dealing with difficult offenders. In some areas, Youth Clubs directly take the responsibility for managing forest protection, with the backing of Village Committee (VC).
- Though conflict within the villages is quite common, the cases of breakdown of protection due to conflict are few. In a number of cases protection is reinitiated. Conflicts often take place during Panchayat elections (over which candidate to support), due to internal politicking when one group tries to take control of the management (and the community fund), differences regarding how the protection (and forest) is being managed etc.

Growth Phases of CFM in Balangir

Thee distinct phases can be identified, in which community protection of forest was taken up in the cluster taken up for study. They are:.

Phase 1 Late sixties to mid seventies

In this phase, villages situated in areas with limited forest area were mainly involved. They were relatively common in Balangir, Agalpur, Deogan and Loisingha blocks. Main motive of protection was to generate funds for the village based institutions (*Kirtan* Party, *Jatra* Party, Temple), in which the village youth were involved. Mainly the market was for poles (small timber), and the idea behind protection was to protect certain patches to grow pole size crops and sell it within as well as outside the village. Access to RF was restricted, and the patches where villagers had easier access was already degraded. It was not much difficult to enforce restriction, as there were many patches where the pressure could get shifted. The 'pressure' in most cases were for firewood, grazing and fencing material. The patches taken up for protection were often those which were nearest to the village, and always a non-RF. After some money could be realised from sale, other patches were sometimes also brought under protection.

Phase 2 Early - Mid eighties

This phase was characterised, among other things initiation of Social Forestry and environmental movement (Gandhmardhan) in the district. The problems of availability of forest products, sometimes even for fencing & firewood was beginning to be felt at village level. Firewood headloading, in certain areas had already started in a big way. The villagers could get an opportunity to study the timber market, when their trees were bought by contractors. They sold all their bigger trees standing on private land, and they had to go to market for buying it when such a need arose. They found that the trees which they had sold at the rate of ten to fifteen rupees were now available only for four to five hundred rupees. Propoganda, scarcity, and the realisation of the market value of trees were mainly responsible for initiation of protection in this phase. Even villages like Gadiajor (Patnagarh), which is close to big patches of RF, also got involved in forest protection. Village level youth clubs had become common. The forest for which protection was enforced on their were mainly non-RFs. Though examples of RF protection are also found during this phase. Examples of protection initiated in this phase are found in Agalpur, Loisingha, Deogan, Patnagarh, Balangir and Saintala blocks.

Phase 3 Late eighties & continuing

The third phase started with government resolution on JFM in 1988. Subsequent to the resolution, RF patches were allocated to villages. A number of them were already involved in protection of forests within their revenue boundary by then. By 1990, 462 Village Forest Protection Committees were registered by FD. Most of these villages used the RF allotted to them to meet their bonafide needs. At places the strategy was to restrict everyones access for wood in village forest, but restrict only 'outsiders' access in RF. In most of the cases, the RF was used as 'open access'. Under Orissa Social Forestry Project (OSFP), plantations were also taken up in degraded forests, and watcher support was provided for three years. Most of these plantations were overtaken by natural forests due to protection. Restriction on access had a 'retaliatory' effect and more and more villages started exercising access control for outsiders as a reaction on patches close to their village. Green felling was legally banned in the district and the State and district administration provided incentives for protection of environment & forest through award of prizes. Forest protection was made a criteria, along with four other

conditions, for preference in taking up development activities within the village (Kalyan Village Scheme, 1992). This phase also saw NGOs becoming more active on forest related issues and emergence of confederations of villages involved in protection of forest. Some were facilitated by local FD staff, others were facilitated by NGOs. The spread of protection in this face has been faster compared to previous two phases.

Characteristics of CFM in Balangir

The five case studies of self initiated forest protection in Balangir district provide a variety of context in which protection was initiated and the system through which it is being managed. The oldest case of protection is almost 30 years old, the variance in area is 30 to 300 Ha. Some of the protection related details are given in the following Table.

Village name	Year	Area (Ha.)	Legal status	Vegetation composition	Yera/Period of breakdown
Adendungri	1968, 1972	20, 40	VF (RF), VF	Mixed miscll.	1993-96
Baghdungri	1972, 1996	60, 100	VF, RF	Mixed miscll.	1978 & 1986
Bagjor	1990, 1997	120, 50	VF, RF	Mixed, Bamboo	None
Gadiajor	1983	300	VF, Gochar, Patra	Mixed, Bamboo	None
Ballarpali	1985	35	VF	Mixed miscll.	None
Badjhola (NP)	N.A.	N.A.	RF	Mixed miscll.	N.A.

In all the cases, protection was initiated in a non-RF. After 1988, some of the villages have also taken up protection of nearby RF, after it was allocated to them by FD. In Adendungri, the villagers consider the patch protected by them as VF, though with FD, it is recorded as RF.

Which village could initiate protection (& who could not)?

Out of five cases where forest protection exists, in four cases (Baghdungri, Adendungri, Ballarpali & Gadiajor) the villages were among the group which took up protectin before it became common in the cluster/area. Factors which facilitated community action for protection can be listed as follows. Some of them are common to all, while others are specific to various situations. They include:

History of community collaboration & traditional community institutions: Traditionally the village level affairs are managed by a group of persons under the leadership of Gauntia, who were responsible for initiating various development activities in the village. While prior to independence, the villagers provided unpaid (forced) labour for the local King. After independence, they provided voluntary labour for community work. It was rare for anyone to defy the village (or the group) and continue to live in the village. After independence, various examples of community collaboration are found at various points of time. School building and temple construction are the common examples of these. The villages have a tradition of maintaining a community fund, which they use for various purpose. A person can claim to be a member of the village community only if his family contributes in cash & kind or in form of labour when required.

leadership: The leadership was provided by various type of persons who can be categorised into traditional as well as modern. Gauntias (traditional leaders) in some places played an active or supportive role, whereas at some places they opposed protection. Protection could be initiated even in cases where Gauntias opposed as they had become weak (economically as well as politically), in large villages or where a group of educated youth was involved.

homogeneity in forest based subsistence need: Inspite of socio-economic differences of the community, dependence on forest had some homogeneity, particularly in a scarcity situation when the primary concern became avilability of firewood for cooking or poles for house repair. Also there is an increasing tendency even by groups which earlier depended on specific caste occupations to take up cultivation, thereby requiring wood for various type of agricultural equipment. In all the cases, rarely had a family ‘no’ land to cultivate.

forest based livelihood needs minimised due to degraded condition: Degradation was a big leveller. Most of the time, the firewood headloaders had already shifted from the area to forest which had better

vegetation. In most of the villages studied, certain number of households are engaged in fire wood headloading. However, they depend on patches which are at some distance from the village.

existence of 'patra' forest & trees on private land: Patra forest which are informally under the control of cultivators whose agricultural plots border them, were increasingly used for meeting the daily or regular needs. Access of outsiders was restricted to Patra forest. At places (Adendungri), some households even bought trees from private land of others to sell it as firewood in the nearby market.

condition of forest
    livelihood stakes in degraded forest
    Use of forest prior to protection
location of forest /legal status of forest
location of village
    Unprotected patch within access
type of land on which forest stands
    Suitability of land for agriculture
Extent & nature of dependance on forest
Sanction & allocation by FD
Support from local leaders

Homogeneity of community
    social
    economic
        very poor/economic base
    political
Size of village
History of cooperation
Presence of large area under UDPF
Suitability of land for agriculture
Location of forest
Location of village
Community management of common concerns
Unity within the community at least with respect to forest
Leadership
Degradation & nature of scarcity
Nature of dependence on the patch

The communities involved in forest protection are socially, ethnically & economically heterogeneous. The nature and extent of their dependence on forest also varies. Their concerns related to forest reach a common ground when the forest gets degraded, to the extent that they start facing problems even for firewood & fence material. Homogeneity of dependence is in relation to a patch of forest which the villagers commonly use for meeting their regular needs. The heterogeneity is sought to be reduced by excluding groups whose concerns are very different from what the majority of the community feels. Thus in most of the villages groups which

Socio-economic profile

Case	Size (HH)	Ethnic Comp.	SC HH	ST HH	'V. Poor' HH	No. of migrating HH (canal area)	No. of fire wood headloaders
Gadiajor	46	Mixed	6	17	35-36	40	0
Ballarpali	55	Tribal	1	54	30-32	10-15	12-15
Bagjor	67	Mixed	15	37	53	40-45	33
Baghdungri	132	Mixed	8	28	33	45-50	8-9
Adendungri	142	Mixed	15	42	45-50	40-50	25-26
Badjhola (NP)	42	Mixed	4	22	35	15-20	0[21]

[21] Though none in the village headload firewood, many get engagement on daily wage basis for cutting of trees by outsiders who come to collect firewood or poles from the neighbouring RF.

Location of village

Study village	CD Block	Panchayat	Distance from (Km.)			
			Main Road	local Market	(Semi) urban area	Unprotected forest (RF etc.)
Adendungri	Agalpur	Jharnipali	2	4	12	5
Baghdungri	Loisingha	Rengali	0	4	20	4
Bagjor	Saintala	Saintala	4	7	7	0
Gadiajor	Patnagarh	Dangbahal	1	3	27	0
Ballarpali	Deogaon	Mahalei	2	4	18	8
Badjhola (NP)	Patnagarh	Phatamunda	4	4	26	0

Land utilisation pattern (area in Ha.)

Case	Total area	Irrigated land	Unirrigated agri. land	Forest	Culturable waste include. gochar etc	Area not available for cultivation
Gadiajor	479.55	0	58.28	303.51	68.79	48.97
Ballarpali	205.58	20.23	129.10	7.69	38.04	10.52
Bagjor	401.85	2.83	91.46	154.99	97.53	55.04
Baghdungri	424.92	12.55	197.08	32.37	161.88	21.04
Adendungri	282.07	27.92	191.82	8.5	33.59	20.24

Size of village & Population

Case	No. of HH (Kitchen wise, at the time of the study)	1951 Census		1981 Census	
		HH	Population	HH	Population
Gadiajor	46	06	23	25	115
Ballarpali	55 (100)	29	145	69	336
Bagjor	67	34	137	48	192
Baghdungri	132	21	137	68	330
Adendungri	142	66	302	114	567

Livelihood system & dependence on forest

Livelihood is characterised by relatively high dependance on forest products. Villagers mainly have two livelihood options -- Agriculture & Manual Labour. Manual labour, particularly through seasonal migration, is a characteristic feature in the district.

Why & how was protection initiated?

Case	Trigger	Main motive	Motivation source
Gadiajor	Problems in getting fence material	Ensure supply of wood for various types of need; now village development also	Village based traditional leader
Ballarpali	Digging of roots by outsiders	Ensure supply of wood for various types of needs	Village based 'economic' leader
Bagjor	Protection by neighbouring villages	Exclude others from using their patch; ensure supply of wood	Local leader (lecturer in Saintala college)
Baghdungri	Prot. followed formation of Jatra Party	Pay fees for the drama teacher & buy material for performance; later to ensure supply	Not Known
Adendungri	Prot. followed formation of Jatra Party in village	Earn money for buying dress & musical instruments; later construction of temple	School teacher, who was also the drama guru for Jatra party gave the idea

The 'trigger' varied. In protection cases initiated in early 1970's, the protection was linked to formation of Jatra party, and forest was sees as source for generating some money for the party. In early eighties, in cases like Gadiajor, it was a shock for them, when they found that they could not get 'even' fence material in the quantity they needed from the patch which they used for the purpose. Instead of going to RF for collection as it would have meant 'greater effort', they restricted the access of outsiders. By late eighties, the protection of forest by villagers was spreading, and villages like Baghdungri initiated protection due to 'spread effect'. The primary motive at most of the places is to ensure supply of wood

for various uses in future. Individuals, who were respected in the village played a leading role in initiation.

The community initiated action when it was left with 'no other option' and 'restricting access' of others was considered 'more viable' than other options. The options of shifting to nearby patches was considered, however the degraded condition of nearby RFs, uncertainty of access, higher cost (time & labour) involved etc. made them think about long term solutions. The scarcity of various products was in relative terms. The fact that they were unable to meet all their needs for 'firewood' or 'fence material' also, which otherwise can be met easily from a 'normal' degraded forest, was emphasised to indicate the gravity of the situation faced by them.

When was protection initiated: Relationship with degradation & scarcity of forest products
As forest starts degrading, availability of certain forest products like timber reduces. This affects only a few of the community members and needs which have long rotation like timber for house construction. Availability of certain other products like fruits, seeds, flowers etc. also reduces, but the community dependance on them is only relative & marginal & not absolute or total. As degradation increases, even products which are more frequently needed like fire wood & small poles become difficult to obtain. This affects almost everyone in the village.

Prior to undertaking protection measures, the matter related to forest degradation and its impact on their livelihood & subsistence were discussed in common meetings. The problem related to protection was mainly perceived in terms of restricting access by outsiders. It was agreed that without a combined (group) effort it would not be possible to ensure protection.

Case	nature of dependance on the patch prior to protection	strategies adopted
Gadiajor	firewood, fence material, grazing for bona fide needs mainly by villagers & some outsiders. NWFPs like broom grass collected by very poor. No headloader in the village or in the cluster. *Kardi* collected by all.	part of the patch left for meeting the firewood & other needs of only villagers. Certain species declared non-restricted. Outsiders access totally prohibited even from 'Patra' forest
Ballarpali	for meeting only a part of the total firewood & grazing needs by villagers as well as 'outsiders'.	everyones access was strictly controlled. Groups within the village were excluded from protection.
Bagjor	for meeting grazing, firewood & fence material needs mainly by villagers. some pole size crop available which was used by all including outsiders. also used for commercial headloading by some village as well as outide households.	villagers were asked to meet their needs from other patches nearby (RF).
Baghdungri	for meeting part of the total firewood & fencing needs of the villagers	villagers shifted their pressure on nearby forests (RF) & met part of the needs from privately claimed land
Adendungri	for meeting the firewood, fencing material & grazing needs	only part of the total VF was protected initially; other patches brought under protection in stages

Strategies

As the forest was already in a degraded condition in most places, when protection started, they were under use mainly for firewood, grazing & fencing material. Protection was generally organised in such a way that the option for meeting regular needs like firewood & grazing is not totally closed. Community innovated to minimize the hardships due to closure of access -- by shifting pressure, protecting only a part of the 'total' patch, through technological innovation for use of 'inferior' substitutes, permitting all uses which do not restrict growth of 'trees' etc. Villagers allowed themselves to harvest thorny bushes, species which they consider suitable only for fire wood, & grazing generally from third year onwards.

Demand shift

The ease & extent of 'shift' varied from village to village depending upon the amount of forest within the revenue boundary, distance of the nearest RF, nature of need for which shift was required, the spread of protection (or lack of it) in the cluster etc. and how well the In Ballarpali, the 'shift' involved

a relatively higher cost. Otherwise RF patches provided villagers with an easy option to shift pressure for their forest based needs. The shift was also made easier because the patch which was to be brought under protection had already degraded to such an extent in some cases, that very few of the forest based needs were being met from the patch.

Different type of protection arrangements

The total forest area within the direct control of the community is sometimes divided into two or three patches. Different extent of access control is exercised on different patches. Sometimes the patches are brought under protection in phases. Patches which have species which can be useful as pole or timber are subjected to access control for both outsiders as well as villagers. Patches where 'inferior' species are dominant are subjected to access control only with respect to outsiders. The only control generally exercised on village members is restriction on sale as firewood.

Protection System: how is the protection managed?

Watch & ward

Protection is either through rotational patrolling or through paid watcher (or through a combination of both, either both running parallel or following each other as the situation demands). At places, depending on the location, area of forest & size of trees and ease of detection only general vigilance is kept. The watch & ward is related to the 'pressure' on forest. The pressure changes seasonally for different products. After harvesting of paddy, pressure is for fire wood; prior to or during rains pressure is for pole required for repair of roofs. During lean season, when work from other sources is not there, pressure is for headloading.

The changes in the forest condition also influences the nature & extent of protection required. When protection is initiated, daily patrolling, sometimes in groups of four to five persons are needed as the community needs to ensure that the message of its seriouness of intention is well understood & accepted by the neighbouring communities and people who are then coming to the patches. Also those who come to the patches for their needs or livelihood do not give up their access without making their displeasure known. After they manage to achieve this protection needs to be active, if chances of theft are high. Pressure on forest increases a lot when the crop attains the pole size (one to two feet girth), as the demand for these are high & availability is less. Also, it is possible to cut & carry. Once the trees attain more gith, it may not be possible for a single person to cut & carry. Also, the villagers would be able to know from the sound of the falling tree.

The extent of watch & ward is also influenced by what kind of use is being made of the protected patch. If women or others go frequently to the patch for collection of firewood & other materials, general vigilance is found sufficient.

Besides cutting down of trees, the forest is also protected against fire. At some places, kendu bush cutting is not permitted because it is felt that the chances of deliberately putting fire in the forest increases. The community also restricts grazing for sometime, depending on the size of the bushes, generally for three years (if the forest is in extremely degraded condition). It restricts everyone to enter the forest with a cutting tool. Breaking of green twigs, particularly of Sal for use as toothbrush is also restricted. The access regime evolves with changes in the condition of the forest.

Institutional Arrangements

Membership

Membership places obligations in terms of contribution for protection and determines the eligibility to access the benefits. Membership also means greater responsibility to follow the rules & regulations. Thus, at some places if a members breaks the rule (steals from forest), he is charged more than an offender from other village. Communities use various criteria for membership like, place of residence; duration of residence; willing to contribute to protection; whether accepted as member of the 'community' & contributing to other community level work or not etc. Sometimes non-resident landholders are accepted as members, if they contribute in cash or kind or labour to the community level work, including protection. 'Kitchen' is generally the unit for membership. New members, like immigrants, are accepted against some 'extra' payment is cash or kind to the community.

Decision making system

Different types of institutions are involved in protection, most common being FC. The committee is a group of four-five to nine-ten members, who are selected by the villagers to take care of forest protection related matters. For day to day matters, one or two persons (President/Secretary) are authorised to take decision. For complicated or contentious matters, the committee sits down or calls a

common meeting for discussion. The committee is often constituted to represent different sections, which could be caste or ethnic groups or different cluster/hamlet within the village (*Sahi/Pada*). Women are not included as members of the decision making body. Decision is made through consensus.

Conflict resolution

Conflicts are generally resolved within the village. In various situations, the villagers approach, FD and/or Police. These are necessitated when the offender proves to be difficult, and doesn't agree to abide by the decision of the committee. They feel that if the person concerned (FD/Police) supports the committees viewpoint then there is no problem. Informal arrangements are more effective than formal ones. In cases of major conflict, local leaders (including Panchayat members, legislative assembly members from the locality, or other respected persons from the area are invited to resolve the dispute. In a few situations cases were filed in the court of law, either as a forest case (through FD) or as a criminal case (of assult). In forest cases, the offenders rarely get punished, whereas the criminal case can take a lot of time. Approaches like compromise (by agreeing to the demand of the affected party) are common. In Gadiajor-Suliamal conflict, no one made a compromise, but the conflict itself got resolved when the forest grew sufficiently & became safe from cattle grazing. Conflict resolution is difficult when the stronger party, is in the wrong or unreasonable.

Access regime

The villagers evolve & follow a differential access regime based on membership, economic condition of individuals, nature of requirement/need, type of product, species etc. Outsiders are generally not allowed wood or bamboo from the protected patches, unless the villagers need money for certain things like payment to watcher, or some other community work. In some cases (Gadiajor, Adendungri) outsiders are provided wood and/or bamboo against payment. Also, for certain needs & special occasions access is provided to outsiders. Such situations are death, marriage, festivals celebrated at community level, house damage due to fire etc. Otherwise the access for outsiders could depend on various things like availability of the product in sufficient quantity etc.

Members of the protecting community may also be asked to pay for certain needs or products. Outsiders are charged two to three times the rate fixed for villagers. Access for needs & products like grazing and NWFPs (leaves, dried twigs, mushrooms, fruits & berries, flower etc.) are free and generally unrestricted (quantity wise), both for members as well as outsiders. For some high value NWFPs like Mahua flower & kernel, kendu leaves, & Char, members get preference in collection. Outsiders are allowed only after the villagers have completed the collection. When the community decided to allow major harvesting (mainly for firewood & fencing material) of 'inferior' species, a period, quantity or number of persons per family is specified.

Access to memebrs as well as outsiders is only allowed for *bona fide* consumption & not for sale. This is partly ensured by analysing the extent & nature of his need. The committee may provide only a part of the produce which has been apllied fo, taking in to account the economic condition of the applicant abd availability of the produce in the protected patch, and ask him to get the rest from the open market or other sources. The price is fixed for different types of produce, but exceptions are made for those who can't afford to pay. Greater restrictions are applied for certain species than others. A species of a particular size is allowed for only those needs which the community thinks it is best suited for. The community develops a list of 'restricted' species & 'inferior' species. Access for inferior species is more liberal. Access with a cutting tool without permission is not permitted.

Penalty system

The penalty system followed by the community is based on the nature of offence and who has committed the offence. For certain common or likely offences, the committee sometimes fixes a minimum amount as fine. This is increased if the offender proves to be difficult. At some places, memebrs are fined more, than outsiders. In case an offender proves to be difficult, the memebrs of the community might physically punish him, or the case may be given to FD. First offence is generally forgiven in lieu of an apology (*mundia mar* or touching the feet with ones head). Repeat offences are viewed seriously, and the penalty is higher for them. The cutting material or other things (bullock cart) which are related to the offence are seized. If a member of the community committs offence and proves to be difficult, he might be socially boycotted (*Ekgharia*) and refused any benefits which could be obtained from the protected patch.

Disposal of produce

In some cases, where the committee organise cleaning and thinning, the product obtained are disposed off either free of cost (generally if members have contributed labour) or on payment of a price fixed by

the community (generally if paid labour were engaged). Depending upon the need within the community, the outsiders may or may not be allowed to buy the produce. Equal stacks (approximating one cartload), are made for distribution. Generally restrictions are placed on the quantity one could buy. Material seized from offenders is generally auctioned within the village. NWFPs (Char in Adendungri) which have an attractive local market are sometimes disposed through lease to individuals on payment of a fixed amount. Wood used for common festivities, are auctioned at the end of it.

Price fixation

Price for a product may be based on 'ability' to pay of community members; its price in the local market; purpose for which the product is required; size of the tree, species etc. Different price is fixed for members & non members. Non members who are residing in the village may be charged less than those residing outside. Decision on pricing & prices to be fixed are made in the common meeting (general body). Ability to pay is taken into account while fixing the price. The price that can be paid even by 'poor' is taken as the criteria. The rate is generally lower than the prevailing market rate.

Use of income from forest

The income from sale from forest products and fines to offenders is kept in a common fund (*paanthi*). Sometimes a separate fund is maintained specifically for forest. The fund is used for various activities -- building a community hall, temple, school; celebrating festivals by organising feasts, entertainment programmes; payment of common expenses (watcher's salary); for loan to needy; pisciculture by taking the panchayat pond in auction; etc. Those activities which lead to growth of fund (loan, pisciculture) or on which there is no disagreement (Temple, festivals) or development activities on which the investment is hihly likely to be returned by Government after some time (School) etc. are preferred.

How is the forest managed?

The system of forest management adopted by community has in Balangir has three characteristics -- *species based management; need based harvesting & cleaning operations*. The objective of management is mostly easy availability of forest produce & development of community fund. Sometimes the latter dominates. The focus of management is to increase availability of wood of various sizes, whose (potential) scarcity led to protection effort in the first place. Wood of various species, according to their quality are preferred for various purpose. The primary objective is to ensure that a particular species is able to gain the size when it could be most useful for them. Accordingly the harvesting rotation for such species are followed. Some species are managed on very short rotation (one to two years), some are managed on little longer rotation (five to six years) and some for medium rotation (10 to 15 years) and some on very long rotation.

Species wise management: Utilisation & management of forest is very much specific to the species, and villagers perception of what is it most suitable for. The suitability of the species for some use is dependent on the species attaining a particular size. As most of the species can be used for firewood, only those which can not be used for anything else are used as firewood.

Species like Sal, Bamboo, Mahua, Char etc. are highly valued by villages, and are strictly restricted. Species which they do not use for anything other than fire wood or fence material (*Baje Gacha* or inferior species) are subjected to relatively liberal harvesting. Thorny bushes, shrubs etc. are generally placed under the category of free, less restricted, or unrestricted category for members.

Focus of management: is mainly growth of trees which provide good timber for house construction, agricultural equipment etc. and trees which provide products which are commercially important.

Need based harvesting: The silvicultural requirements like thinning are partly taken care of through need based harvesting & not vice-versa. Need-independent harvesting in the form of cleaning & thinning operations is sometimes taken up for generating income or when money is provided by FD for the purpose.

'Low value' products are sought to be replaced with 'high value' products: Poorer households depend also on 'low value' products. The 'value' of a product varies from place to place and depends partly on the commercial potential of the product in the area for e.g. sal leaf is very highly valued in Mayurbhanj but not in Balangir. Similarly, broom grass is a 'low value' product in parts of Balangir, but may not be

so in other places. It can be argued that dependence on 'low value' products is a 'last resort' and is due to absence of a better alternative.

The protected patch meets only a part of the wood based needs of the villagers. The reasons vary -- easy access to 'unprotected' patches nearby; condition of crop not conducive to certain uses; reluctance to undertake bigger scale harvesting in the protected patch; etc.

Forest Management System
Ranking of products

Type of forest
Dominant species
Cultural operations
Extraction & harvesting
    Extent & nature

What are the main benefits?
Main benefit realised
Other sources of meeting needs

Impact of CFM
    Burden of FD
    Vegetation cover
    Migration
    Availability of forest products

Relationship with FD

Case	
Gadiajor	Financial support for cleaning. Money from sale of cleaning material was not returned to the village as promised by forester
Ballarpali	Some department people got the SF plantation in the neighbouring village harvested, which led to breakdown of protection there.
Bagjor	Forest Guard lives in the village. Does not take much interest in the problems of the villagers. FD has allocated a patch of Reserved forest for protection by the villagers
Baghdungri	FD has allocated a patch of Reserve forest for protection by the villagers.
Adendungri	FD tried to reserve the patch protected by village, which led to conflict in 1972. FD did not take action on reports of theft from the forest in 1992

    Past relationship
    Lack of desired legal & administrative support by local field staff of FD
        Need for legal & administrative power to FPCs
    Areas of conflict between CFM & Govt. rules
        NTFP collection & marketing
        JFM resolution guidelines
        Harvesting of wood vs. Working Plan & Ban on felling
    poor image of the intentions of the FD in general

Probems & Issues

Conflict: High incidence of conflict, particularly during panchayat elections
        boundary conflict
        sub-group differences
        panchayat politics

Conflict				
Bagdungri (1972)	Dispute over use of common fund	two groups within village	Organising cultural function 1986-87	Protection broke down. Reinitiated
Adendungri	Nature of use of	socio- political	Panchayat 1990-96	Protection broke

(1968)	forest	groups within	elections		down. Reinitiated
Bagjor (1992)	Discrimination on caste basis	social groups within village	denial over water	1996-97	Resentment in the SC group continues

income focus of management
individualistic leadership
lack of second generation leadership
Equity: Exclusion of certain sub-groups from protection
Exclusion of women from decision making
Equity
- representation lacking from different sections of the community in the decision making body
- Impact on Marginal sections: priorities & costs do not get adequately compensated
- Use of income obtained from forest
- Small village; perpheral village
- Sub-group priorities & management system
- Excluded sub-groups
  - from decision making
  - from protection

Undermining of protection by FD
Lack of support (legal & administrative) from FD
How benefits are constrained?
Lack of legal authority
Lack of tenurial security
Sustainability of forest: lack of natural regenerating seedlings

RCDC

Regional Centre for Development Cooperation (RCDC) has been working on forest related issues in Balangir since 1993. One of their major activities has been facilitation of a district level confederation of community institutions involved in forest protection. The confederation was registered in 1996. Besides, RCDC is also involved in advocacy on various issues related to forest including fair price for NTFPs to collectors, policy changes for JFM and training of FPC members on various aspects of CFM & JFM. At the time of the study (1997-98), RCDC was in the process of completing a survey of community institutions involved in forest protection in the district.

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Annexure I: Perceptions on problems & constraints

FD

1. Inadequate logistics coupled with heavy biotic pressure. More investment in forestry sector is needed.
2. Role of plantations can not be ignored, as natural forest isinsufficient to meet the needs of increasing population
3. Villagers are protecting forest in large numbers due to felt scarcity & also becuase they think frequent droughts are related to degradation of forest
4. Villagers often approach FD for problems faced by them in protection; FD helps to the best of its ability but due to other workload & shortage of staff is unable to each & every problem
5. Villagers do not think in terms of final harvest. They are primarily concerned with meeting their needs for firewood, house construction & agricultural implements

DFF, Balangir

1) Youth clubs as forest management organisations
   - Community sometimes not involved
   - Income focus
2) Conflict over boundary & other issues
3) Lack of legal saction & power with FPCs
4) Lack of support from FD, KL Wing & RD
5) Lack of accountability & transparency on part of FD towards communities
6) Reasons why villagers don't protect
   - Dependance on sale of firewood
   - located close to towns
   - Lack of leadership
   - forest seen as a problem: wild animals destroying crops
7) NTFP policy constraints -- monopoly lease, restrictions on processing & sale by villagers
8) Firewood headloaders -- lack of viable livelihood options
9) Institutional weaknesses of the village level organisations
10) Ecological sustainability
    - pressure shift
    - soil fertility
    - grazing

6. Conroy, C. (1998) Forest Issues in Three Districts of Western Orissa: Report of a Series of Meetings with Divisional Forest Officers and NGOs in Balangir, Kheonjar and Sambalpur, June 1998. Chatham, UK: Natural Resources Institute [unpublished report].

6. Conroy, C. (1998) Forest Issues in Three Districts of Western Orissa: Report of a Series of Meetings with Divisional Forest Officers and NGOs in Balangir, Kheonjar and Sambalpur, June 1998. Chatham, UK: Natural Resources Institute [unpublished report].

7. Conroy, C. (1998) An Annotated Bibliography of Key References on Community Forest Management in Orissa. Chatham, UK: Natural Resources Institute [unpublished report].
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8. Conroy, C., Mishra, A., Rai, A., and Chan, M-K. (in press) Conflicts Affecting Participatory Forest Management: Their Nature and Implications. Pp. 165-184. In Vira, B. and Jeffery, R. (Eds): *Participatory Natural Resource Management: Analytical Perspectives*. London: Macmillan.

The text of this chapter is more or less the same as that of Reference 3 (see contents), so it is not reproduced again here.

9. Conroy, C., Mishra, A. and Rai, A. (2000) 'Learning from Self-Initiated Community Forest Management in Orissa, India', *Forests, Trees and People Newsletter*, No. 42, June 2000.

Learning from Self-Initiated Community Forest Management in Orissa, India

by
Czech Conroy, Abha Mishra and Ajay Rai

Introduction

This article is based on a research project on self-initiated forest management in Orissa that was managed by the Natural Resources Institute[22] at the University of Greenwich, which is a UK-based research agency that focuses on the contribution of sustainable management of natural resources to development and poverty eradication..

The project leader was Czech Conroy, a socio-economist at the Natural Resources Institute. The other principal members of the research team have been: Abha Mishra, a social anthropologist who works as an independent researcher; Ajay Rai, Director of Earth Care Consultants, a private company that does consultancy work on the management of forests and other natural resources; and Neera M. Singh, Coordinator of Vasundhara, a forest-support NGO based in Bhubaneswar, Orissa. SPWD was another collaborating agency, which is involved in the dissemination of this report in India.

Several NGOs based in Orissa provided assistance in their operational areas. Our research aimed to improve understanding of: (a) the conditions that lead to the initiation of CFM; (b) the factors affecting its sustainability; and (c) the size and nature of the benefits, and how they are distributed among the various sub-groups of a community. Its findings have been, and are being, shared with: (a) community forest management groups; (b) organisations in Orissa that work with forest-dependent communities, notably the Forest Department and forest-support NGOs; (c) similar organisations in other Indian states, particularly those involved in JFM; and (d) international organisations with an interest in participatory forest management.The project also studied communities' support needs; and sought to identify the implications of the experiences of self-initiated CFM for policy and for the design of joint forest management (JFM) programmes and other initiatives promoting participatory forest management (PFM).

The fieldwork was done in collaboration with various NGOs, whose staff assisted with the fieldwork and helped to improve our understanding of the situation in their programme areas. The researchers also liaisoned with staff of the Forest Department in the survey areas. After the fieldwork was completed meetings were held with the NGOs and, where possible, Divisional Forest Officers to:

(a) inform them of the findings, and get their feedback on them; and

[22] This article is an output from a project funded by the UK Department For International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.

(b) obtain their perspectives on key issues affecting forests, and particularly participatory forest management, in their divisions/areas.

Forty three forest-dependent communities were surveyed, 33 of which had initiated forest protection. The 10 that had not initiated protection were studied to gain insights into factors discouraging protection. The majority (26) of the protection cases were selected to be representative of most cases in their area (block or panchayat), using either random sampling or typical case sampling. The remainder are special cases that were purposively selected to illustrate particular issues.

The researchers spent about seven days with each protecting community. The main survey methods were semi-structured group interviews, combined with transect walks, and various participatory mapping and diagramming techniques. The survey team sought to obtain the views of people from a number of sub-groups, including women. CFM was examined in the context of people's livelihood systems as a whole, since these may affect the size of any benefits they get from forest protection, and also their main reasons for deciding to protect.

The article reflects our understanding as researchers and is based on our perceptions. We hope it will stimulate reflection and discussion among the readers of the FTP Newsletter.

CFM involves the active protection of a forest area, and regulation of its use, by a community. Orissa has several thousand self-initiated CFM groups, perhaps more than anywhere else in the world of comparable size. A large proportion of them have been in existence for more than 10 years, and some for as long as 30 or 40 years. Orissa is a state on the eastern coast of India, with a tropical climate, whose forest cover is about 30%.
There are two broad administrative categories of forest in Orissa: Reserved Forests (RF) and Protected Forests (PF). The former belong to, and are (at least in theory) managed by, the Forest Department (FD); whereas the latter belong to the Revenue Department, although the FD is legally responsible for their management. In practice the FD has tended to ignore PF. In RF local rights do not exist, and everything is prohibited unless specifically admitted; while in PF, which are located within village revenue boundaries, local people have greater rights.

The Community Management System

In the communities studied the mean area of the protected forest ‘patches’ was about 350 acres; while the mean number of households in a management unit was about 100. The management unit is usually a hamlet or village, but sometimes comprises a group of villages or hamlets. Various types of community organisations manage forests, and develop rules and regulations for membership, access, penalty, watch and ward, harvesting etc.. The organisation could be a village committee, a specially constituted forest committee, a youth club or a group of village elders. Depending on the situation, communities have developed different arrangements for enforcing protection and using the benefits. Members are recognised on the basis of their contribution to protection, which is in cash at some places and in kind or labour (mainly patrolling) at others. Ethnicity/caste and place of residence (hamlet) influence representation of different sections on the decision-making body.

In the vast majority of cases local people’s primary motivation for protecting forests was to generate products for subsistence use, but in a few cases income generation was the main objective. A substantial variety of forest products is harvested by local people, including: fuelwood, tubers, edible green leaves, fruits and berries, mushrooms, green leaves for plate-making, dry leaves for use as fuel, bamboo, small timber, medicinal herbs, creepers for rope-

making, and seeds for making oil. In many communities some income from the sale of products is placed in a common fund and used to finance various activities and projects, such as: religious festivals and festivities; construction of a temple or school; or hiring of an opera teacher.

The communities have developed graduated and sometimes complex systems of use rights that may take account of: membership of the CFM group, place of residence, species, product, quantity, purpose, urgency of need, and economic condition of applicant. The extent and nature of rights are also influenced by the condition of forest; the community's need for funds; market value of a particular product etc. In general, after three-four years of protection access for collection of various products (without using any cutting tools) and grazing is allowed for both members and outsiders. If products (e.g. *sal* leaves) are in high demand outsiders may be required to pay a price.

Benefit-Sharing

Two main types of benefit-sharing mechanisms are found -- 'need-based and 'equal' sharing. They are not mutually exclusive and co-exist in most of the cases studied. A need-based approach is taken for scarcer products (e.g. small timber) which are required in different quantities by different families for subsistence purposes. A common example is where timber is required by one or more households for house repair, sometimes following damage by rains or fire. The management committee decides whose needs are greatest and how much of the product they should be allowed to remove: any authorised felling of trees tends to be closely supervised. If the product is very scarce the committee may only allow part of the total need to be met from the protected patch. The 'Equal' share mechanism is generally applied when the committee organises harvesting in the forest (cleaning and thinning). Products like twigs, branches and poles are obtained, which are divided equally among members.

Equity in Benefit-sharing and Decision-making

Disparities inherent in the social and economic structure of most Indian communities automatically raise concern as to whether the arrangements are equitable. Certain social features and mechanisms for the management of forest tend to reinforce these concerns. They are:

- Inability of some community members to participate;
- Restriction on sale by individual members of their share of wood;
- Use of common fund for purposes which benefit some people more than others;
- Complete closure of forest;
- Auctioning of produce from cleaning and thinning operations;
- Absence of women from decision making body; and
- Focus on timber species.

In discussions with various sub-groups in the villages, differences in priorities with respect to use of the forest and participation in decision-making of particular sub-groups were identified. Community leaders accept that the short-term hardship caused by closing the forest is greater on the poor, but point out that the 'payoff' is also greater for them in the medium to long-term, as the poor take out more, in terms of both quantity and number of products, and require them more than others. They argue that the poorer groups cannot be significantly disadvantaged, because if they were they would not accept the management rules, and protection would break down. Sometimes the community innovates to reduce the hardships on the poor: for example, by leaving a patch open for village residents, or by permitting harvesting of certain species either free of cost or on payment of a nominal sum.

The reactions of the poor communities vary from case to case. Where the dependence on the forest is strong, like in fuelwood cutter groups, they are not happy as they feel the protection is a threat to their livelihood. The poorer groups often say that "in initial years we face more difficulties but subsequently we gain in terms of more NTFPs". But in places where there is long term restriction to access for collection of NTFP the poorer groups lose out. Thus the reactions of the poorer communities is based on their degree of dependence and extent of access to the forest.

Certain sub-groups or households may be unable to participate in the protection system, because they cannot meet the costs involved, and as a result they are deemed ineligible for the benefits. For example, groups that depend heavily on daily wage labour or seasonal migration sometimes find it difficult to contribute their share of the costs of protection, particularly during the initial period: i.e. they cannot contribute to the protection systems by providing labour for rotational patrolling or cash to pay the watchman's salary. Sometimes two or three families combine and get 'registered' as one share/member.

Gender

Women's involvement in decision making is negligible, though they contribute significantly (indirectly in most places) to watch and ward of the forest. A family is considered to be the unit for membership and is represented by the male head, even in the village committee. Nevertheless, women of the protecting villages were mostly found to be supportive of the executive committee decisions, and the system of management followed by them. Fuel is first priority for them and in most of the cases its availability has increased, though in a different (often inferior) form: wood being replaced by dry leaves and twigs.

Conflicts and their Management

The majority of protection cases had experienced conflicts that led to a temporary or permanent breakdown of CFM, and/or changes in the protection arrangements, which in a few cases had resulted in substantial degradation of the protected forest. However, most conflicts are effectively resolved by communities eventually, sometimes with the help of outsiders (such as the FD or NGOs). With protection of PF on revenue land, the major conflicts are usually internal; whereas when RF is being protected most conflicts are with outsiders. Conflicts are not always directly related to forest management (as the CPR literature tends to assume): disagreement over other issues may spill over (see Figure 1). When they are within the management group this can lead to the abandonment of protection; and when they are external a strong community may be able to overwhelm the CFM group.

Intra-village conflicts commonly relate to: use or administration of the community fund, party politics, local government elections, hamlet or sub-group level differences on various issues, benefit distribution etc. The internal conflicts may also be a reflection of the institutional weaknesses of the managing body.

Inter-village conflicts are common over usufructuary rights and demarcation of boundaries between adjacent areas of forest protected by different communities. In the case of RF, one community's restriction on free access may be strongly contested

by other villages in the area that have been using the forest. Conflicts with outsiders are higher in initial years, while the community establishes its control over access to the patch, after which they tend to decline. The problem then becomes one of sporadic theft by outsiders rather than open conflict.

In one of the cases, because of conflict over dry Sal leaves, the protecting villagers decided to lease out a small patch of forest area for three years to their neighbouring village for their use, on condition that they raise a plantation and return back their forest.

Figure 1 Types of Local Conflicts, with Examples

	Directly related to Protection	**Indirect effect on Protection**
Within protecting communities	**A** One sub-group refuses to abide by protection or harvesting rules	**B** Conflict breaks out between 2 sub-groups, who refuse to cooperate any longer in various matters. Forest protection is affected, in a few cases leading to a tree-felling free-for-all.
Between protecting community and other local stakeholder	**C** one or more local stakeholders (e.g. communities, local FD staff, illegal loggers) challenge or do not accept a protection initiative (and may cut down trees in the protected patch).	**D** Conflict breaks out between 2 communities, related to non-protection issues (such as party politics or personal disputes), leading non-protecting community to 'loot' the protected patch.

Forests are different from many other renewable natural resources, in that the resource, or a large proportion of it, can be removed virtually overnight, as happened in a few cases. Thus, failure to resolve conflicts quickly may result in local communities losing much of the assets that they have spent years building up. Generally speaking, PFM initiatives have not given adequate consideration to these issues, although that is starting to change[23]. It seems that some conflicts are inevitable, so it is important to ensure that there is adequate capacity to deal with conflicts when they do arise. PFM programmes should, therefore, include provision for capacity development for conflict management, which can take two forms: (a) the creation of new mechanisms and bodies for mediation of conflicts; and (b) training in consensual negotiation, facilitation and mediation skills[24].

The evolution and strengthening of apex organisations (federations) of forest management communities have created new fora for conflict mediation between member communities. NGOs have also played a useful role as a neutral third party. FD staff has also played a role, particularly in mediating conflicts related to boundary disputes between communities managing adjacent patches of RF. Many FD staff are not well-equipped to be effective in conflict management, and there is a case for creating one or more specialist units within FD. Therefore, it seems that training in consensual negotiation and mediation should be provided

[23] Anderson, J. , Clement, J., and Crowder, J.V., 1998. Accommodating Conflicting Interests in Forestry – Concepts Emerging from Pluralism. *Unaslyva*, vol. 49, no. 194, pp.3-10; Vira, B., Dubois, O., Daniels, S.E., and Walker, G.B., 1998. Institutional Pluralism in Forestry: Considerations of Analytical and Operational Tools. *Unaslyva*, vol. 49, no. 194, pp.35-42.

[24] Conroy, C., Mishra, A., Rai A., Singh, N. and Chan, M-K., In press. Conflicts Affecting Participatory Forest Management: Their Nature and Implications. In Vira, B. and Jeffery, R. (Eds): Participatory Natural Resource Management: Analytical Perspectives. Macmillan, London; Warner, M. and Jones, P., 1998. Assessing the Need to Manage Conflict in Community-Based Natural Resource Projects. Natural Resource Perspectives, No. 35. Overseas Development Institute: London.

for all of these organisations, building on indigenous approaches where these are found.

A Framework for Partnership between Communities and the State

The attitude of FD staff to CFM varies from positive to indifferent to antagonistic. In some places FD staff have been formally or informally involved in supporting these initiatives, particularly those related to RF. In the case of PF protection FD staff have generally been indifferent to the communities' initiatives; and in many areas the FD has not been supportive of CFM in RF either. For this reason, and sometimes because they perceive FD staff to be corrupt, communities in these areas tend to have a negative attitude towards the FD. Communities are often apprehensive that the FD is devising ways to take control of "their" forest (e.g. through JFM). Within the FD, on the other hand, there is concern that increased support for CFM and the devolution of rights to communities could threaten its role and its power.

JFM, as currently practised in Orissa and elsewhere, has a number of weaknesses in relation to our proposed framework, including the following. First, there is a lack of mutual accountability. The communities are much more accountable to the FD than the FD is accountable to them: the FD has the right to dissolve an Executive Committee, but the community has no rights or powers to take action if it thinks that the FD is not performing its responsibilities satisfactorily. Second, the way in which the JFM programme is implemented tends to be rigid and formulaic, rather than flexible and pluralistic - for example, regarding membership of the committee, or the area of forest allocated to a particular forest protection committee (FPC). Third, the FD plays the lead role in deciding management objectives and formulating a plan to achieve them. The concepts of 'final harvest', and even 'major harvest', that are expressed in JFM resolutions belong to conventional plantation forestry, and are not appropriate to the multi-species, multi-purpose forestry practised by CFM groups.

Against this background it is perhaps not surprising that at meetings and workshops about CFM and JFM in Orissa (involving NGOs, the FD, community representatives etc.), discussions and debates have often become polarised. There has been a tendency to focus on areas of difference and disagreement rather than on areas of common ground and consensus. Related to this is a tendency to become immersed in discussions over the details of policies and programmes, while neglecting discussion of strategic issues relating to their broad thrust and direction.

For these reasons, we have suggested some general principles for forest management and made a general case for a stronger role of communities in forest management[25] We concluded that only an effective partnership between state agencies and forest-dependent communities will be strong enough to ensure that Orissa's forests are safeguarded and maintained on a sustainable basis. This is in line with the policy of the State Government[26]. Following on from this, we have proposed a framework for the partnership between communities and the state in forest management.

The partnership between communities and the state involves the co-operative sharing of rights, responsibilities and benefits. To be effective the partnership will require an

[25] Conroy, C., Mishra, A., and Rai, A., 1999. Self-Initiated Community Forest Management in Orissa: Practices, Prospects and Policy Implications. Natural Resources Institute, Chatham, 66 p.

[26] The Orissa notification (dated 3/7/1993) states that "Forest management has to be reoriented to forge an effective partnership between the Government Department and the concerned village communities".

atmosphere of mutual trust and respect, and to achieve this a number of key conditions need to be satisfied. These are as follows:

(a) the allocation of rights and responsibilities to the respective stakeholders needs to be mutually acceptable;
(b) the division of benefits needs to be perceived by both major stakeholders as fair;
(c) there needs to be a system for ensuring mutual accountability;
(d) there needs to be openness and transparency in financial matters and a free flow of information *between* stakeholders, and also *within* large stakeholders (notably the FD).

To satisfy condition (b), we propose that the benefits derived from forest management by communities and the state should be proportional to their respective contributions
State agencies should take care not to force major changes on CFM as it is currently practised in Orissa: seeking to impose blanket rules and regulations is not likely to be effective, and may even undermine and erode this valuable asset. Plurality and flexibility are needed rather than a standardised, blueprint approach, and the state should discharge its responsibilities in a sensitive manner. The general approach that we have outlined here, and the more specific rights and responsibilities proposed, have implications for JFM programmes and other PFM initiatives. These will be discussed later.

Rights of CFM Groups and the State

We propose three basic rights for CFM groups. First, they should have the right to decide what the forest management objectives are, and to develop a management system to meet those objectives, provided they conform with basic objectives of the Indian government's forest policy.

Forest-dependent communities identify with the protection and management of the forests from which they derive benefits. This identification is an essential component of any effective strategy for forest management. Thus, second, CFM groups should have recognised rights to collect, process and market forest products from the patch that they are protecting.

Third, when the state or private businesses propose major developments involving changes in land use to forest land where CFM is practised, the communities concerned should have the right to present their views on the proposed development to an impartial public inquiry; and to receive compensation from the developer if the managed forests are negatively impacted by the development.

The state's rights should be as follows. First, it should have the right to intervene, where a CFM group is managing RF, if the CFM group is in serious breach of any of its responsibilities, and to take action to protect the forest if it is being degraded. Second, it has the right to promote: (a) equitable benefit-sharing and (b) democratic decision-making processes, in accordance with government policy.

Responsibilities of CFM groups and the state

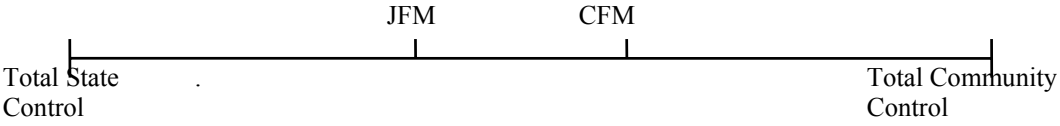
We believe that CFM groups should: (a) play the lead role in management of particular patches with which they are involved; (b) be responsible for protecting the forest so that it is not degraded by either its members or by outsiders; (c) be responsible for managing the forest in an environmentally sustainable way; (d) (both individual ones and federations) have the primary responsibility for managing conflicts affecting forest management, particularly conflicts within the protection group; and (e) seek to ensure that benefits of CFM are equitably distributed within the community that corresponds to the management group.

The state also should have several responsibilities. Of these the main ones are: (a) to provide a supportive enabling environment in which CFM can flourish, key components of which are: (i) the provision of secure rights to forest products (including legal recognition of rights, and upholding of those rights by the state if they are challenged); and (ii) ensuring 'fair' prices for forest products (processed products as well as primary ones) by addressing market failures, such as the existence of NTFP monopsonies[27]; (b) to provide technical support to CFM groups on forest management and forest product processing and marketing when requested to do so; and (c) to play the role of a third-party mediator when CFM groups are unable to manage conflicts effectively and seek outside help from the state in doing so.

Implications of the Partnership Framework for JFM Programmes

Conceptually JFM and CFM can be seen as representing differing degrees of management control being exercised by the State (FD) and the Community over the forest resource. The two management regimes can be depicted at different points on a continuum from 'total State control' to 'total Community control', as shown in Figure 2. JFM and CFM as currently practised are towards the centre of the spectrum, between predominantly state control and predominantly community control. The differences between JFM and CFM relate to the degree to which the devolution of rights and powers by the state takes place, together with the transfer of responsibilities.

Figure 2 The State/Community Control Spectrum



The partnership framework proposed here goes further along the spectrum towards community control than JFM does. However, it is not particularly radical when seen in the context of the informal initiatives that have been taken by FD staff and by the communities for many years, prior to the State Government issuing its first resolution on JFM in 1988[28]. These were evolved by the local field staff working together with villagers, mostly with support from their Divisional Forest Officer (DFO). The thousands of CFM groups in Orissa are a valuable form of social capital that should be nurtured by the state, and not undermined by it. In future, support to CFM should be seen as an integral part of the Forest Department's mainstream activities.

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[27] Editor's comment: *Monopsony* is a situation with one buyer and many sellers (compare *monopoly*, which is a situation with one seller and many buyers).
[28] Conroy, C., Mishra, A., and Rai, A., 1999. Self-Initiated Community Forest Management in Orissa: Practices, Prospects and Policy Implications. Natural Resources Institute, Chatham, 66 p.

10. Conroy, C., Mishra, A. and Rai, A. (2000) Learning from Self-Initiated Community Forest Management in Orissa, India. Pp 236-237, in: *Forests and Society: The Role of Research, Abstracts of Group Discussions*, Vol. 2, XXI IUFRO World Congress 2000, 7-12 August 2000, Kuala Lumpur.

LEARNING FROM SELF-INITIATED FOREST MANAGEMENT IN ORISSA

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This summary describes a research project on self-initiated forest management initiatives in Orissa, India. The project, which began in January 1997 and will finish on 31 March 1999, is funded by the British Government's Department for International Development. It is coordinated by the Natural Resources Institute (UK), with inputs from several Indian researchers and non-governmental organisations.

There is growing recognition in tropical countries that safeguarding forests requires the active involvement of local communities, but knowledge of how best to do this is limited. Orissa's extensive experience of CFM may provide some valuable lessons and insights. Orissa has several thousand self-initiated CFM organisations, perhaps more than anywhere else in the world of comparable size. A large proportion of them have been in existence for more than 10 years, and some for as long as 30 or 40 years. Consequently, they are a valuable source of information on: (a) how communities manage their forests, in terms of decision-making systems and processes, access regimes, protection systems and silvicultural practices; (b) the sustainability (or otherwise) of CFM initiatives; and (c) how CFM evolves over time.

The project has studied CFM initiatives in Orissa, particularly: (a) the conditions that give rise to the initiation of community forest management (CFM); (b) the factors affecting its sustainability, including conflicts and their management; (c) the size and nature of the benefits, and how they are distributed among the various sub-groups of a community; and (d) communities' support needs.

The principal study activity was a survey of forest-dependent communities, which was primarily socio-economic in nature. Forty three communities have been surveyed, 33 of which had initiated forest protection. The majority of the protection cases were selected to be representative of most cases in their area (administrative block or panchayat). The remainder are special cases that were purposively selected to illustrate particular issues. The main survey methods were: semi-structured group interviews; walks through the managed forest, noting species and the general condition of the forest; and various participatory mapping and diagramming

techniques. The survey team sought to obtain the views of people from a number of sub-groups, including women.

CFM was examined in the context of people's livelihood systems as a whole, since these can affect the size and nature of any benefits they derive from forest protection, and also their main reasons for deciding to protect. For example, households with relatively large landholdings tend to regard small timber for making agricultural implements as an important product; whereas the landless may regard certain non-timber forest products as the principal benefits produced by the managed forest.

The literature on the management of common pool resources has identified a wide range of factors (e.g. group characteristics such as size and homogeneity), based on both experience and theory, that are likely to affect the success of management initiatives. These factors have been examined in relation to the case study experiences. Ten non-protection cases were also studied to gain insights into factors discouraging protection. These include: the small size of communities, and hence their inability to enforce protection; and high dependence of community members on illegal and unsustainable wood-cutting.

The study concludes that on the whole CFM has made an important contribution to the regeneration and sustainable management of Orissa's forests. It also highlights the plurality of institutional and management arrangements that communities have developed, and cautions against forest departments imposing a standardised, blueprint approach, as has happened to some extent in JFM programmes.

11. Conroy, C., Mishra, A. and Rai, A. (in press) Learning from Self-Initiated Community Forest Management in Orissa, India. In: "News of Forest History", Vol 30, 31-0-2001. "Social Changes and Forests". Edited by the IUFRO-Research Group 6.07.00 "Forest History" and the Working Party "Forest History" of the Austrian Forest Association, Vienna.

Learning from Self-initiated Community Forest Management in Orissa, India

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Abstract

There is growing recognition in tropical countries that safeguarding forests requires the active involvement of local communities, but knowledge of how best to do this is limited. Orissa's extensive experience of community forest management (CFM) provides some valuable lessons and insights regarding: (a) how and why communities manage their forests; and (b) the sustainability of CFM initiatives. The paper discusses the following aspects of CFM in Orissa: (a) the conditions that give rise to the initiation of CFM; (b) the size and nature of the benefits, and how they are distributed among the various sub-groups of a community; (c) the factors affecting its sustainability, including conflicts and their management; and (d) communities' support needs. The principal research activity was a survey, primarily socio-economic, of 43 forest-dependent communities. CFM was examined in the context of people's livelihood systems as a whole, since these can affect the size and nature of any benefits they derive from forest protection, and also their main reasons for deciding to protect. The authors conclude that CFM has made an important contribution to the regeneration and sustainable management of Orissa's forests, and argue that the formal balance of control of forests be shifted further towards communities. They highlight the plurality of institutional and management arrangements that communities have developed, and caution against forest departments imposing a standardised, blueprint approach, as has tended to happen in government Joint Forest Management (JFM) programmes. Several weaknesses are identified in India's JFM programmes and reforms recommended.

Key words Community, management, indigenous, sustainability, conflict

Introduction

This study is based on a research project on self-initiated forest management in Orissa that was funded by the British Government's Department for International Development and managed by the Natural Resources Institute[29]. Several NGOs based in Orissa provided assistance in their operational areas.

CFM involves the active protection of a forest area, and regulation of its use, by a community. Orissa has several thousand self-initiated CFM groups, perhaps more than anywhere else in the world of comparable size. A large proportion of them have been in existence for more than 10 years, and some for as long as 30 or 40 years. The project aimed to improve understanding of: (a) the conditions that

[29] This document is an output from a project funded by the UK Department For International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.

lead to the initiation of CFM; (b) the factors affecting its sustainability; and (c) the size and nature of the benefits, and how they are distributed among the various sub-groups of a community. The project also studied communities' support needs; and sought to identify the implications of the experiences of self-initiated CFM for policy and for the design of joint forest management (JFM) programmes and other initiatives promoting participatory forest management (PFM).

Orissa is a state on the eastern coast of India, with a tropical climate, whose forest cover is about 30%. The principal forest types are: tropical moist deciduous, tropical dry deciduous, tropical semi-evergreen and sub-tropical broad-leaved hill forests (Orissa State Gazetteer, Vol. III 1990). Major species of value to local people include: *Shorea robusta, Terminalia tomentosa, Terminalia arjuna, Diospyros melanoxylon, Anogeissus latifolia* and *Madhuca indica*.

There are two broad administrative categories of forest in Orissa: Reserved Forests (RF) and Protected Forests (PF). The former belong to, and are (at least in theory) managed by, the FD; whereas the latter belong to the Revenue Department, although the FD is legally responsible for their management. In practice the FD has tended to ignore PF. In RF local rights do not exist, and everything is prohibited unless specifically admitted; while in PF, which are located within village revenue boundaries, local people have greater rights.

Methods

Forty three forest-dependent communities were surveyed, 33 of which had initiated forest protection. The 10 that had not initiated protection were studied to gain insights into factors discouraging protection. The majority (26) of the protection cases were selected to be representative of most cases in their area (block or panchayat), using either random sampling or typical case sampling. The remainder are special cases that were purposively selected to illustrate particular issues.

The researchers spent about seven days with each protection community. The main survey methods were semi-structured group interviews, combined with transect walks, and various participatory mapping and diagramming techniques. The survey team sought to obtain the views of people from a number of sub-groups, including women. CFM was examined in the context of people's livelihood systems as a whole, since these may affect the size of any benefits they get from forest protection, and also their main reasons for deciding to protect.

Results

General Features of CFM cases

CFM groups emerged and operate under varied conditions. One finds a wide range of variation in terms of: the area of forest being protected; age of protection; size of user groups; underlying reasons for protection; and type of management institutions developed. In the cases studied the mean area of the protected forest ‘patches’ was about 350 acres; while the mean number of households in a management unit was about 100.

In the vast majority of cases local people’s primary motivation for protecting forests was to generate products for subsistence use, but in a few cases income generation was the main objective. A substantial variety of forest products is harvested by local people, including: fuelwood, tubers, edible green leaves, fruits and berries, mushrooms, green leaves for plate-making, dry leaves for use as fuel, bamboo, small timber, medicinal herbs, creepers for rope-making, and seeds for making oil. Some income from sale of products is placed in a common fund of the village or community, and used to finance various activities and projects, such as: religious festivals and festivities; construction of a temple or school; or hiring of an opera teacher.

Conditions that Lead to the Initiation of CFM

Forest degradation and scarcity

Communities generally initiated protection after neighbouring forest had become degraded, causing villagers to experience scarcity of certain forest products, which earlier they had taken for granted. Degradation and scarcity are relative concepts and both are perceived differently at different places. The perception is influenced by, among other things, the rate of degradation, nature of degradation, and availability of substitutes for forest products. In a scarcity situation, the differences between sub-groups tend to get minimised in the face of the common problem, and it becomes easier to develop a consensus for initiating forest protection. However, scarcity alone was not always sufficient to mobilise the villagers, and often some 'trigger' was needed. Commonly found triggers are: (a) people seen digging out roots from the forest; (b) a sudden increase in pressure; and (c) restrictions placed by a neighbouring village on access to a forest patch (having a 'domino effect' as others follow suit).

Forests and livelihoods

The importance of forest and their products was assessed through matrix ranking, in relation to both subsistence products and income, in comparison with the other major livelihood activities: these were usually agriculture, animal husbandry and wage labour. The contribution of forests to livelihoods was seen as important, but most people ranked it below agriculture or (daily) wage labour. The nature and extent of dependence varies between different sections of the community. While the poorer households tend to attach importance to food and to income from collection and sale of non-timber forest products (NTFPs), the better off households highlight subsistence products like firewood and small timber. Sometimes the difference between sub-groups is only one of degrees. While some of the products collected might be the same, the frequency, quantity, and urgency for poorer and better off sections can vary.

Sometimes sections of the community depend on the forest for day-to-day survival. They are mostly engaged in firewood headloading, including the felling and sawing of trees, and they rank forest highest. In villages where forest protection had been initiated, such people had agreed either to: (a) 'shift' the pressure outside of the protected patch; or (b) switch to another livelihood option (e.g agricultural wage labour).

Facilitating Factors

Various factors are found to have facilitated forest protection by communities. In some areas, one single factor contributed to the initiation and at other places a combination. Though it is difficult to say which single factor was most important in each particular case, some factors stand out when all the cases are taken together. These include: (a) presence of strong traditional community institutions; (b) unsuitability of the patch for agriculture; (c) lack of feasible alternatives or substitutes to some forest products; (d) support from local FD staff; (e) perception of 'ownership' of PF. In addition, government projects and programmes, notably the Orissa Social Forestry Project, helped in developing an atmosphere for forest protection.

Inhibiting Factors

Factors which inhibit initiation of forest protection include: the condition of the resource (product scarcity not yet acute); characteristics of the community and its leadership; size of the village and location in relation to nearby villages; and heavy dependence on firewood headloading. Some specific reasons cited by non-protecting villages were: 'most of the products easily available', 'a large number of persons would lose their livelihood if protection is initiated', 'village is too small to enforce protection effectively'.

The Community Management System

Management Unit

The management unit is usually a hamlet or village, but sometimes comprises a group of villages or hamlets. The latter kind of unit occurs when the patch of forest (usually RF) is too big to be protected effectively by any single village; or when more than one village has well established traditional rights over that patch that cannot be ignored. On the other hand, multi-hamlet villages often organise their protection hamlet-wise, either for better management of protection or because they do not relate to each other as a community. In a multi-hamlet village, differences of opinion sometimes arise over management matters, leading to breakdown of protection or division of forest between hamlets.

Institutional Arrangements

Various types of community organisations manage forests, and develop rules and regulations for membership, access, penalty, watch and ward, harvesting etc.. The organisation could be a village committee, a specially constituted forest committee, a youth club or a group of village elders. Depending on the situation, communities have developed different arrangements for enforcing protection and using the benefits. Members are recognised on the basis of their contribution to protection, which is in cash at some places and in kind or labour (mainly patrolling) at others. Ethnicity/caste and place of residence (hamlet) influence representation of different sections on the decision-making body.

Protection System

The protection system comprises (a) patrolling and (b) a penalty system. Rotational patrolling (*Thengapali*) is the most commonly used method, in combination with general vigilance. Watchers are employed where membership fees are charged, or some community fund has been developed which can support a watcher; or when it becomes difficult to go for patrolling (agricultural season). The penalty system may involve verbal warning, beating, social pressure and monetary fines. It is usually based on graduated sanctions (Ostrom 1990), i.e. the type and size of penalty depends on the seriousness of the offence, and whether or not it is a first offence.

Communities seek to minimise the costs of protection, and the amount of labour or cash invested is proportional to the size of the perceived threat, which may vary seasonally and over a period of years. Thus, watch and ward in most of the cases is 'irregular' and 'need based' and changes in 'form' with change in condition of vegetation, season and pressure from outside. Contrary to popular belief, it is generally easier to protect a relatively mature (and hence valuable) forest than a younger one. Despite its higher value, outsiders are deterred from felling large trees because they are more likely to be heard or seen, and the larger the tree the slower the getaway is likely to be.

Usufructuary Rights

The communities develop a graduated and sometimes complex system of use rights that may take account of: membership of the CFM group, place of residence, species, product, quantity, purpose, urgency of need, and economic condition of applicant. The extent and nature of rights are also influenced by the condition of forest; the community's need for funds; market value of a particular product etc. In general, after three-four years of protection access for collection of various products (without using any cutting tools) and grazing is allowed for both members and outsiders. If products (e.g. *Shorea robusta* leaves) are in high demand outsiders may be required to pay a price.

Benefit Sharing Mechanisms

Two main types of benefit-sharing mechanisms are found -- 'need-based and 'equal' sharing. They are not mutually exclusive and co-exist in most of the cases studied. A need-based approach is taken for scarcer products (e.g. small timber) which are required in different quantities by different families for subsistence purposes. A common example is where timber is required by one or more households for house repair, sometimes following damage by rains or fire. The management committee decides whose needs are greatest and how much of the product they should be allowed to remove: any authorised felling of trees tends to be closely supervised. If the product is very scarce it may only allow part of the

total need to be met from the protected patch. The 'Equal' share mechanism is generally applied when the committee organises harvesting in the forest (cleaning and thinning). Products like twigs, branches and poles are obtained, which are divided equally between members.

Equity in Benefit-sharing and Decision-making

Disparities inherent in the social and economic structure of most Indian communities automatically raise concern as to whether the arrangements are equitable. Certain mechanisms and approaches followed by the community for the management of forest tend to reinforce these concerns. They are:

- Inability of some community members to participate;
- Restriction on sale by individual members of their share of wood;
- Use of common fund for purposes which benefit some people more than others;
- Complete closure of forest;
- Auctioning of produce from cleaning and thinning operations;
- Absence of women from decision making body; and
- Focus on timber species.

In discussions with various sub-groups in the villages, differences in priorities with respect to use of the forest and participation in decision-making of particular sub-groups were identified. Community leaders accept that the short-term impact of closing the forest is greater on the poor, but point out that the 'payoff' is also greater for them in the medium to long-term, as the poor take out more (in number) and products and require them more than others. They argue that the poorer groups cannot be significantly disadvantaged, because if they were they would not accept the management rules, and protection would break down. Sometimes the community innovates to reduce the hardships on the poor – shifting pressure; leaving a patch open for village residents, permitting harvesting of certain species either free of cost or on payment of nominal sum.

Certain sub-groups or households may be unable to participate in the protection system, because they cannot meet the costs involved, and as a result they are deemed ineligible for the benefits. For example, groups that depend heavily on daily wage labour or seasonal migration sometimes find it difficult to contribute their share of the costs of protection, particularly during the initial period: i.e. they cannot provide labour for rotational patrolling or cash to pay the watchman's salary. Sometimes two or three families combine and get 'registered' as one share/member.

Gender

Women's involvement in decision making is negligible, though they contribute significantly (indirectly in most places) to watch and ward of forest. A family is considered to be the unit for membership and is represented by the male head, even in the village committee. Nevertheless, women of the protecting villages were mostly found to be supportive of the executive committee decisions, and the system of management followed by them. Fuel is first priority for them and in most of the cases its availability has increased, though in a different (often inferior) form: wood has been replaced by dry leaves and twigs as fuel.

Sustainability of Community Forest Management

Institutional Sustainability: Intra and inter-village conflict

The majority of protection cases had experienced conflicts that led to a breakdown (temporary or permanent) of CFM, and/or changes in the protection arrangements, which in some cases had resulted in substantial degradation of the protected forest. However, most conflicts are effectively resolved by communities eventually, sometimes with the help of outsiders (such as the FD or NGOs). With protection of PF on revenue land, the major conflicts are usually internal; whereas when RF is being protected most conflicts are with outsiders. Conflicts are not always directly related to forest management (as the CPR literature tends to assume): disagreement over other issues may spill over (see Figure 1). When they are within the management group this can lead to the abandonment of protection; and when they are external a strong community may be able to overwhelm the CFM group.

Intra-village conflicts commonly relate to: use or administration of the community fund, party politics, local government elections, hamlet or sub-group level differences on various issues, benefit distribution etc. The internal conflicts may also be a reflection of the institutional weaknesses of the managing body.

Inter-village conflicts are common over usufructuary rights and demarcation of boundaries between adjacent areas of forest protected by different communities. In the case of RF, one community's restriction on free access may be strongly contested by other villages in the area that have been using the forest. Conflicts with outsiders are higher in initial years, while the community establishes its control over access to the patch, after which they tend to decline. The problem then becomes one of sporadic theft by outsiders rather than open conflict.

Ecological Sustainability

Protection leads to substantial and rapid regeneration of the protected patch. This can be seen very crudely, but clearly, by: (a) observing the condition of the patch as compared with other forest areas nearby; and (b) also by asking communities to describe the condition of the patch before protection. This has been confirmed by cross-checking with FD records or with recollections of FD staff. Current and historical transects prepared by community members show increases in the number of tree species found.

Communities primarily depend on coppice regeneration of various species. Natural seed regeneration is uncommon. At places where regular thinning has taken place, a multi-age crop can be observed. Otherwise mostly the forest consists of densely packed, even-aged trees. The communities, in general, follow a conservative extraction regime for pole and small timber from the protected patches: harvesting of trees is mostly need-based. In cases where communities undertake regular cleaning and thinning operations to meet their firewood and pole needs, or to generate some funds through sale of wood, the extent of harvesting is greater.

There is cause for concern about the ecological sustainability of some community-managed forests. For example, in the Sal (*Shorea robusta*) forests of Mayurbhanj and Keonjhar districts, due to absence of undergrowth, dry Sal leaves are commonly used for fuel. At places, sweeping of Sal leaves has lead to soil erosion, and total absence of regeneration. Another concern is that after the first 2-3 years of protection, grazing is freely allowed in all the protected patches - except where there is bamboo (for which seasonal restrictions are enforced): this also inhibits natural regeneration. A third concern is that, although the protected forest may be in good condition, pressure has often shifted onto other nearby forests, and as a result these may have been degraded.

Forest Department – Community Interface

The Forest Department and CFM

The attitude of FD staff to CFM varies from positive to indifferent to antagonistic. In some places FD staff have been formally or informally involved in supporting these initiatives, particularly those related to RF. Support by FD staff has taken various forms, including: (a) informal recognition of the right and authority of the protection community vis-a-vis others; (b) motivating villages to take up protection of forest; (c) facilitating village-wise allocation and demarcation of RF area; (d) taking or supporting penal action against offenders in cases brought to them by villagers; (e) conflict management, particularly over boundary disputes in RF; (f) financial support for protection and for cleaning operations; (g) permission for cleaning and thinning; (h) permitting (overlooking) the selective felling of trees, and sale of 'surplus' to outsiders by villages committees; and (i) facilitating the formation of apex bodies/confederations of protecting villages.

In the case of PF protection FD staff have generally been indifferent to the communities' initiatives. Furthermore, in many areas the FD has not been supportive of CFM in RF either. Communities in these areas tend to have a negative attitude towards the FD, for the following reasons:

- The corruption amongst the FD staff (and their relationship with known 'offenders') makes the villagers suspicious of their actions;

- The community believes that the FD is primarily responsible for the degradation of the forest;
- They perceive that the FD failed to support them in times of need, especially in dealing with offenders;
- They also perceive that government funds meant for their development activities under the forest department do not reach them, but are diverted by FD staff;
- The FD does not recognise their forest protection efforts in their present form; and the community is apprehensive that the FD is devising ways to take control of "their" forest (e.g. through JFM).

The FD staff for their part find themselves poorly equipped with resources, time and legal powers to respond to the problems brought to them by villagers. The problems of the villagers may seem unimportant to the FD, who have to look after large areas of forest and may have to deal with powerful offenders, such as timber-smuggling Mafia.

Community's attitude towards JFM

Out of the 33 community forest management initiatives studied, 10 had become officially registered under the JFM programme. The motive behind agreeing to JFM varied, from wanting to obtain a permit for harvesting and sale of some forest product (wood or bamboo), to a perceived need for legal recognition and greater security against other villages in the area.

The attitude of the communities towards JFM varies from village to village. It may be positive or negative, depending on: the situation with respect to protection in the village (extent and nature of external pressure and community's ability to handle that effectively on their own); the degree of trust in the intentions of FD; and their perception of the costs and benefits of formally associating with the FD.

A positive attitude towards JFM is found where the community believes that by associating with the FD it would be able to deal with protection and management-related issues more effectively. Issues that worry villagers include: uncertainty over rights to forest (more so if it is a RF), external pressures by organised gangs and bigger neighbouring villages, harvesting and sale of poles/firewood without legal complications, and conflicts. Some of the advantages perceived by the community of the existing JFM framework are: better chances of FD taking action to meet their concerns, and official and formal recognition of their efforts for forest management.

Discussion

At meetings and workshops about CFM and JFM in Orissa (involving NGOs, the FD, community representatives etc.), discussions and debates often become polarised, and there has been a tendency to focus on areas of difference and disagreement rather than identify areas of common ground and consensus. Related to this is a tendency to become immersed in discussions over the details of policies and programmes, while neglecting discussion of strategic issues relating to their broad thrust and direction.

For these reasons, we have set out some general objectives for forest management, and made a general case for the involvement of communities in forest management (Conroy *et al.* 1999). We concluded that only an effective partnership between state agencies and forest-dependent communities will be strong enough to ensure that Orissa's forests are safeguarded and maintained on a sustainable basis. This is in line with the policy of the State Government[30]. Following on from this, we have proposed a framework for the partnership between communities and the state in forest management, which will now be described.

[30] The Orissa notification (dated 3/7/1993) states that "Forest management has to be reoriented to forge an effective partnership between the Government Department and the concerned village communities".

A Framework for Partnership between Communities and the State

The partnership between communities and the state involves the co-operative sharing of rights, responsibilities and benefits. To be effective the partnership will require an atmosphere of mutual trust and respect, and to achieve this a number of key conditions need to be satisfied. These are as follows:
(a) the allocation of rights and responsibilities to the respective stakeholders needs to be mutually acceptable;
(b) the division of benefits needs to be perceived by both major stakeholders as fair;
(c) there needs to be a system for ensuring mutual accountability;
(d) there needs to be openness and transparency in financial matters and a free flow of information *between* stakeholders, and also *within* large stakeholders (notably the FD).

To satisfy condition (b), we propose that the benefits derived from forest management by different stakeholders (including communities and the state) should be proportional to their respective contributions.

State agencies should take care not to force major changes on CFM as it is currently practised in Orissa: seeking to impose blanket rules and regulations is not likely to be effective, and may even undermine and erode this valuable asset. Plurality and flexibility are needed rather than a standardised, blueprint approach, and the state should discharge its responsibilities in a sensitive manner. The general approach that we have outlined here, and the more specific rights and responsibilities proposed, have implications for JFM programmes and other PFM initiatives: these will be discussed later.

Rights of CFM Groups and the State

We propose three basic rights for CFM groups. First, they should have the right to decide what the forest management objectives are, and to develop a management system to meet those objectives, provided they conform with basic objectives of the Indian government's forest policy (*ibid*.).

The identification of forest-dependent communities with the protection and management of the forests from which they derive benefits is an essential component of any effective strategy for forest management. Thus, second, CFM groups should have recognised rights to collect, process and market forest products from the patch that they are protecting.

Third, when the state or private businesses propose major developments involving changes in land use to forest land where CFM is practised, the communities concerned should have the right to present their views on the proposed development to an impartial public inquiry; and to receive compensation from the developer if the managed forests are negatively impacted by the development.

The state's rights should be as follows. First, it should have the right to intervene, where a CFM group is managing RF, if the CFM group is in serious breach of any of its responsibilities, and to take action to protect the forest if it is being degraded. Second, it has the right to promote: (a) equitable benefit-sharing and (b) democratic decision-making processes, in accordance with government policy.

Responsibilities of CFM groups and the state

We believe that CFM groups should: (a) play the lead role in management of particular patches with which they are involved; (b) be responsible for protecting the forest so that it is not degraded by either its members or by outsiders; (c) be responsible for managing the forest in an environmentally sustainable way; (d) (both individual ones and federations) have the primary responsibility for managing conflicts affecting forest management, particularly conflicts within the protection group; and (e) seek to ensure that benefits of CFM are equitably distributed within the community that corresponds to the management group.

The state also should have several responsibilities. Of these the main ones are: (a) to provide a supportive enabling environment in which CFM can flourish, key components of which are: (i) the provision of secure rights to forest products (including legal recognition of rights, and upholding of those rights by the state if they are challenged); and (ii) ensuring 'fair' prices for forest products (processed products as well as primary ones) by addressing market failures, such as the existence of NTFP monopsonies; (b) to provide technical support to CFM groups on forest management and forest

product processing and marketing when requested to do so; and (c) to play the role of a third-party mediator when CFM groups are unable to manage conflicts effectively and seek outside help from the state in doing so.

Conclusions

Conflicts and their Management

The research has shown that conflicts are common in CFM. Furthermore, forests are different from many other renewable natural resources, in that the resource, or a large proportion of it, can be removed virtually overnight, as happened in some cases studies. Thus, failure to resolve conflicts quickly may result in local communities losing much of the assets that they have spent years building up. Generally speaking, PFM initiatives have not given adequate consideration to these issues, although that is starting to change (Anderson *et al*. 1998; Vira *et al*. 98). Some conflicts are inevitable, so it is important to ensure that there is adequate capacity to deal with conflicts when they do arise. PFM programmes should, therefore, include provision for capacity development for conflict management, which can take two forms:

- the creation of new mechanisms and bodies for mediation of conflicts; and
- training in consensual negotiation, facilitation and mediation skills (Conroy *et al*., in press).

Implications of the Partnership Framework for JFM Programmes

Conceptually JFM and CFM can be seen as representing differing degrees of management control being exercised by the State (FD) and the Community over the forest resource. The two management regimes can be depicted at different points on a continuum from 'total State control' to 'total Community control', as shown in Figure 2.

JFM and CFM as currently practised are towards the centre of the spectrum, between predominantly state control and predominantly community control. The differences between JFM and CFM relate to the degree to which the devolution of rights and powers by the state takes place, together with the transfer of responsibilities.

The partnership framework proposed here goes further along the spectrum towards community control than JFM does, but is not particularly radical when seen in the context of informal initiatives by FD staff in the past (Conroy *et al*. 1999). Community and FD collaboration were practised at various places in Orissa before the State Government issued its first resolution on JFM in 1988. These were evolved by the local field staff working together with villagers, mostly with support from their Divisional Forest Officer (DFO). JFM as currently practised in Orissa has a number of weaknesses in relation to the framework, which are listed below.

First, there is a lack of mutual accountability - the communities are much more accountable to the FD than the FD is accountable to them. The FD's right to dissolve an Executive Committee makes it an unequal partner: it is obliged to reconstitute the committee, of course, but it can delay doing so for as long as it likes. The community has no rights or powers to take action if it thinks that the FD is not performing its responsibilities satisfactorily.

Second, the way in which the programme is implemented tends to be rigid and formulaic, rather than flexible and pluralistic - for example, regarding membership of the committee, or the area of forest allocated to a particular forest protection committee (FPC). This kind of approach is not confined to Orissa: it is characteristic of JFM generally[31].

Third, the requirement that a forest officer attend all the meetings as the Secretary is undesirable from the point of view of the FD, as it means that the potential of community management to reduce FD costs is not being achieved. Three DFOs expressed concern to us about the amount of time that their staff were having to spend attending FPC meetings, and said that this leaves them less time to protect

[31] Hobley (1996) observed that "The proponents of JFM often appear blind to the social, ecological and political diversity of the nation, and apply the model irrespective of the location".

forest that the FD is managing directly itself. It should not be necessary for the FD to become involved in management at this level of detail.

Furthermore, this requirement is also undesirable from the point of view of the communities, who complained about forest guards failing to attend FPC meetings, and the problems this creates. We do not think it is necessary, desirable or feasible for a forester to participate actively as a member of the executive committees in day to day management, and to attend all meetings of the committee. However, a forester could have an advisory position.

Fourth, under India's JFM programmes it is not communities who play the lead role in deciding management objectives and formulating a plan to achieve them. Microplans tend to reflect FD agendas, rather than community needs; and they are drafted in a traditional silvicultural format.

Fifth, Orissa's JFM programme has been implemented largely on a target-driven basis, with the FD at times only making one visit to each village, and not holding thorough discussions with communities. As a result, if protection is initiated at all, it does not usually last very long.

Sixth, where existing CFM groups have been approached by the FD to join the programme the FD has won them over with material incentives. This is very different from an approach in which communities enter a partnership with the state out of choice and without being under pressure to do so.

Seventh, the requirement that the Naib Sarpanch be the chairperson of the FPC's Executive Committee is objected to by most communities. This is a clear example of a condition being imposed on communities by the FD on a blanket basis and against their will.

Eighth, the concepts of 'final harvest', and even 'major harvest', that are expressed in JFM resolutions are alien to most communities. They belong to conventional plantation forestry, and are not appropriate to the multi-species, multi-purpose forestry practised by CFM groups.

The Forest Department's support to CFM should not be organised on a project basis, with quantified targets and a fixed-term duration. It should be seen as an integral part of the FD's everyday work, as it has been seen and practised by some officers and divisions in the past.

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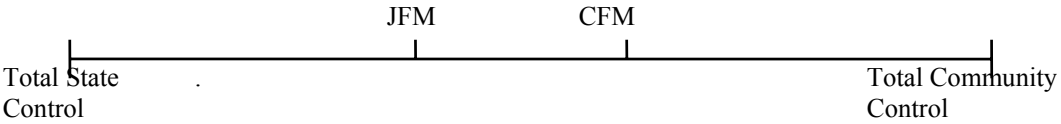
Figure 1 Types of Local Conflicts, with Examples

	Directly related to Protection	**Indirect effect on Protection**
Within protection communities	**A** One sub-group refuses to abide by protection or harvesting rules	**B** Conflict breaks out between 2 sub-groups, who refuse to cooperate any longer in various matters. Forest protection is affected, sometimes leading to a tree-felling free-for-all.
Between protection community and other local stakeholder	**C** 1+ local stakeholders (e.g. communities, local FD staff, loggers) challenge or do not accept a protection initiative (and may cut down trees in the protected patch).	**D** Conflict breaks out between 2 communities, related to non-protection issues (such as party politics or personal disputes), leading non-protecting community to 'loot' the protected patch.

Figure 2 The State/Community Control Spectrum



12. Conroy, C. and Albright, K. (2000) Cooperation and Conflict in Community-Based Natural Resource Management in India**.** Paper presented at the Development Studies Association/Bradford University Conference on 'Environmental Resources: Conflict, Co-operation and Governance', May 17th-18th 2000.

COOPERATION AND CONFLICT IN COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT IN INDIA: A DISCUSSION PAPER[32]

Czech Conroy and Kerry Albright[33]

1. INTRODUCTION

Designing community-based natural resource management (CBNRM) programmes, or working out how best to support CBNRM is not easy, and conflicts are probably unavoidable, if not inherent. The factors giving rise to conflicts need to be better understood, and the most effective ways of managing them need to be identified and appropriate structures and processes incorporated into CBNRM programmes.

This paper draws on information from two research projects[ii] in India that have been coordinated by one of the authors (CC). One project studied 33 cases of self-initiated community forest management (CFM)[iii] in the state of Orissa, where a few thousand[iv] communities are managing forests. Many communities initiated CFM more than 20 years ago. The second project has been studying goat feeding systems in semi-arid parts of NW India, particularly Rajasthan, and ways of overcoming problems of seasonal feed scarcity. Protected silvi-pasture areas (PSPAs) on common lands are one form of intervention that has been studied: case studies of 13 PSPAs have been reviewed in preparing this paper.

The paper is structured as follows. The remainder of this section describes the context and nature of CBNMR in the two survey areas, and the basis on which cases of CBNRM were selected for study. Section 2 then describes some of the main types of stakeholders that may have interests in common pool resources in India, with particular emphasis on forests and their products. It highlights the fact that even within communities there may be different sub-groups with different, and sometimes conflicting, interests. Section 3 goes on to describe and categorise the various types of conflict that can affect CBNRM. Conflicts relating to, or affecting, CBNRM are quite common in both Orissa and Rajasthan, and occasionally undermine it.

Section 4 considers what implications the various types of conflicts have for the design of external interventions to promote CBNRM. It describes various measures that can help to identify, avoid, or minimise conflicts: participatory natural resource management projects have sometimes been weak in recognising and taking account of

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[32] We would very much welcome comments on this paper, which has been prepared for presentation at the Development Studies Association/Bradford University Conference on 'Environmental Resources: Conflict, Co-operation and Governance', May 17th-18th 2000. The paper is being circulated to colleagues in India, and will be revised after the conference to take account of feedback.

[33] The authors are researchers in the Social Sciences Department, Natural Resources Institute, University of Greenwich. We would like to acknowledge the contributions (direct and indirect) of others to this paper, including: Man-Kwun Chan, Mr Bhise, Mohan Dangi, Ashwini Ghorpade, Viren Lobo, Abha Mishra, Ajay Rai, Kishore Saint, Sandeep, Neera Singh and Bhaskar Vira.

conflicting interests (Grimble *et al*., 1995). The use of stakeholder analysis is discussed, particularly in relation to improving the design of policies, programmes or projects.

Section 5 outlines five general approaches to conflict management at the micro-level that external agencies can adopt, the potential advantages and disadvantages associated with each, and which are most appropriate and when in CBNRM in India. Many conflicts cannot be anticipated and taken into account at the design stage, particularly since some conflicts that negatively impact on NR management are primarily concerned with other issues. Yet the options for management of natural resources that are immediately available tend to have a number of weaknesses associated with them. Thus, it is desirable for CBNRM projects and programmes to include local (particularly community) capacity building for conflict management as an important component, and ways of doing this are described in section 6. Section 7 contains some general conclusions.

1.1 The Context and Nature of CBNRM in Orissa and South Rajasthan

Common pool resources (CPRs) can be important sources of products for local people, and particularly the poor, in rural India. For example, grazing is the most important source of fodder for cattle and other ruminants, and most grazing takes place in CPRs, such as forests, permanent pastures and grazing areas, and non-arable lands (World Bank, 1999). Tree leaves and grass undergrowth from forests constitute an important source of fodder, particularly in hilly and arid areas (ibid.). Where forest cover is still substantial (say 15-30%), as in Orissa, forests are an important source of a wide range of products that are used for subsistence purposes and/or sold (see below for details).

The productivity of CPRs has been declining for several decades. Top-down policies and programmes to raise their productivity have generally failed to do so, largely because of the lack of emphasis on the strengthening of local community organisations (ibid.). More recent programmes, notably those concerned with joint forest management (JFM) and watershed development, are attempting to take a more participatory approach and to involve communities directly in the management of these resources. However, conflicts are sometimes a serious obstacle to sustained community-based management.

1.1.1 Orissa

Orissa is a state on the eastern coast of India, with a tropical climate. The mean annual rainfall of the state as a whole is about 2000 mm, but there is a lot of variation and in parts of western Orissa mean annual rainfall is as low as 1000-1200 mm. Orissa's forest cover is about 30%, one of the highest in India. The principal forest types are: tropical moist deciduous, tropical dry deciduous, tropical semi-evergreen and sub-tropical broad-leaved hill forests (Orissa State Gazetteer, Vol. III 1990).

There are two broad administrative categories of forest in Orissa: Reserved Forests (RF) and Protected Forests (PF). The former belong to, and are (at least in theory) managed by, the FD; whereas the latter belong to the Revenue Department, although the FD is legally responsible for their management. In practice the FD has tended to

ignore PF. In RF local rights do not exist, and everything is prohibited unless specifically admitted; while in PF, which are located within village revenue boundaries, local people have greater rights.

A substantial variety of forest products is harvested by local people, including: fuelwood, tubers, edible green leaves, fruits and berries, mushrooms, green leaves for plate-making, dry leaves for use as fuel, bamboo, small timber, medicinal herbs, creepers for rope-making, and seeds for making oil. CFM involves the active protection of a forest area, and regulation of its use, by a community. Orissa has several thousand self-initiated CFM groups, perhaps more than anywhere else in the world of comparable size. A large proportion of them have been in existence for more than 10 years, and some for as long as 30 or 40 years.

1.1.2 South Rajasthan

South Rajasthan is a semi-arid region in western India. All but one of the cases studied are located in Udaipur District, which has a mean annual rainfall of about 600 mm. The area used to be heavily forested, Teak and bamboo being common species, but there has been extensive deforestation during the last few decades. Most households in the region are agro-pastoralist. Crop production tends to be their major activity, but animal husbandry (cows, buffaloes, goats and native chickens) is also important for most: seasonal labour migration is another important activity for most poor households. Animals, particularly smallstock, are kept partly as a drought-proofing mechanism: in the event of crop failure they can be sold to provide income to purchase food.

The principal product derived from both forests and village grazing areas is fodder for livestock, and fuelwood is also an important product from forests. Fodder may be either grass (consumed primarily by large ruminants) or tree fodder (consumed mainly by goats). Other NTFPs are much lower in quantity and in their contribution to livelihoods than is the case in Orissa. This may be partly related to the different agro-climatic conditions, with Orissa's higher rainfall enabling trees to grow more rapidly than those in Rajasthan (in general, although there are, of course, differences between species).

Many rural livestock-keepers tend to be small or marginal farmers (or landless people) who do not have sufficient land to grow fodder crops, preferring to give priority to food crops and cash crops. For them, common lands are usually an important source of forage. Two principal types of common pool silvi-pasture land are village pastures and forests. Under the Rajasthan Tenancy Act (1955), pasture land (*Charagah*) is defined as "land used for the grazing of the cattle of a village or villages or recorded in the settlement record as such…" (Cited by Saint, 1993).

Numerous NGOs in Rajasthan have sought to reverse the degradation of common lands by fencing off areas of *Charagah* or other commons, planting fodder trees and improved fodder grasses and legumes, and applying soil and water conservation measures. The Forest Department has taken a similar approach on forest (and sometimes *Charagah*) lands, under the auspices of its joint forest management (JFM) programme. These protected areas can be termed protected silvi-pasture areas (PSPAs).

Charagah land is under the jurisdiction of the *panchayat*, the lowest tier of local government. *Panchayats* usually represent 4-5 villages (but sometimes as many as 10 or 12), and the residents of any one of these villages tend not to feel any affinity with the *panchayat*, and use of *panchayat*-owned common lands is generally not regulated. Nevertheless, enclosure and development of *charagah* by a particular village requires the granting of a lease for this purpose by the *panchayat*. These leases are usually for three or five years, but in some cases they have had a 10-year duration.

Encroachment is widespread in Rajasthan, and has been going on for several decades, particularly since Independence in 1947 (Jodha, 91). The term usually refers to the use of land to grow crops, but construction of houses is sometimes involved. Encroachment on common lands may be done either by people within the community to which the commons belong, or are said to belong, or people from other neighbouring villages. It is a major political issue. A socio-political movement called Jungle Jameen Andolan has been active in southern Rajasthan for several years, which is lobbying for regularisation of long-standing (pre-1980) encroachments by villagers; and there is a de facto government policy of periodic regularisation (Vardhan and Negi, 1999). Unfortunately, the expectation that long-standing encroachments will be legalised sometimes leads to new 'spurts' of encroachment (ibid.). Encroachment is usually done by more powerful members of the village, and is a major threat to the majority of villagers (SPWD, 1991; Dangi in SPWD 1998).

NGOs involved in enclosure of the commons are sometimes motivated by the desire to prevent further encroachment, so that all members of the community, and particularly the poor, can continue to benefit from its use. In addition, preventing encroachment (or removing encroachers) is often a major reason why certain communities, or sub-groups of communities, support the creation of a PSPA.

1.1.3 Institutional arrangements of CBNRM

These arrangements are similar in the two project areas. Various types of community organisations manage CPRs, and develop rules and regulations for membership, access, penalty, watch and ward, harvesting etc.. The organisation could be a village committee, a specially constituted forest committee, a youth club or a group of

village elders. Depending on the situation, communities have developed different arrangements for enforcing protection and using the benefits. Members are recognised on the basis of their contribution to protection, which is in cash at some places and in kind or labour (mainly patrolling) at others. Ethnicity/caste and place of residence (hamlet) influence representation of different sections on the decision-making body.

The community devises a protection system that usually comprises (a) patrolling and (b) a penalty system. Rotational patrolling is a widely used method, in combination with general vigilance. Alternatively, watchers are employed where membership fees are charged, or some community fund has been developed which can support a watcher; or when it becomes difficult to go for patrolling (agricultural season). The penalty system may involve verbal warning, beating, social pressure and monetary fines. It is usually based on graduated sanctions (Ostrom 1990), i.e. the type and size of penalty depends on the seriousness of the offence, and whether or not it is a first offence.

The community generally implements and enforces the protection system itself, only reverting to external authorities when 'offenders' (people who have broken the rules governing use of the CPR) refuse to pay the fine. Most conflicts in CBNRM are related to situations in which the rules have been broken.

1.2 Selection of CBNRM Cases for Study

In Orissa, the majority (26) of the 33 protection cases were selected to be representative of most CFM cases in their area (block or panchayat), using either random sampling or typical case sampling. The remainder are special cases that were purposively selected to illustrate particular issues.

In Rajasthan, selection of cases was entirely purposive, to illustrate a wide range of situations regarding factors including: type of management system, principal stakeholders involved in initiating protection, pattern of livestock ownership, and 'successful' and 'unsuccessful' cases of CBNRM. Thus, as far as conflicts are concerned, they are not necessarily representative of CBNRM in Udaipur District, at least as far as frequency is concerned (major conflicts are probably generally more frequent than in this sample). They do, however, provide a good indication of the *kinds* of conflicts that tend to arise.

2 MULTIPLE STAKEHOLDERS MEANS MULTIPLE INTERESTS

Stakeholders have been defined as "any group of people, organised or unorganised, who share a common interest or stake in a particular issue or system" (Grimble and Wellard, 1997). They can be at any level or position in society, from global to household or intra-household. A distinction is made between primary and secondary stakeholders. The former are those who depend significantly on a particular area of forest for their livelihoods: they usually live in or near the forest. There is plenty of scope for conflicts, as each stakeholder is likely to have different interests and objectives: those of poorer and weaker groups could easily be disregarded or marginalised.

Table 1 Key Stakeholders in PFM: the case of Orissa

Level	Stakeholders
Local on-site - primary	* Management community * Different sub-groups of protecting community (distinguished by class, caste, gender etc.) * Village leader(s) * Other communities nearby who previously used the protected forest, or who are still allowed limited access to the forest and/or selected products.
Local off-site - secondary	* Federation/apex body of protecting communities * Traditional multi-village body * *Panchayat*
District/forest range	* Divisional Forest Office * Private sector commercial bodies (e.g. NTFP traders, logging companies, organised timber smugglers, mining companies). * NGOs (forest-support, environment etc) * Urban consumers of forest products (esp.fuelwood)
State	* Forest Department * Revenue Department * Watershed mission * Ministry of Forests and Environment * Orissa Forest Development Corporation * Tribal Development Cooperative
National government	* Ministry of Environment and Forests
International donor agency	* Swedish International Development Agency

2.1 Stakeholders in Community-based Forest Management

Participatory forest management (PFM)[v] is a complex business. Forests provide a wide range of products of subsistence and/or commercial value (direct uses); as well as performing environmental services (indirect uses), and often having religious or cultural significance (non-use values). Even small 'patches' of forest may be used by people from several villages or hamlets; and different sub-groups within a particular hamlet or village may derive different products from the forest. Management of larger areas of forest is even more complex, as they may transcend administrative, political and social boundaries. Table 1 lists key stakeholders with an interest (actual or potential) in forests and PFM: it is based on the situation in Orissa, but a similar set of stakeholders would be found in most countries.

2.2 Communities and Conflicts of Interest

The term 'Community-Based Natural Resource Management' is widely used. The word 'community' is sometimes taken to imply a group of people living in harmony with each other and with a common set of interests. In many villages, however, there are numerous sub-groups: the land-poor and the land-rich; men and women; people

of different castes, etc (Guijt and Shah, 1998). The relations between these sub-groups have tended to be neglected in the literature on CPR use, at least until recently; yet 'control and conflict over such resources [can be] .. closely tied to power relations [within villages]' (Beck, 1994). This is illustrated by the conflict example in Box 1.

Different sub-groups have different livelihood systems, and may use the commons in different ways. Thus, their management priorities and objectives are also likely to differ, and this may be a source of conflict. This is illustrated by PFM, in which some sub-groups may object to the placing of restrictions on the harvesting of products: for example, in Orissa, groups that make a living from selling fuelwood, or making bamboo products, are sometimes opposed to CFM. Yet few studies of the impact of JFM have examined "who, within communities and households, has gained and who has lost by class, caste, ethnicity and gender" (Sarin *et al*., 1998). The same is true of silvi-pasture and watershed development interventions that promote CBNRM, particularly where there are major differences between sub-groups in the pattern of livestock ownership.

The above considerations do not invalidate the concept of a community, but they do mean that the term needs to be carefully defined. The following definition is assumed for the purposes of this paper:

> a set of people (i) with some shared beliefs, including normative beliefs, and preferences, beyond those constituting their collective action problem, (ii) with a more-or-less stable set of members, (iii) who expect to continue interacting with each other for some time to come, and (iv) whose relations are direct (unmediated by third parties) and multiplex (Ostrom,1992).

3 THE NATURE OF CONFLICTS AFFECTING NR MANAGEMENT

A wide range of conflicts occurs in both Orissa and Rajasthan in CBNRM. Nobody knows exactly how prevalent they are, but they are certainly not unusual. When CBNRM breaks down or stops it is usually because of conflict. The majority of CFM initiatives surveyed in Orissa had experienced conflicts that had led to a breakdown (temporary or permanent) of CFM, and/or changes in the protection arrangements (Conroy *et al*., 1999). In some cases this had been associated with substantial degradation of the protected forest. In Rajasthan, three out of the 13 PSPA cases studied had experienced serious breakdowns in protection, i.e. ones leading to significant degradation of the PSPA. It should be noted, however, that the majority of micro-micro level (see below) conflicts are effectively resolved by communities sooner or later.

The relationships between various stakeholders may involve occasional (acute) conflicts, or ongoing (chronic) ones. Some may be readily visible to outsiders, while others may be almost invisible or 'subterranean' (Sarin, 1996). Simplifying things somewhat, one can say that conflicts occur at micro or macro levels, and between these levels, and can be classified as follows: micro-micro, micro-macro, or macro-macro[vi]. In this paper we focus primarily on micro-micro conflicts in CBNRM, several examples of which, from Orissa and Rajasthan, are given below.

3.1 Micro-Micro Community Conflicts

Micro-micro type conflicts can be classified further into four categories (Conroy *et al*., 1999 - see Table 2), in terms of:

* whether they are within the community protecting the commons, or between that community and other stakeholders; and
* whether the conflict is directly or indirectly related to management of the commons.

The latter may not always be a clearcut distinction: where there is a history of conflict or mistrust between different stakeholders regarding non-NRM matters, there is more likely to be conflict between them in relation to NRM.

Table 2 Types of Micro-Micro Conflicts, with Examples

	Directly related to Protection	**Indirect effect on Protection**
Within protection communities[a]	**A** One sub-group refuses to abide by protection or harvesting rules	**B** Conflict breaks out between 2 sub-groups, who refuse to cooperate any longer in various matters. Forest protection is affected, sometimes leading to a tree-felling free-for-all.
Between protection community and other local stakeholder	**C** 1+ local stakeholders (e.g. communities, local FD staff, loggers) challenge or do not accept a protection initiative (and may cut down trees in the protected patch).	**D** Conflict breaks out between 2 communities, related to non-protection issues (such as party politics or personal disputes), leading non-protecting community to 'loot' the protected patch.

[a] In combined community protection (i.e. involving more than one village or hamlet) each community is classified as a sub-group.

Out of 33 CFM initiatives studied in Orissa several had experienced either type A, B, or C conflicts. None had experienced type D, although it is possible that in some cases what have been categorised as Type C conflicts may be Type D. Out of 13 PSPA cases in Rajasthan, four had experienced Type A conflicts and four had experienced Type C conflicts. There were no conflicts that were primarily unrelated to protection issues, but one of the Type C cases also had a Type D influence (see Box 3).

3.1.1 Intra-community conflicts

Intra-community conflicts commonly relate to: use or administration of the community fund, party politics, local government elections, hamlet or sub-group level differences on various issues, benefit distribution etc. Boxes 1 and 2 contain examples, from Orissa, of type A and B micro-micro conflicts respectively. The example in Box 2 has been classified as intra-community, because the two villages involved were *jointly* protecting the same patch of forest.

BOX 1 ADENDUNGRI: A TYPE 'A' MICRO-MICRO CONFLICT

Adendungri is a village of 139 households in Balangir District, Orissa. It is dominated numerically, as well as economically, by people of the Kulita caste. Kulitas, together with people from some other 'backward castes', account for 82 households (hh); followed by the Mirdha (42 hh), who are tribals, and scheduled castes (15 hh). Protection was initiated in 1968.

In 1973 it was decided that the village should have a temple, and that its construction should have first claim on any income from sale of forest products. (The temple is not completed yet.) The Mirdhas were not directly involved in the initial phase of protection. They had no representation on the temple committee that was also acting as the management committee for the forest: on the other hand, they did not contribute voluntary labour or materials towards the construction of the temple. From the mid-eighties, some of the Mirdha families, who had been living at the fringe of the village, started moving inside it. They then began to feel that they were entitled to equal rights over the forest resources being protected. In the late eighties and early nineties incidents of theft from the forest increased, many of them involving Mirdhas.

In 1992 *Panchayat* elections were held. The Mirdhas voted for the candidate from the neighbouring village, and attitudes against them within Adendungri hardened. The newly elected village leader organised group patrolling of the protected forest. Later in 1992 a patrol group was attacked with sticks by a Mirdha group, and two of them were seriously injured. A police case was filed against the Mirdha. Protection broke down, and a free-for-all situation ensued, in which the villagers of Adendungri, and also people from some neighbouring villages, cut and took away almost 50 percent of the trees. Protection has since been re-initiated, but both groups remain bitter. The Mirdha men say that they have not benefitted from the forest being under protection; and that the decision-making body still represents the interests and priorities of the Kulitas.

In Rajasthan, intra-community conflicts often arise from differences between sub-groups in: (a) the ownership of private land (and hence private sources of forage); (b) the pattern of livestock ownership; and (c) livelihood enterprises. Point A is illustrated by the situation in Tank village where there are three different sub-groups, namely:

- 25 percent who do not need any fodder from the village's common pastures, because they obtain sufficient from their private land (crop residues and wastelands);
- another 25% who only need fodder from the commons during drought years; and
- 50% who depend on the common pasture land for fodder/forage on a regular basis.

As a result of these differences in private fodder/forage resources, the better-off group favours the auctioning of the grass from the PSPA, as it provides income; whereas the members of the fodder-deficient group prefer to harvest the grass themselves.

BOX 2 KESIYAPALLI & KULASARA - A TYPE 'B' MICRO-MICRO CONFLICT

These two villages are located in the Tangi area, south of Bhubaneswar, Orissa's capital. They started forest protection in 1975, when the patch concerned had become highly degraded. Four villages decided to protect, but for practical reasons relating to the size of the protected patch they split the protection responsibilities. Kesiyapalli and Kulasara formed one CFM group, and the other two villages formed another. The combined management system functioned well for nine years, but in 1984 protection broke down.

Causes of the conflict One factor was that Kesiyapalli wanted to build a road to link up with another road, so that there would be an alternative route to their village for people coming by vehicle from one side. The most direct route to the road they wanted to link up with would have required filling in some of a village pond that they shared with Kulasara. Any other route would have needed to go round the school and hence would have required more labour and money (more purchasing of land). Secondly, around this time there was a dispute between the two villages over their respective shares of the produce from the pond. Thirdly, there was a *Panchayat* election around that time and the two villages had voted for different candidates: this had also increased tensions. Kesiyapalli people had voted for a candidate who belonged to their caste and who ultimately won the election.

The combination of factors caused an escalation of tensions that resulted in the protected patch being severely degraded. Kulasara villagers started cutting trees, people from neighbouring villages soon joined them, and there were soon virtually none left. The Kesiyapalli villagers attempted to save the patch, but things happened so fast that there was not time to resolve the conflict.

3.1.2 Inter-community conflicts

Inter-community conflicts are common over usufructuary rights: restrictions imposed by one community may be strongly contested by other villages in the area that have been using the resource for many years. In the case of Reserved Forests, conflicts often arise over the demarcation of boundaries between adjacent areas of forest that are protected by different communities. Boxes 3 and 4 contain examples from Rajasthan of Type C conflicts between communities.

BOX 3 PHILA MAGRA A TYPE 'C' CONFLICT, WITH ELEMENTS OF TYPE 'D'

Phila Magra is the name of a PSPA that was created under the auspices of Rajasthan's JFM programme. It is situated close to the boundary of the villages of Philan and Sabal, and the precise location of the boundary has been a matter of dispute for almost 25 years. Unfortunately, when it initiated the PSPA with the villagers of Philan, the Forest Department did not make any attempt to tally the boundary of the PSPA with the Revenue Department's records of the village boundary. The people of Sabal were apprehensive about the establishment of the PSPA, as the disputed part would come under the control of Philan, perhaps forever, so they opposed the physical work at the outset. However, when they had the opportunity of wage labour on the site they took it, and their opposition temporarily subsided.

Once the PSPA was created people from Sabal frequently defied the enclosure rules, grazing cattle there and stealing grass or wood; and recently some cut and removed trees and bushes, claiming a share in the patch. The dispute remains unresolved. The conflict over Phila Magra is not purely a boundary dispute, nor is it entirely an inter-village conflict. Within Philan there are different sub-groups with conflicting interests. The Rajputs of Philan, who do not depend much on the village pastureland, have not made any significant contribution to efforts to resolve the dispute, and the Rajput leader has been covertly supporting the people of Sabal with a view to winning their votes in the Panchayat elections.

BOX 4 KELI: A TYPE 'C' CASE, Resulting in Breakdown of Protection

Working with a local NGO, people in the main hamlet of the village of Keli in Rajasthan initiated protection of common grazing land in 1987, and forbade grazing and the lopping and cutting of trees in the protected area. Fallen leaves and dry wood could be collected and removed. Violation of these rules was punishable with a fine of Rs. 51/-. People from other villages, and from a smaller hamlet in Keli, had been using the area until then, grazing their animals there and collecting fuelwood and leaves, and were reluctant to accept the new rules and frequently infringed them. The rotational protection arrangements and other protection measures were only partially effective, and to curb damage by neighbouring villagers help was taken from the police authorities in Gogunda on some occasions. This reflected the weakness of the Keli community's self-defence arrangements and coherence. It also aggravated the relations with the neighbours.

The tenuous situation about protection came to a head in 1998 when the families in the smaller hamlet of Keli village, who had been excluded from the village meetings and decision-making and had taken an adversary position towards the main hamlet, started cutting the trees in the pasture. By this time several of the elders had passed away. It was feared that those deaths were caused by the evil powers of the elder, Gamana, in the smaller hamlet. This fear, and the fatigue of long drawn out court case relating to encroachment, broke the community's will for protection. The families in the main hamlet and others from villagers nearby joined in the cutting and removal of trees. The bulk of decade-old natural and planted trees were cut down in a matter of 2 to 3 weeks during November 1998, the stonewall was damaged and the area became open for grazing.

3.2 Micro-Micro Conflicts between Community and External Agency

Not all local conflicts are confined to communities themselves. Where an external agency is nominally promoting CBNRM, but in reality is only paying lip-service to the approach and is actually working in a non-participatory fashion, conflicts may

arise between the agency and the community with which it is working. This is illustrated by the example in Box 5.

BOX 5 A MICRO-LEVEL CONFLICT WITH FOREST OFFICERS

In the jfm village of Patukheda, Rajasthan, the FD planted 10,000 *Prosopis juliflora* saplings in the PSPA. The senior officials accepted in principle that the local species recommended by people should be planted. However, the local officials, under the pressure of achieving high targets for survival rate, insisted on planting *P. Juliflora*, because it is an exceptionally hardy species. However, its hardiness enables it to spread rapidly, and it can become a serious weed. In 1993 several petitions were given to the FD by the people to remove it, with a request that it be planted on the boundaries rather than inside because it was spreading fast and was having a negative effect on grass production. On receiving a cold response from the FD the villagers removed the saplings themselves in 1994. Later various local species were planted.

3.3 Micro-Macro Conflicts

These can also be conflicts between micro-level stakeholders and external agencies at a higher-level (e.g. policy or programme design). For example, in the case of PFM the legal and policy environment regarding the collection and marketing of non-timber forest products - NTFPs) may have a major influence on the success or otherwise of a programme: hence it needs to be reviewed, and changed if necessary to make it conducive to PFM. Interventions at the micro-level alone may be inadequate. In this paper, however, we are focusing primarily on micro-micro conflicts. (For a discussion of the influence on PFM of the macro-environment for NTFP collection and marketing see Conroy *et al*., in press.)

3.4 Macro-Macro Conflicts

State governments in India tend to treat JFM as another isolated programme, which they think can be implemented without making any changes in other sectoral programmes (Saxena, 1997). However, several aspects of policies, programmes and laws may have a strong influence on the success of JFM.

In Orissa, there appears to be a conflict between the government's JFM programme (and overall forest policy) and the macro-environment for NTFP collection and marketing.
In communities that are not protecting nearby forests there is often a high degree of dependency of some community members on *unsustainable harvesting* of timber and other forest resources, which can serve as a major *deterrent* to initiation of protection (Conroy *et al*., 1999). These community members perceive that CFM would oblige them to reduce their exploitation of forest resources (e.g. timber, firewood, bamboo), and they were not prepared to accept this because of their high dependency. Community members said that they would be happy to switch to collection of NTFPs as a major source of income if NTFP collection and marketing became sufficiently remunerative for them. Thus, the poor returns available under the government's

current NTFP policies and practices are fuelling deforestation, whereas the general policy objective, and a major objective for the JFM programme, is forest conservation.

4. THE IMPLICATIONS OF CONFLICTS FOR THE DESIGN OF EXTERNAL CBNRM INTERVENTIONS

Conflicts are liable to occur from time to time, and are not necessarily undesirable. In fact, they can be viewed as a normal and positive feature of human societies and often as a catalyst for positive social change. In CBNRM initiatives that have been promoted by state agencies, such as forest departments, they may sometimes indicate where improvements need to be made (e.g. where group formation had been unsound), and provide an opportunity for change. It is also important to remember that interventions by external agencies to support conflict management are not always necessary, as communities may be able to manage conflicts satisfactorily on their own; nor are they always desirable (Warner and Jones, 1998).

However, where communities are managing forests or trees, if conflicts escalate rapidly they can undermine, almost overnight, several years of community effort in protecting the resource. Thus, development agencies should: (a) do what they can to avoid creating or exacerbating conflicts; and (b) seek to minimise conflicts when designing CBNRM initiatives. Measures for achieving this are described in section 4.1. (Development agencies also need to consider whether and how they can assist in the management of micro-micro conflicts. This issue is discussed in sections 5 and 6.)

Many government programmes to promote CBNRM (e.g. joint forest management programmes) involve some form of joint or shared management of the resource by the state and local communities. Such programmes raise issues about the relationship between government agencies and communities, which may traditionally have been confrontational rather than cooperative, with the state acting as the protector of the natural resource from the local people. Such relationships, attitudes and behavioural norms only change slowly, and hence macro-micro conflicts may be common in the early stages of such programmes, with the state tending to dictate to and over-ride communities. Thus, in designing such programmes it may be desirable to incorporate structures and processes that facilitate a more equal relationship between communities and the state. This is discussed in section 4.2.

4.1 Designing CBNRM Interventions to Accommodate Different Stakeholders and Interests

The formulation of interventions by development agencies that are intended to promote CBNRM should be sensitive to issues of: differential impacts, including potential winners and losers; political economy; the interests of different stakeholders and their likely attitudes and behaviour. If they are sensitive to these issues, the likelihood of certain conflicts diminishes.

4.1.1 Stakeholder analysis

Stakeholder analysis (SA) can make a useful contribution to the design of policies and interventions in natural resource management. In the NRM sector any policy or

intervention is likely to have consequences that bear differentially on different groups and individuals, and on 'society' as a whole: and "unless we know what these differential effects are likely to be, it is impossible to assess the value or worth of that intervention or policy" (Grimble and Wellard, 1997). SA attempts to identify winners, losers and 'payoffs'; and to assist the development of 'socially-best' policies and interventions (ibid).

Stakeholder analysis can be used: (a) to improve the effectiveness of policies and projects; and/or (b) to address their social and distributional impacts (Grimble and Chan, 1995). Its proponents argue that, by identifying potential conflicts between the interests of different stakeholders, it "helps avoid the unexpected, facilitates good design, improves the likelihood of successful implementation, and assists the assessment of outcomes" (Grimble and Wellard, 1997).

SA can help to make different objectives mutually compatible by identifying common ground, if it exists, between a number of stakeholders; and hence can assist in the designing of policies and interventions that result in win-win situations (see Table 3).

It should be borne in mind that some stakeholders may not want to acknowledge some of their interests. For example, FD staff are unlikely to admit to receiving income from their collusion with timber smugglers: or government officials to receiving money from private traders to whom they have awarded NTFP collection and processing contracts.
However, such hidden agendas can be brought out into the open by asking different stakeholders to specify what they see *each other's* interests as being, as well as their own, and by asking them to provide supporting evidence based on their experiences.

A potential weakness of SA is that, as normally applied, it assumes that stakeholder objectives are fixed, and works within these to find a solution. As a result, it focuses on finding a compromise that is acceptable to all stakeholders. By contrast, consensus-based approaches (which are described in section 6) explore the scope for redefining objectives and widening the common ground among stakeholders, with a view to finding a win-win solution.

4.1.2 Political Economy, Equity and Conflict at the Community Level

Most donors and governments promoting CBNRM initiatives are, at least nominally, committed to benefiting the poorest groups. Since the poor tend to be the most dependent on common pool resources, they may also stand to lose most from protection - at least, in the short-term; and they are the ones whose priorities are most likely to be ignored. Where SA (or any other approach) is used with this objective in mind, the stakeholders selected for the analysis should include *all* those groups, including minorities and the poor, that will be affected in some way by implementation[vii].

Table 3 Distribution Strategies and their Political Feasibility

Strategy	Rural elite	Rural poor	Political feasibility
A	Gain	Lose	High
B	Gain	Gain	High

C	No change	Gain	Medium
D	Lose	Gain	Low

Source: adapted from Chambers *et al*., 1989.

In promoting equity, the political economy of the situation needs to be taken into account, as power relations within communities cannot be changed easily. Table 3 provides a useful classification of strategies in relation to their political feasibility. An attempt to redistribute benefits radically (Type D strategy) may undermine any chance of effective implementation: in practice, therefore, the major opportunities lie with Types B and C strategies. Type B approaches may be the only feasible option where the poor are weak and unorganised, but Type C becomes possible where the marginal groups are strong and united.

4.1.3 Conflict-Prone Issues to address in Designing CBNRM Interventions

A number of issues associated with the design of interventions are frequently associated with conflicts. If these issues can be addressed effectively at the outset, the likelihood of certain kinds of conflicts occurring can be reduced or eliminated. These issues are discussed below.

Determining NR management objectives The objectives of NR management will strongly influence the way in which the common land and vegetation are managed. Different stakeholders may have different, and sometimes conflicting, management objectives, as is illustrated by the two examples in Box 6? below. Thus, it is important that the management priorities and objectives of all sub-groups are clarified at the outset. On the basis of this information it may be possible (though not necessarily always) to develop a management plan that benefits the poorer groups, and ensures that no one group loses out. Unfortunately, when development agencies promote CBNRM they seldom explore the objectives of the community or its sub-groups in a thorough manner.

BOX 6 TWO EXAMPLES OF CONFLICTING NRM NEEDS AND OBJECTIVES WITHIN COMMUNITIES

Forest management Sal forests are widespread in parts of Orissa. Sal trees (*Shorea robusta*) can produce several valuable products, notably: good timber, fuelwood, leaves that are widely used to make plates, and seeds from which oil is extracted. If sal was being managed solely for timber production, all the coppice shoots except one would be removed; and the number of green leaves available, particularly at lower levels within the reach of collectors, would be reduced. Thus, women for whom sal plate-making is an important livelihood enterprise would be losers under this management system.

Silvi-pasture management In the village of Sagatdi, in Udaipur District, the whole process of pastureland protection was initially opposed by a sub-group whose livestock were mainly or entirely goats[34]. Goats prefer tree fodder to grass, browsing

[34] In Rajasthan, silvi-pasture development initiatives have tended to adopt a common approach, which involves fencing-off heavily degraded common land and preventing any grazing inside it. The only type of fodder obtained during the first ten years or so is grass, which is harvested at a particular time

on leaves and pods on the tree or on the ground. The goat-keepers recognised that if, as proposed, almost 50% of the village's pasture land were fenced off, they would lose a major source of browse for their goats and would get little or no direct benefit that would compensate for this loss. Only the people who owned large ruminants (cows and buffaloes) would benefit from the proposed intervention, at least for the first few years.

It is important to be aware of the fact that it tends to be the case in PFM that an elite group plays the lead role, and formulates management plans without much consideration for weaker ethnic groups (see Box 1 for an example) or for the interests of women (see Box 6). This is true of self-initiated forest management in Orissa, as well as FPCs established through JFM programmes (Sarin *et al*., 98).

Development agencies (particularly state agencies) sometimes impose their own objectives as a condition of collaboration with the community. For example, JFM resolutions refer to the concepts of 'final harvest' and 'major harvest': these terms belong to conventional plantation forestry and reflect the objectives of forest departments. They are alien to most communities, and are not appropriate to the multi-species, multi-purpose forestry practised by CFM groups.

Agreement and clear demarcation of boundaries Boundary disputes between communities are quite common. In Orissa, they arise primarily in relation to contiguous areas of RF that are managed by different communities. An example of a boundary dispute in Rajasthan that resulted in conflict and damage to a PSPA is that of Phila Magra, which was described in Box 3. This was a situation in which stakeholder analysis and negotiations could have reduced a conflict, instead of aggravating it. If the FD had consulted stakeholders in both villages, it would have been aware of the boundary dispute between them; and, by consulting Revenue Department records as to the location of the official boundary, it could have aligned the boundary of the JFM site with the villages' Revenue boundary. Such actions would have greatly reduced the likelihood of villagers from Sabal cutting and removing numerous trees and bushes from the site.

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of the year and carried back to the farm in bundles. This approach favours the owners of large ruminants, which eat grass and can be stall-fed relatively easily. However, goats prefer tree fodder to grass, and generally browse on leaves and pods on the tree or ones that have fallen to the ground. Thus, people who own goats, but not large ruminants, may lose out from SPD, at least in the short to medium term. (After about 10 years the trees could be large enough to be lopped for tree fodder that could be fed to goats.))

Determining the management unit JFM programmes in India tend to recognise only legally designated Revenue villages as forest management units, although some Revenue villages are composed of a number of hamlets. The JFM approach is too rigid in this respect, and tends to be conflict-prone. The CFM experience shows that forests are sometimes managed by one or two hamlets, and that other hamlets in a Revenue village may not be involved or may have established a separate CFM initiative (Conroy *et al*., 99). There may even be forest-related conflicts between different hamlets in the same Revenue village. Thus, a more flexible approach is needed, otherwise the FD (or other external agencies) may create latent conflicts that will sooner or later result in breakdown of CBNRM.

Appropriate decision-making processes for FPCs ***Research in Orissa (Conroy et al., 1999) and elsewhere in India (Raju et al., 1993) has shown that conflicts are likely to be minimised where the decision-making processes are transparent and perceived to be fair. For example, conflict is less likely where all sub-groups are represented on the management committee, where meetings take place regularly, and where records are kept of decisions and financial matters. Mis-appropriation of funds from CBNRM by one or more members of the management committee is sometimes a source of conflict between sub-groups, and is likely to be minimised by these processes.***

4.2 Changing the Balance of Power Between the State and Communities

Micro-macro conflicts are common, particularly between communities and government agencies, including those that are nominally promoting CBNRM. This section describes some proposals for strengthening the position of CBNRM groups vis-à-vis the state.

It would be extremely naïve to assume that the application of SA will ensure that the interests of weaker groups/stakeholders are respected (Hildyard *et al*., 98). The stronger stakeholders can be expected to continue to dominate decision-making; and, when conflicts arise, to promote their interests over those of others. Many state agencies may be opposed to giving more power to local communities; and may see it as a threat to established patron-client and rent-seeking relationships (Hobley, 1996). There may even be a reverse tendency whereby the state seeks "to expropriate the initiatives of the people" (Jodha, 1990); and, as in India, a history of conflict between certain state institutions and forest-dependent communities over forest resources (Pathak, 1994).

Traditional relationships between state agencies and communities are likely to manifest themselves in shared forest management initiatives. This is illustrated by JFM programmes in India, in which FDs (or individuals or groups within them) often have an ambivalent or hostile attitude towards devolving powers to forest protection committees (FPCs), and they:

- sometimes unilaterally over-rule FPC decisions, without explanation; and
- dominate the preparation of micro-plans, which become an instrument by which the FD retains control over the community (Saxena, 1997).

Power relations between the state and communities cannot be changed overnight, but in certain institutional and political situations there may be room for manoeuvre

within which steps can be taken to promote changes. Three types of measures will now be described.

4.2.1 Creating a legal or administrative basis for mutual accountability

In many state JFM programmes in India, FDs have the power to cancel or dissolve FPCs for failing to comply with certain provisions of the JFM resolution or other state rules and regulations. Furthermore, the reasons for the dissolution can be formulated in such a way that the decision does not appear arbitrary (Saxena, 1997). The FPCs, on the other hand, are not given any formal rights or mechanisms by which they can bring the FD to account. Thus, the FPCs are accountable to the FD, but not *vice versa*, making the relationship between them highly unequal. Legal or administrative orders embodying some form of mutual accountability would contribute to a shift in power.

4.2.2 Creating multi-stakeholder decision-making fora for PFM

In most countries, PFM involves a major shift from state management of forests to some form of shared management, involving at least two (usually several) major sets of stakeholders. Thus, new multi-stakeholder fora will generally be required (Anderson *et al*., 98), which should ideally have decision-making powers rather than merely having consultative status. If forest-dependent communities are represented on them, they can:

- strengthen communities' bargaining power vis-à-vis the state (Vira, 98); and
- help to ensure that negotiations and decision-making will be mutually acceptable to (or at least accepted by) all major stakeholders.

District or division-level fora For Orissa, it has been proposed that committees be established comprising representatives of CFM groups, OFD & NGOs: one such committee could be constituted for each forest division or each district (Conroy *et al*., 1999). The establishment of this kind of committee or working group is being given consideration by the state government. They would deal with the following kinds of issues (Conroy *et al*., 99) (and could also have a general responsibility for monitoring the performance of PFM initiatives (Vira *et al*., 98)):

- lack of FD support, either in dealing with offenders or upholding the CFM group's rights;
- resolution of inter-village boundary disputes over areas of Reserved Forest managed by several communities;
- alleged involvement of FD staff in timber smuggling from protected patches;
- undue interference of FD staff in the development or implementation of management plans by communities;
- concern of FD staff that management plans are not ecologically sound;
- concern of FD staff over serious deviations from the management plan (e.g. the number of trees being felled by CFM group members);
- concern of FD staff that the CFM group is not enforcing protection adequately.

State and national level fora A similar body is also desirable at a higher level to influence the broader enabling environment, including policy and legislation.

Ensuring authentic and effective representation of FPCs at this level is more difficult, however.

4.2.3 Creating and developing forest community apex bodies

Forest-dependent communities involved in PFM tend to be weak, to function in isolation from each other, and to interface with the state individually. Their bargaining power would be strengthened if they could collaborate, and take a united stance on certain issues. In Orissa, it is quite common for several communities to work together in CFM, particularly where there is a large tract of forest, and they often form apex bodies to coordinate their activities, assist with conflict management and provide an interface for dealings with the FD (Saxena, 1997; Poffenberger et al, 1996). The creations of apex CBOs, or federations, is discussed further in section 6.2.2.

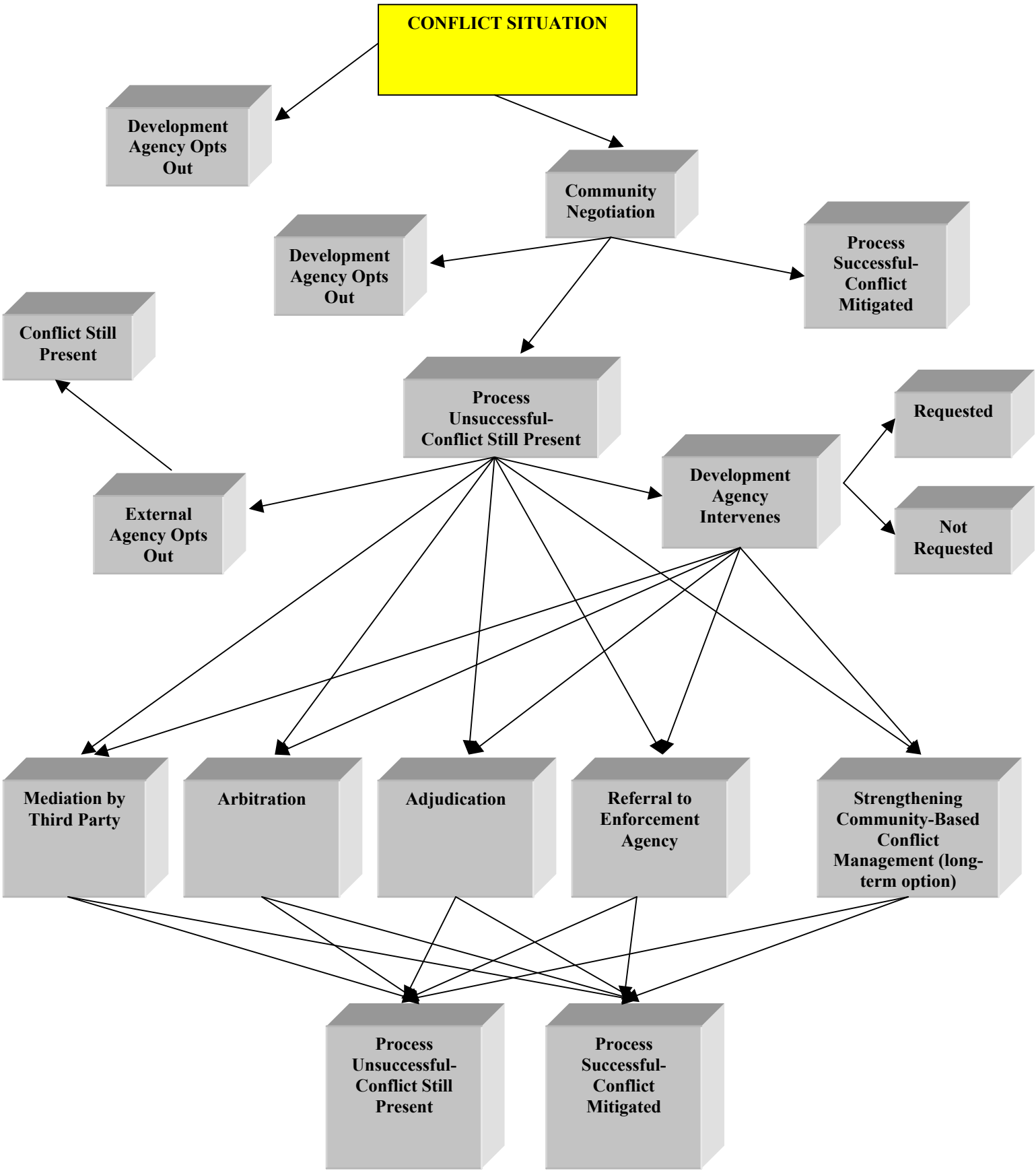
5. OPTIONS IN MANAGING MICRO-MICRO CONFLICTS

Ideally, the communities involved in NRM should be capable of managing themselves micro-micro conflicts affecting them. In Orissa it appears that the majority of cases of conflict are dealt with effectively by them (Conroy *et al*., 1999). This may be done by the forest protection committee itself; or alternatively, there are often traditional institutions or authorities (e.g. village leaders) that play a role in conflict management at the community/village level, and at the multi-village level. However, the Orissa experience shows that their power and influence may wane over time, and often new bodies are required, particularly at the multi-community level.

Where CBNRM is initiated largely at the prompting of an external agency, the management groups may be more conflict-prone, and hence the need for external support in conflict management may be greater. For example, in silvi-pasture development in Rajasthan it is often the case that some community members are in favour of protection (fencing-off an area), while others prefer the *status quo* of open grazing. In conflict situations like this, the active involvement of a development agency may be a pre-requisite for continued protection of the resource.

Development agencies need to consider what action they should take, if any, to enable micro-micro conflicts over natural resources to be managed more effectively. Five different strategic options are described below. For each of them some general observations are made, followed by some specific observations on their relevance and use (if any) in CBNRM-related conflicts in India. Whilst they are discussed as possible options for development agencies working at the micro level, some of the general observations are taken from, or are equally applicable to, macro-level situations. It is recognised that many of these options are inter-related and the relationship between them is complicated and dynamic. Figure 1 attempts to show the nature of these multi-levelled linkages in diagrammatic form.

Figure 1: FLOWCHART OF CONFLICT INTERVENTIO N OPTIONS



5.1 Opt-out Strategy

5.1.1 Description

An opt-out strategy is where an external agency takes the view, for whatever reason, that communities should be left to sort out their conflicts themselves, without external intervention. This may be due, for example, to development agencies believing that effective and sustainable solutions can only be achieved by communities themselves managing their conflicts; or it may be because the agencies think they should concentrate their limited resources on working with communities, and in situations, where CBNRM stands the greatest chance of success.

5.1.2 General observations

Communities may view conflict resolution activities directed by outsiders as intrusive and unresponsive to indigenous concepts of justice, and prefer to solve conflicts within the community. Traditional assemblies of elders, local courts, kinship mechanisms, compensatory processes and healing ceremonies are all examples of traditional conflict management mechanisms, which may play a role. Mediators from within the community may be perceived to be more sensitive to local needs than outsiders, and are also immersed in the culture of the violence affecting the community. In addition, locally initiated conflict management processes signify as a minimum, a common desire for stability, which may not necessarily be present in externally-driven initiatives.

There are further ethical concerns that external conflict management interventions may be used as an instrument of control by the dominant party in a conflict. Insofar as parties are unequal in status, power or other resources, the weaker party tends to give up more in a mediated or negotiated settlement. However, it could be argued that if a development party chooses not to intervene, this will happen anyway. What remains a valid point is that the development agency must not unwittingly legitimise dominant party control and must be aware of the potential for manipulation.. On another level, some people feel that mediating or facilitating a settlement between parties in a highly asymmetrical relationship is in any case unlikely to lead to a successful outcome and as such, do not recommend intervening. However, in many cases, there is no alternative than seeking to mediate conflicts with power inequalities since conflict parties are rarely equal in their resources and capabilities. Instead, ways must be sought to redress the power imbalance without denying the grievances or interests of the opposition.

Potential or actual benefits of this strategy are that it can be empowering, where communities have the capacity to manage conflicts themselves; and it is also a relatively low-cost approach from the point of view of both the community and the development agency. However, some traditional conflict mitigation efforts may be weakened by age or gender bias. For example, in cases with no women elders, some women may believe that male elders are biased against women and that this will be reflected in their discussions. Indigenous traditional authorities are generally not recognised as progressive elements of social change. As a minimum, local mediators must possess moral status, seniority and neutrality as well as respect for the communities involved for this approach to be successful.

5.1.3 Observations in the context of Indian commons

When communities themselves have been attempting to manage a NRM-related conflict for some time, but have failed to do so effectively, a development agency that is working in the area may have to decide whether to opt out or to intervene. This choice may arise at different stages in CBNRM programmes. In situations where the agency has already invested considerable time and resources in developing CBNRM with the communities, it is likely that they (particularly NGOs) will intervene, often as a mediator (see section 5.3).

Where the agency is in the early stages, and is simply exploring the possibility of involving a community in its CBNRM programme, it may choose to opt out. Sometimes an NRM-related conflict exists when the agency approaches one or more communities to become involved in a CBNRM programme, and the conflict is reflected in a lack of consensus as to whether initiation of protection of the commons is desirable or not. The agency then has to decide whether: (a) to leave that community out of the programme (at least for the time being); or (b) to facilitate negotiations, or mediate, with a view to arriving at a consensus.

Faced with this situation, NGOs sometimes opt-out, primarily because they do not want to invest their resources (mainly staff time) in mediation, whose outcome is uncertain, when they could be implementing the programme in other communities where there is a strong consensus in favour of participation in the programme. Government agencies, on the other hand, tend to ignore dissension (or to be unaware of it), because they are anxious to achieve certain targets in terms of the number of communities enrolled into the programme. Where they are offering material incentives to participate – such as wage labour in constructing boundary walls, or planting tree - these may provide sufficient incentive for those in favour of participating to gain the ascendancy over those who are against. Thus, implementation proceeds, but problems may be being stored up for the future (see Box 3 for an example.)

5.2 Negotiation between Conflicting Parties

5.2.1 Description

Negotiation involves direct consultation between the conflicting parties or elected party representatives either from a distance or face to face and does not involve the use of a third party mediator, be it from an external or from a community source.

5.2.2 General observations

As a subset of the opt-out strategy, external agencies may prefer to leave communities in conflict to negotiate amongst themselves without external interference. This is not necessarily because the development agency feels that their assistance will be ineffective, but rather, comes from a deep-rooted belief that wherever possible, the first step should be for conflicting parties to attempt to find a solution between themselves.

In high politics, the process of negotiation is viewed by theorists in many different ways, either as a puzzle to be solved (game theorists); as a bargaining process; as organisational management (representative-led consensus-building among diverse stakeholders) or as a process of diplomatic politics (Zartman, 1999). More recent theorists (such as those advocating the Alternative Dispure Resolution approach, or ADR), point to the sometimes adversarial and confrontational nature of conventional negotiation, where parties are forced into situations of compromise or withdrawal from negotiations altogether (Fisher & Ury, 1991; Warner, 1999; .Galtung, 1998) They refer instead to a process of 'principled negotiation', 'consensual negotiation' or 'transcendence' respectively , with a common focus on identifying 'underlying needs and fears' rather than on simply achieving current objectives, as well as the need for more creative and lateral thinking, leading to the possibility of 'win-win' solutions.

5.2.3 Observations in the context of Indian commons

Negotiation is widely used by CBNRM groups in India to address conflicts over NRM. For example, take a situation in which community A is protecting a CPR, and several members of the nearby community B break community A's use rules and refuse to pay the fines associated with their actions. It is quite common for representatives of the protecting community to have discussions with representatives of community B to deal with the issue. Another example is where there is strong disagreement within the protecting community over a particular rule: the sub-group objecting to it may put their case to the whole community, and the rule may be amended after discussion of the issue.

5.3 Mediation by External Third Party

5.3.1 Description

Mediation involves the intervention of an outsider - an individual, group, or an organisation - into a conflict between two or more actors. Mediation aims to extend the process of negotiation by drawing on experiences from other conflict situations and considering their relevance to the conflict in hand. It aims to produce change in the participants' attitudes, perceptions, and ideas about the conflict ('reframing'), to generate creative solutions to the problem. Most importantly, it is a non-binding, voluntary form of intervention and conflict management, where the actors involved retain control over the outcome of their conflict, as well as the freedom to accept or reject mediation or mediator's proposals (Zartman and Rasmussen, 1999).

5.3.2 General observations

This is an option favoured by many, and proponents believe that where communities are unable to resolve conflict themselves, the involvement of an external party is essential. This option can also facilitate weaker stakeholders to present their views and to have them considered in the negotiation process. It is generally agreed that mediation has the strongest chance of success when all disputing parties jointly request it. The best time to initiate mediation is roughly halfway through the life cycle of a conflict and certainly when the parties' own attempts at negotiation have failed. However, there are times when a conflict is 'ripe for mediation' (Zartman,

1985), and times when mediation can only make a conflict worse and harm the credibility of the mediators, when it would be preferable for 3rd parties to opt-out. If a decision is taken by a third party to intervene, it is vital that, from the outset, an exit or disengagement strategy is defined and mechanisms put in place for local capacity-building in conflict management. This will reduce the chance of continued dependency on external sources and reduce the financial commitment required by third parties.

5.3.3 Observations in the context of Indian commons

This option is quite common in situations in which a development agency is working with local communities on aspects of NRM. For example, NGOs in Orissa sometimes assist as neutral third parties in PFM; and have been able to break situations of deadlock and create an environment for the conflicting parties to come to negotiations. It is particularly common when the agency has promoted CBNRM in the community concerned and has made provided financial (such as payments for wage labour) and/or material inputs (such as saplings or fencing materials).

Government (e.g. forest department) staff may also become involved in mediation, or something between mediation and enforcement. In Orissa FD staff are frequently called upon by CFM groups managing Reserved Forest to provide third party mediation, usually over conflicts relating to boundary disputes. It should be borne in mind, however, that FD staff are not always neutral parties; and that conflict management may not come easily to them, and may be perceived as an extra burden on their time.

Development agency staff, whether from NGOs or government, have not usually had any training in conflict management, and therefore the quality of their mediation is variable, and may in some cases be quite poor. (This is changing, however, and there are cases, at least in relation to conflicts affecting forest management, where training has been provided for FD staff and for NGOs.) Thus, for shared forest management or watershed programmes there may be a case for creating one or more units specialising in conflict management.

It would clearly be unhealthy, and unsustainable, for development professionals to be involved in mediation in the same communities on an ongoing basis. Thus, we only regard mediation by development agencies as a desirable option (a) in dealing with communities where conflicts requiring external support are rare; (b) only after negotiation by the communities themselves have failed to reach a mutually acceptable outcome; and (c) as a short-term measure until communities have a greater capacity to manage conflicts themselves (see below).

There are situations, however, where mediation by development agencies **is** being provided on an ongoing basis. In some communities in Rajasthan NGOs are dealing with the aftermath of implementation of the JFM programme by the FD in a way that paid little, if any, attention to social differences and existing tensions or conflicts, such as the case described in Box 3. Where there was no consensus in favour of CBNRM at the outset (at least, not in the form favoured by the FD), conflict between those in the community supporting protection and those opposing it can be chronic.

In these circumstances ongoing mediation by an NGO may be essential if protection is to be sustained. In the words of one NGO observer in Rajasthan, “In the light of divergent interest groups, the role of NGO in strengthening the hands of those who are interested in protection process is a crucial factor” (Singh, 99). However, where there is such ongoing dependence on an outside agency, the sustainability of the initiative, and the wisdom of playing this role, are questionable. It may be preferable for the external agency to abandon this role, and/or to facilitate the re-design of the intervention and management system, based on a review of the interests and needs of the various local stakeholders.

5.4 Adjudication or Arbitration by Government/Legal Authorities

5.4.1 Description

1. Adjudication is a process which involves the use of statutory bodies in the resolution of a conflict. It is basically a dispute mechanism based on legal processes where the dispute is referred to an impartial third party such as an arbitral tribunal or a court. As such, the process usually involves a legal obligation on the part of the parties to accept the third party's decision as settling the dispute.

2. Arbitration is a form of adjudication that involves the referral of a dispute to an ad hoc tribunal rather than to a permanently established court for a binding decision and where the parties themselves establish the tribunal, define the issue to be arbitrated, determine the methods for selecting the arbitrators and the way of paying for the tribunal's costs. Once the tribunal's work is completed, it ceases to exist.

5.4.2 General observations

Potential advantages of both arbitration and adjudication are threefold. First, an arbitral or judicial decision at least puts an end to the dispute and sometimes it is important to the parties just to reach a settlement. Second, decisions may be viewed as impartial and principled and as such have a strong claim to acceptability and legitimacy. Thirdly, because it is a complex, expensive and somewhat intimidating process, it gives an indication the seriousness of a claim and it may even reduce tensions and buy time, serving as a politically acceptable way for the parties to seek further attempts for a negotiated solution.

However, risks and potential disadvantages are also paramount in this approach. A definitive settlement may actually be illusory since because a tribunal must focus on the immediate 'legal issue' before it, it may not identify the underlying causes of a dispute or the true source of contention between the parties. In cases where the legal issue is only the symptom or symbol of a far more complex problem, as is often the case in natural resources disputes, the tribunal may even exacerbate the dispute (Zartman & Rasmussen, 1999). A second risk is that it obviously involves the chance of losing, and submission to binding third-party settlement means that parties give up ultimate control over outcomes. A third risk is that adjudication may not in fact be impartial as judges may be predisposed towards one party's position, or the stronger party may have better links with the judicial system.

A fourth concern is that these processes can often be adversarial, inflexible and potentially escalatory. Parties' options are frozen as they become locked into 'winning' the dispute as the only goal. It is also a zero-sum game wherein one party wins and the other party loses, but many natural resource conflicts are resistant to such all or nothing solutions and may be better resolved by compromise. Furthermore, a decision that legally disposes of a particular dispute but leaves one party feeling it has been treated unfairly may ultimately do more harm than good, may hamper the future relationship between the parties, alienate the losing party from the legal or political system and even risk a recurrence of conflict at a later date. Finally, the process may also be inconvenient, time-consuming and expensive, especially for poorer disputants.

5.4.3 Observations in the context of Indian commons

Forms of adjudicative legal action have been taken in some situations. However, legal actions tend to be expensive and drawn out, so this option is best considered as a last resort. Arbitration has not been used in rural India for dealing with NRM conflicts, presumably because there is no statutory basis for it.

5.5 Enforcement (of law and rules)

5.5.1 Description

Enforcement here does not mean using 'force' or 'violence'. Rather, it refers to the process of turning to local judicial authorities, such as the police, to impose 'fines' or 'punishment' in cases where the party seeking to enforce a particular rule or law believes that there has been a clear-cut wrong-doing.

5.5.2 General observations

This approach has now been written about in any great detail within higher-level conflict management literature. One suspects this is largely due to the negative connotations of the word 'enforcement' which tend to imply that some form of physical violence is being asserted. However, this is an approach frequently used at the micro or community level. An example in a Western context might be that of noise pollution, with an inconsiderate neighbour continuously playing loud music in the early hours of the morning. If initial negotiations between the parties fail to reach a consensus, rather than then taking the matter to court, the next step might be to call the local authority Environmental Health Department to measure the decibel level, and if unreasonable, attempt to enforce a reduction in sound output. Only if this fails, will it then be necessary to resort to legal measures.

This approach does however depend on a common acceptance of an obvious 'right and wrong'. However, this may not always exist, and if one party feels the matter has been dealt with unfairly, or fails to recognise the justice behind the decision, then this may mean that whilst the immediate problem may have been resolved, further conflicts are likely to arise at a later date.

5.5.3 Observations in the context of Indian commons

This approach is used quite often by CBNRM groups in India, usually when they are unable to enforce access rules themselves – for example, when an 'offender' who has been caught breaking the rules refuses to pay the fine that the community seeks to apply (see Box 4 for an example). Occasionally, external agencies are asked to facilitate the process, but often, the community themselves directly take the offender to the authorities.
It is used primarily in inter-community conflicts, as CBNRM groups are usually able to enforce their rules effectively within their own community, where they are able to exert greater social pressure.

Options one to five may be applicable in certain situations, but they have their limitations (including high cost, unsustainable dependency on external agency etc). Therefore, when serious conflicts arise that communities cannot currently handle themselves, a new option is needed – one that is more sustainable than calling on the services of external agencies. This option is strengthening community-based conflict management. It is different from the six options listed above in that it is not immediately available: and it may take the development agency several weeks, months or even years to develop the capacity of local communities. In the next section we describe some steps that external agencies can take to develop the capacity of CBOs to manage conflicts more effectively themselves.

6. DEVELOPING LOCAL CAPACITY FOR CONFLICT MANAGEMENT

6.1 Introduction

Community-based conflict management uses local actors and traditional community-based judicial and legal decision-making mechanisms to manage and resolve conflicts between or within communities. It aims to resolve conflicts without resorting to state-run judicial systems, police or other external structures.

This approach aims to use skills brought into the community by external intervention to strengthen the capacity of local organisations and communities to manage the conflicts themselves. External parties thus help local partners to think through some of the traditions to peacemaking that have worked in the past and see whether they will still be helpful today; and conduct workshops focusing on processes by which local groups can be empowered to help themselves to manage conflict. Wherever possible, training is built upon the foundations of traditional conflict management mechanisms and it is vital that conflict management strategies are adapted to local and cultural circumstances, rather than just being imported from Western schools of academic thought.

There are very few cases of this approach being taken in relation to CBNRM, either in India or more generally. Thus, the proposals that we outline below are relatively new and untested in this sector.

6.1.1 Consensus-based approaches

Force may be necessary for dealing with particular stakeholders and their activities (e.g. timber smugglers, encroachers, poachers), in which case suitable legislation should be in place and the resources needed to enforce it made available to the forest department, police etc. However, where different stakeholders are prepared to negotiate peacefully, consensus-based approaches (sometimes called *consensual negotiations* or *alternative conflict management*) may be best, as they seek to generate mutual gains with the minimum of compromise and trade-off (Warner and Jones, 1998). Alternative conflict management (ACM) has evolved primarily from experiences and thinking in peace-building and business, and environmental disputes. A summary of the principles of ACM is given in Box 8. Further information about the application of ACM in participatory natural resource management can be found in ODI, 1998.

Although these approaches to conflict management are appealing, do the principles really work in conflicts involving natural resources? Some observers have expressed scepticism about the feasibility and efficacy of consensus-based approaches in natural resource management, arguing that "consensus on questions of substance…. is highly unlikely or partial and temporary at best" (Anderson *et al*., 98); while others are more optimistic (ODI, 98). Their appropriateness may depend on both cultural and legal conditions, such as a willingness to publicly acknowledge a conflict, and administrative and financial support for negotiated solutions. They also depend on the voluntary participation of all relevant stakeholders. These conditions are not present in many contexts in both the North and the South (Buckles, 1998?).

Consensus-based approaches should only be promoted where conditions are conducive to their effective use. They are most likely to be effective in micro-micro conflicts of the kind this paper has focused on, where: the number of stakeholders is small; all stakeholders are motivated to resolve the conflict; and where power relations between them are not highly skewed

Box 8 Principles of ACM

- full stakeholder analysis (including those who might contribute to a resolution and those who might undermine it)
- cultural differences accommodated in the design of capacity-building and negotiation strategies
- perceptions acknowledged and then transformed
- meaningful communication pathways constructed
- a 'level playing field' for genuine collaborative negotiations created
- rapport built and maintained
- negotiations focus rapidly onto underlying needs and motivations
- common ground identified and exploited
- creative options brainstormed and widened
- motivations and options re-framed and clarified
- mutual gains facilitated
- agreements tested for financial, technical and democratic feasibility

Two broad types of capacity development for improved conflict management can be built into projects and programmes, namely:

- facilitating the creation of new fora and community organisations; and
- training in consensual negotiation, facilitation and mediation skills.

The goal of both types of assistance is 'facilitating people to bring about change of their own choosing' (Resolve, 1994). Both of these are elaborated on below.

6.2 Creation of New Mechanisms and Bodies for Mediation of Conflicts

6.2.1 General observations

In situations of armed or violent conflict, usually between states, Peace Commissions are formal, officially supported or informal grassroots-derived structures at the national, regional or local level to involve community members in resolving issues through joint action to reduce, counter or prevent conflict. To do this, they involve local private citizens in resolving issues through joint action with other community representatives. They can provide an important non-partisan forum for the peaceful expression of macro-micro and micro-micro conflicts and can conduct educational outreach and training in cross-cultural communication and co-operative problem solving skills and processes within communities (Creative Associates International, 2000).

There are important lessons to be learned for development agencies from such structures, and the establishment of a similar or parallel body at the micro-level is an interesting option. As with the Peace Commissions, any committee designed must have members who represent the various ethic, religious and national groups within their communities, and who are respected members of the communities in which they serve, not outsiders. Experience has shown that the best results have been obtained from having members who live under the same conditions as the people they serve and therefore personally experience the consequences of their decisions. At the same time, this means that commission members are not neutral. In addition, if a long-term sustainable solution is to be found, it is critical that a conflict resolution mechanism be built into the programme so that conflicts generated from different sources, such as the lack of transparency, accountability and equity, can be dealt with in a timely fashion.

Not all members must be professional mediators or formally trained in conflict resolution skills, although it may be helpful to have at least one professional mediator as a member. These commissions are comparatively low-cost and extremely cost-effective. Such structures are especially useful for conflicts in which institutions of government, justice and police at national, regional or local levels are considered inadequate to address grievances.

However, whilst such bodies can address symptoms of political conflict, they cannot in themselves overcome the structural causes of conflict such as a need for political and constitutional reform. They can mitigate disputes from escalating into major

confrontations, but are not substitutes for viable institutions such as the police, judicial system and governing structures.

Construction of an environment in which conflicts over NR can be dealt with productively will also require new structures and processes for governing NRM decisions. Negotiating for change can be wasted effort if policy, administrative and financial factors at higher levels block or contradict the decisions made locally. Changes may be needed to national policies and legal frameworks to accommodate the development of relations between formal and informal institutions at various levels. Governing structures and processes which bring previously excluded groups into decision-making offer new opportunities for improving NRM decisions and finding better ways to avoid, resolve or manage conflict.

6.2.2 Creation of new multi-community organisations

The evolution and strengthening of **apex organisations** of CBNRM communities can create new fora for conflict management between member communities. In Orissa there are many examples of such bodies being initiated and developed by the local communities themselves, and they generally identify inter-community conflict management as one of their main functions. NGOs have also facilitated their emergence (see section 4.3.2). Some Indian NGOs, such as Vasundhara and the Regional Centre for Development Cooperation in Orissa, and Seva Mandir in Rajasthan, have also encouraged the development of apex bodies, including district- and block-level federations.

6.3 Training in Consensual Negotiation, Facilitation and Mediation Skills

6.3.1 General observations

Training in conflict management has the basic aim of reframing the parties' perceptions of their conflict which are typically that their situation is out of control or hopeless. A training programme can offer its participants accumulated knowledge about conflict dynamics and options for intervention to prevent or de-escalate a conflict. The value of this type of training is twofold. Firstly, it gives the participants some hope that there may be unexplored approaches to help them in their quest for a settlement and it can be extremely useful for the protagonists to hear examples of other case studies, choices and options that may end the dispute. Secondly, the training can present the antagonists with entirely new ways of looking at the conflict. If the general view holds that conflict can only be resolved by one part defeating another, then a training programme can introduce more constructive ways of thinking about 'win-win' approaches to conflict, thus laying the groundwork for longer-term, more sustainable solutions.

Training can also assist participants in developing or improving communication, negotiation and problem-solving skills that will be useful as they search for ways to resolve their conflict. In addition the training format offers a relatively safe environment in which to learn and test new approaches and skills. Since the participants are nor involved in actual negotiation or problem-solving, they are free to try out new behaviours and strategies without having to commit to outcomes publicly.

However, trainers must beware of creating dramatic change in individuals but not in structures - the simple act of bringing disputing parties together in a training session can have a huge impact on participants, but whilst people may have changed, their society may remain the same, including the structural inequalities that continue to fuel hostilities.

6.3.2 Recommendations about training in relation to CBNRM in India

Training in consensual skills needs to be provided for three different sets of stakeholders:

- CBNRM communities themselves (including apex CBOs);
- staff of NGOs involved in CBNRM programmes; and
- staff of government agencies (e.g forest departments).

7 CONCLUSIONS

Conflicts are common in CBNRM in India. The caste system, and the stratified and heterogenous nature of Indian society associated with it, tend to mean that different sub-groups have different NR needs and objectives, and thereby increase the likelihood of conflicts. Nevertheless, CBNRM initiatives in India, as in other countries, have generally not given adequate consideration to conflicts and their management, although that is starting to change (Anderson *et al*., 1998; Vira *et al*., 98). Related to this has been the general tendency of external agencies involved in promoting community management of natural resources (e.g. forest departments in JFM programmes) to ignore power relations between different sub-groups within a given community.

Stakeholder analysis can play a valuable role in identifying all of the stakeholders, and in identifying ways of reconciling their priorities and objectives. It is also important that macro-level factors, such as NTFP policies and practices, are taken into account; and, if necessary, revised so as to provide a supportive enabling environment for CBNRM. Discussions among different stakeholders involved in CBNRM need to be ongoing and institutionalised, and this is likely to require the creation of new fora.

Some conflicts are inevitable in CBNRM programmes. It is important, therefore, to ensure that there is adequate capacity to deal with conflicts when they do arise. CBNRM programmes should, therefore, include provision for capacity development for conflict management, which can take two forms:

- the creation of new mechanisms and bodies for mediation of conflicts; and
- training in consensual negotiation, facilitation and mediation skills.

Trees are different from many other renewable natural resources, in that the resource, or a large proportion of it, can be removed virtually overnight. Thus, failure to resolve conflicts quickly may result in local communities losing much of the assets that they have spent years building up.

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[i] Where SA is being used solely to improve the effectiveness of policies and projects, the stakeholders selected may only include those groups whose interests, resources and position of power imply that they are likely to affect substantially the way in which the project will operate, or fail to operate, in practice.

[ii] Both projects have been supported by research programmes of the Department for International Development, i.e. the Natural Resources Systems Programme and the Livestock Production Programme, and are for the benefit of developing countries. The views expressed in this paper are not necessarily those of DFID.

[iii] CFM can be described as a system where a community has "developed institutions, norms, rules, fines and fees to sustain forest resources. CFM systems characteristically involve one or more communities (social group, village) protecting and using a specific forest area" (IUCN, 1996). While the forest may not be under the legal jurisdiction of the community, "…the community management groups strongly identify with the resource and perceive they have special rights and responsibilities for its management".

JFM can be defined as "sharing of products, responsibilities, control, and decision making authority over forest lands, between forest departments and local user groups, based on a formal agreement. The primary purpose of JFM is to give users a stake in the forest benefits and a role in planning and management for the sustainable improvement of forest conditions and productivity. A second goal is to support an equitable distribution of forest products." (Hill and Shields, 1998).

[iv] Nobody know exactly how many cases there are. The total number of villages in Orissa is about 50,000: of these, there are probably 4,000-5,000 villages involved in managing natural forests. This is probably more than in any other Indian state or comparable geographical area anywhere else in the world.

[v] PFM is used as an umbrella term covering joint forest management, collaborative forest management, community forestry and, in some cases, social forestry. 'Participatory' has been defined as a process whereby those with legitimate interests in a project both influence decisions which affect them and receive some, or all, of any benefits that may accrue (ODA, 1996).

[vi] Some authors (e.g. Grimble *et al.*, 1995) identify two combinations involving micro and macro (i.e. micro-macro and macro-micro), in which the first half of the 'pair' is the active decision-maker, and the second half the passive party. In practice; however, it can be difficult to distinguish the 'active' from the 'passive' party, so we have only used one combination in this chapter.

[vii] Where SA is being used solely to improve the effectiveness of policies and projects, the stakeholders selected may only include those groups whose interests, resources and position of power imply that they are likely to affect substantially the way in which the project will operate, or fail to operate, in practice.