
The Saga of Participatory Forest Management in India

N.C. Saxena



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Preface

For over a hundred years in India forests were under government control with very little peoples' participation. It was only in the late 1980s when the policy makers realised that the strategy of bringing uncultivated lands under government management and using them to produce industrial raw material had neither checked deforestation nor improved the economic condition of millions of people whose livelihoods were dependent on these forests. This led to a fundamental change in the Indian Forest Policy in 1988. Now forests are not to be commercially exploited, but have to conserve soil and environment, and meet the subsistence requirements of the local people. The implementation of the Policy was facilitated by the Government of India issuing a resolution in 1990 making it possible for the Forest Departments to involve people in the management of forests.

Almost all major states have passed enabling resolutions to implement what is now popularly called the Joint Forest Management (JFM) programme. This is likely to be the focus of future forest development projects funded by governments and donor agencies. However, the implementation of participatory programmes has so far been uneven and halting. It is also not very well known under what conditions JFM does well, and whether these conditions are internal to the group or more influenced by governmental policies. Although experience from a diverse range of ecological and social contexts from many states is now available, where Forest Departments and communities are effectively working together to restore the productivity of forest lands, there has been a dearth of literature which attempts to synthesise such experiments, and link theories of collective action with empirical evidence. There is as yet no identification of the key factors that must be evaluated in order to explain, predict or improve the outcome of Joint Forest Management in different socio-economic conditions.

Based on the author's repeated visits to JFM villages in several Indian states, this book seeks to review the existing literature and case studies on Joint Forest Management with a view to formulate the key hypotheses and to provide tentative findings on these hypotheses. It

is designed to be a source book on Joint Forest Management, which would be of value to donor agencies, state governments, policy makers, and researchers on participatory development programmes.

The book is organised into seven chapters, of which the first two deal with the evolution of participatory forest policies in India. Forest policy in India has passed through three phases since Independence. Before 1975, government neglected village lands, and encouraged industrial plantations on forest lands. The second phase started in 1976 with the National Commission on Agriculture (NCA), which recommended establishing fuelwood and fodder plantations on village and private degraded lands to relieve human and cattle pressures on industrial forestry on forest lands. This policy did not work either, as both farmers and communities showed more eagerness to plant trees for the market rather than for subsistence.

The latest policy issued in 1988 legitimises the income orientation of farmers, and transfers welfare objectives of ecology and consumption of the poor to forest lands. This, combined with the JFM resolution of 1990, completely reverses the recommendations of the NCA. The resolution breaks new ground as, for the first time, it specifies the rights of the protecting communities over forest lands. The beneficiaries are to be given usufructs like grasses, lops and tops of branches, and non-timber forest produce. On successful protection of forests, they are to receive a portion of the proceeds from the sale of mature trees. This radical change in policy has taken place partly because in the last decade, as the forestry debate has intensified, and the State has increasingly responded to the claims of forest dwellers voiced by the activists and NGOs. Their call for a decentralised and democratic system of forest management has finally been accepted, at least in theory, through the programme of JFM.

Chapters Three, Four and Five explore the conditions for successful local action in forest management. Internal factors behind the success of collective action in managing community resources are discussed in Chapters Three and Four, where the implementation of participatory forest management in five Indian states is analysed. In Uttar Pradesh (UP) and Orissa the protecting groups are self-initiated or set up by the Revenue Department, while in the states of Haryana, West Bengal and Gujarat, the Forest Department took the lead in establishing these societies.

The constraints of government policies and how these hamper participatory practices are considered in Chapter Five. While sociological variables such as community cohesiveness and size are undoubtedly important, often these are the “givens” of a situation, not open to outside intervention, at least in the short term. On the other hand, external factors of government policies and the way government personnel interact with the local communities may better explain why communal action is sustained over time. These variables are in the area of public policy, and are of greater practical significance in influencing collective behaviour. Therefore Chapter Five reviews government policies on rights and privileges over forests, laws relating to NTFPs, Working Plans, gender concerns and silvicultural arrangements.

In addition to these serious limitations of policy, the success of JFM would have been more widespread if the scheme was linked with other afforestation programmes, on farm lands, village lands and forest lands remote from communities. These linkages form the subject of discussion in Chapter Six.

Two issues are examined in the concluding Chapter. An attempt is made to incorporate the conclusions drawn thus far into the wider theory of property regimes. The impact of increasing the value of the protected resource on people’s access is also hypothesised. This is an important issue for the future of JFM in India for two reasons. First, with the liberalisation and opening up of the Indian economy there is renewed pressure on the State to allow its forests to be used for high-value timber production, as opposed to an emphasis on NTFPs proposed in this book. Secondly, in most cases the protected forests have not reached the stage of harvesting for timber. Whether the people will be able to retain their hold on the resource or lose it to outside forces would be of interest in the future.

Our finding on the proposition that “increasing the economic worth of resources increases the extent to which people conserve forests” is ambiguous, as too many variables, including agrarian structure and awareness of the local people, influence the outcome. The relationship between conservation and commercialisation cannot be understood without referring to other variables, such as tenure, and how these will be affected by the way the resource is used.

My basic interest in this area arose during my association with a professional NGO, the Society for Promotion of Wastelands

Development, where my responsibility was to encourage participation of grassroots NGOs and government in Joint Forest Management on forest lands. Since 1993, while training senior civil servants in development and policy issues, my concerns have become broader, as participation is now being encouraged in all government programmes. My association with several appraisal missions, especially the World Bank-assisted Madhya Pradesh Project and the SIDA-assisted Orissa Project, has further helped to shape my thoughts on the subject.

The first draft of this book was written in 1995 during my stay at Bogor as a Visiting Fellow at the Center for International Forestry Research (CIFOR). Since then it has been considerably enlarged. It would not have taken its present shape without the meticulous care with which it was supervised by Neil Byron and Eva Wollenberg of CIFOR. Their encouragement and clarity have sustained my efforts throughout. I am also grateful to Ravi Prabhu at CIFOR who offered valuable comments on the first draft. Despite all the help I received from them I alone am responsible for any errors which remain.

One person who has made considerable sacrifices to see that this book gets completed is my wife. Writing this book on holidays meant considerable neglect of my family duties, but not only did she bear it smilingly but kept on encouraging me throughout. This book is dedicated to her.

N.C. Saxena

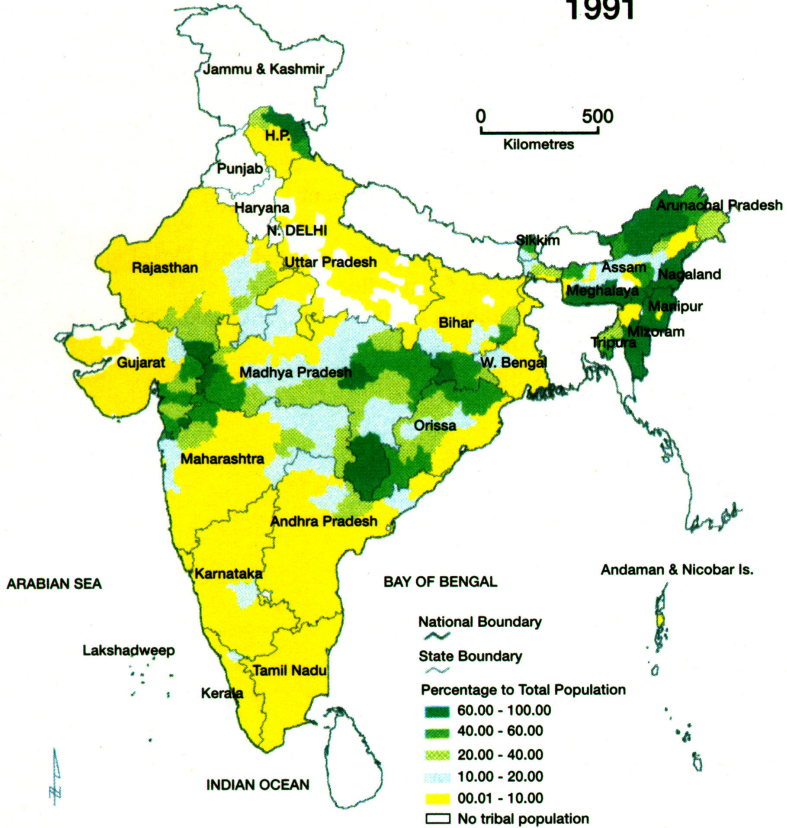
Abbreviations

AP	Andhra Pradesh
BAIF	Bharatiya Agro Industries Foundation, a voluntary organisation
C&D Lands	Land unfit for agriculture but suitable for trees
CCF	Chief Conservator of Forest
CIDA	Canadian International Development Agency
CPR	Common Property Resource
CSE	Centre for Science and Environment, New Delhi
DANIDA	Danish International Development Agency
DFO	District Forest Officer
DRDA	District Rural Development Agency
E & F	Environment and Forest
FAO	Food and Agriculture Organization
FD	Forest Department
FDC	Forest Development Corporation
FPC	Forest Protection Committee
FSI	Forest Survey of India
GNP	Gross National Product
GOB	Government of Bihar
GOG	Government of Gujarat
GOI	Government of India
GOO	Government of Orissa
GOUP	Government of Uttar Pradesh
GOWB	Government of West Bengal
GR	Government Resolution
GTZ	A German Donor Agency
ha	hectare(s)
HP	Himachal Pradesh
HRMS	Hill Resource Management Society
IAS	Indian Administrative Service
IBRAD	A voluntary organisation based at Kharagpur (West Bengal)
IFS	Indian Forest Service
IIM	Indian Institute of Management

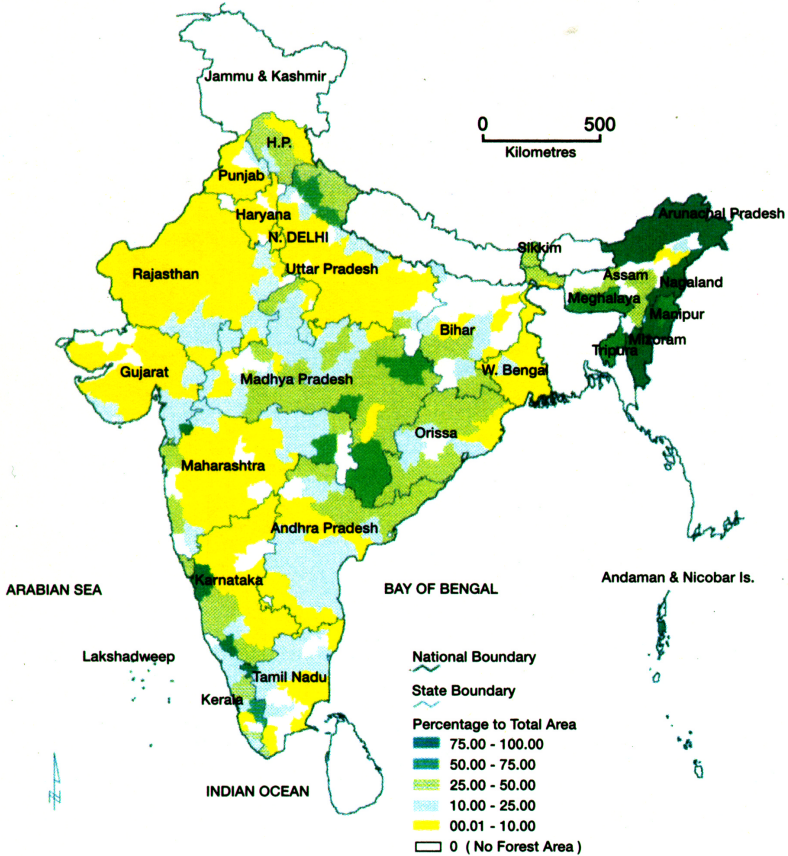
IIPO	Indian Institute of Public Opinion
ILO	International Labour Organization
IRDP	Integrated Rural Development Programme
JFM	Joint Forest Management
JPP	Joint Peoples' Party
LAMPS	Large Multi-Purpose Societies
LBSNAA	Lal Bahadur Shastri National Academy of Administration
LPG	Liquid Petroleum Gas
m ha	million hectares
MFP	Minor Forest Produce
MLA	Member of Legislative Assembly
MOU	Memorandum of Understanding
MP	Madhya Pradesh
mT	million Tonnes
NABARD	National Bank for Agriculture and Rural Development
NCA	National Commission on Agriculture, 1976
NCAER	National Council for Applied Economic Research
NCHSE	National Centre for Human Settlements and Environment
NDDB	National Dairy Development Board
NGO	Non Governmental Organisation
NREP	National Rural Employment Programme
NSS	National Sample Survey
NTFP	Non Timber Forest Produce
NWDB	National Wasteland Development Board
ODA	Overseas Development Agency
ORG	Operation Research Group
pc	personal communication
PEO	Programme Evaluation Organisation
PF	Protected Forest
RBI	Reserve Bank of India
RF	Reserve Forest
RLEGP	Rural Landless Employment Guarantee Programme
Rs	Rupees
SC	Scheduled Caste
SF	Social Forestry

SFD	State Forest Department
SIDA	Swedish International Development Agency
SPWD	Society for Promotion of Wastelands Development
TERI	Tata Energy Research Institute
TN	Tamil Nadu
TOI	Times of India
UNDP	United Nations Development Program
UP	Uttar Pradesh
USAID	United States Agency for International Development
VFC	Village Forest Committee
VIKSAT	Vikram Sarabhai Centre for Science and Technology, Ahmedabad
YC	Youth Club

India : Tribal Population 1991



India : Area under Forests 1993



FOREST POLICY IN INDIA BEFORE 1988

Colonial forest policy in India

At the beginning of the 19th century more than two-thirds of the land mass in India was uncultivated (Singh 1986). As lands close to villages were enough to satisfy the subsistence needs of the people, forests remote from habitation generally were never over-exploited. Often these virgin forests were concentrated in infertile highlands, where India's indigenous communities lived. These *adivasis* or tribals, were often forced to seek refuge in forests, having been driven from fertile lands by the more aggressive warrior communities. The Indian rulers did not disturb these forest dwellers, as they concentrated their political aspirations on fertile agricultural plains and more populous villages and towns (Poffenberger and McGean 1996: 58).

The British presence from the late-18th century started to change land and forest usage in India. Guided by commercial interests the British viewed forests as crown lands, limiting private property rights only to continuously cultivated lands. On forest lands, "human resource-use practices such as grazing, product collection, and temporary or rotational swidden farming were rejected as a basis for ownership, even when taxes were paid" (*ibid*: 59). Often such forests were under community management, and their annexation by government alienated the people from their former common resources, leading to their over-use by the same people. Although the colonial forest policy provided that declaration of an area as government forest should not abridge or affect any existing rights or practices of individuals and communities, who were given three months to contest reservation, in actual practice the illiterate communities were seldom able to do so. Thus by the turn of the present century some 20 million hectares of land was brought under a category of forests called Reserve Forests (Stebbing 1926). These were exclusively for the use

of the Forest Department (FD) and the surrounding villagers had no rights other than those explicitly permitted by the State.

Government Forests were divided by the British into two broad categories; Reserve Forests (RF) and Protected Forests (PF).¹ The Protected Forests were also managed by the Forest Department, but the people had certain rights within them, such as gathering fruits and other produce of the trees specifically for household use (but not for sale). We have referred to government forests in this book as Forests (with a capital F) or FD lands, to distinguish them from forests on all categories of public lands, including those under the management of FD as well as village lands and road sides. More than 90 per cent of land legally classified as forests is today managed by the Forest Department.

At the time of the country's Independence in 1947 the areas under Reserve and Protected Forests were 31 and 15 million hectares respectively. Since then the net² area under the control of the Forest Department has further increased to 67 million hectares through several means. First, after the abolition of the princely states and landlordism, all uncultivated lands under their control became vested in the State. The larger tracts were handed over to the Forest Department, generally as PF, and the rest were vested in the village *panchayats*³ which are under the overall supervision of the Revenue Department.⁴

¹ Such protected forests declared under the Indian Forest Act 1927, which were basically for local use, need to be distinguished from protected areas (PAs) for wildlife.

² The increase is notwithstanding the fact that between 1952 and 1980, an average 154,571 ha per year of Forest land was converted to non-forest use, mostly irrigation and power dams, and agriculture. Since 1980, according to official data, this average has declined to 14,351 ha, presumably due to the stringent provisions of the Forest Conservation Act 1980 (Shyam Sundar 1993: 24). The validity of the latter figures has been challenged (see Saxena 1995a).

³ *Panchayat* (village council) is the lowest form of local government, and consists of elected members headed by a chairman. Since 1994, such councils have been given constitutional status and have several developmental functions. One *panchayat* may consist of several villages (see Table 5.1).

⁴ This Department is in charge of policies relating to non-forest public and private lands. It is called Revenue Department as land revenue was the principal source of state income before Independence.

The second process of extending government control over forests was through acquisition of private forests. These laws were passed by the various State governments in the two decades following Independence. Massive felling of trees took place in these forests because of the fear that they would be nationalised, as indeed they were in the 1950s and 1960s. For several years after this take-over an impression has continued in the villages that if trees are planted on private lands, not only would the trees belong to government but land on which such planting occurs would also revert to government. Even as late as 1987 a SIDA team promoting farm forestry in South Bihar encountered tribals' fears that if they planted trees their lands would be taken away by the government (GOB 1987). The fear is not unfounded as the Bihar Private Forest Act and similar other enactments did precisely this in the past, by "nationalising" private trees.

Forest policy in independent India

There have been three forest policy pronouncements in India since Independence; the 1952 Forest Policy, The National Commission on Agriculture (NCA) 1976, and the 1988 Forest Policy. As forests have been put on the concurrent⁵ list of the Indian Constitution since 1976, and the Indian Forest Service manning all superior bureaucratic positions is an all-India service which has traditionally looked up to the Government of India that controls its recruitment and service conditions, the ideas contained in these policy pronouncements carry a great deal of weight. However, four factors have limited their implementation. First, these were all non-statutory and advisory statements issued by the Government of India, not backed by law.⁶ Secondly, actual implementation of forest projects and policies is

⁵ This empowers the Government of India to legislate despite the fact that the administration of Forests continues to be the responsibility of State governments. Forests were centrally administered in India only to 1935.

⁶ This is distinct from the Forest Conservation Act 1980, a Government of India legislation which is binding on all State governments. For contradictions between the Forest Conservation Act and the Forest Policy 1988, see Saxena (1995a), although both pronouncements emanate from the same authority.

under the control of the State governments, who may have different political compulsions to the Government of India. Thirdly, what is implemented in the field is generally what is provided for in the budget and funded, and therefore many policy prescriptions requiring budgetary support may remain unimplemented, if not otherwise funded. Lastly, bureaucracy in India is quite powerful and its own predilections may act as a filter to what is demanded of it by governments. Radical and swift changes in policies may therefore take more time in their implementation if these are found unconvincing by the officers. It is generally believed that the Forest Service emotionally identifies with the first two sets of Policies, but has reservations about the 1988 Policy, and this has hindered its translation into action.

The main characteristics of the three policies are shown in Table 1.1.

Table 1.1 Three phases in forest policy

Period	Main focus
1. 1952-1976	Forests for timber, neglect of village commons
2. 1976-1988	Commercial forestry to continue on Forest lands, but more funds for social and farm forestry on non-Forest and private lands
3. from 1988 onwards	Joint Forest Management, and radical shift from the earlier revenue orientation

The first post-Independence declaration

The Forest Policy of 1952 declared that village communities should in no event be permitted to use Forests at the expense of “national interest”, which was identified with defence, communications and

vital industries. It wanted Forests to be used to produce valuable timber for industry and other national purposes. The Policy stated,

The accident of a village being situated close to a forest does not prejudice the right of the country as a whole to receive benefits of a national asset. The scientific conservation of a forest inevitably involves the regulation of rights and the restriction of the privilege of users depending upon the value and importance of the forest, however irksome such restraints may be to the neighbouring areas..... While, therefore, the needs of the local population must be met to a reasonable extent, national interests should not be sacrificed because they are not directly discernible, nor should the rights and interests of future generations be subordinated to the improvidence of the present generation.

From the First Plan in 1952, emphasis was placed on the conversion of “low”-value mixed forests into “high”-value plantations of commercial species such as teak and eucalyptus. Forestry at that time meant raising trees to achieve a sustained yield of timber in perpetuity. Exotic species were introduced to create man-made forests. Of the 670 million Rs spent on afforestation during 1966-74, roughly 560 million⁷ Rs was for production forestry alone (GOI 1981: 45). In Madhya Pradesh, which contains 23 per cent of India’s Forests, the Chief Minister, in a message for the Forestry Souvenir, said in 1976 “Madhya Pradesh has taken great strides in the development of scientific forestry. There is much greater emphasis on man-made forests, designed to meet industrial requirements”. Thus scientific forestry was equated with raising industrial plantations. A diverse forest ecosystem was converted by government into a single-species “timber mine”. The foresters, who were meant to conserve the forest ecosystem, became the main agents of reducing the diversity of forest species. The forest policy during the colonial period was also commerce-oriented (Tucker 1988: 140), and this orientation persisted for about a century from 1875 to 1976, and for Forest lands up to 1988.

⁷ Neither figure is adjusted for inflation.

The National Commission on Agriculture 1976 and the Social Forestry Phase

The National Commission on Agriculture (NCA) also approved this commercial approach in the following terms: “Production of industrial wood would have to be the *raison d’être* for the existence of forests. It should be project-oriented and commercially feasible from the point of view of cost and return” (GOI 1976: 32). The NAC recommended that Forest Corporations should be created to attract institutional finance. It also suggested that it would not be in the interest of the programme to include forest on poor quality sites where, even with the best inputs, the growth potential would be limited.

There should be a change-over from the conservation-oriented forestry to more dynamic programme of production forestry. The future production programme should concentrate on clear felling of valuable mixed forests, mixed quality forest and inaccessible hard wood forests and planting these areas with suitable fast growing species yielding higher returns per unit area. (*ibid.*)

Thus the entire thrust of forestry during the first four decades after Independence was towards the high forest system, created after clear-felling and ruthless cutting back of all growth, except of the species chosen to be dominant. For instance, the 6th Five Year Plan (1980-85) of Madhya Pradesh stated:

To produce 25 m cu m of industrial wood it would be necessary to subject 5.5 m ha of production forest lands to intensive management, that is to clear-felling and planting. with the massive plantation programme being launched in the state, there would be extensive monocrops of teak in the forests. .. we should clear-fell and plant roughly one lakh hectare annually if we want production of industrial wood to keep pace with demand in future.

With reference to meeting tribal demands for fruit, medicinal herbs, etc. from Forest lands, the same Plan document admitted that

“no special programmes were taken, which could directly contribute to the uplifting of the tribal economy. The programmes executed were essentially the forest development programmes which benefited the tribals only indirectly, .. [through] wage earning opportunities”.

Social forestry

The degradation of village lands led to increased pressure on the Forests from the people. By the mid-seventies it became clear that if people's demands were not met it would be impossible to save Forests. This was then sought to be achieved through a social forestry programme on village and private lands. It is significant that social forestry was not tried on Forest lands, except on a small scale in SIDA Projects in Bihar and Orissa, as such lands were, as in the past, used for producing timber. In order to reduce pressure on Forests, the NCA recommended growing trees on lands accessible to village people. Its report stated that:

Free supply of forest produce to the rural population and their rights and privileges have brought destruction to the forest and so it is necessary to reverse the process. The rural people have not contributed much towards the maintenance or regeneration of the forests. Having over-exploited the resources, they cannot in all fairness expect that somebody else will take the trouble of providing them with forest produce free of charge.One of the principal objectives of social forestry is to make it possible to meet these needs in full from readily accessible areas and **thereby lighten the burden on production forestry**. Such needs should be met by farm forestry, extension forestry and by rehabilitating scrub forests and degraded forests. (GOI 1976: 25).

Thus social forestry was seen by the NCA as a programme that would release industrial forestry from social pressures. Forest lands were still to be used for production of commercial timber, but in order to keep people out it was necessary to make them produce what they consumed free of charge using village lands to draw some of the pressure away from Forest lands.

Consequences of forest policy on other categories of lands

Bringing Forest lands under government control – a process which continued even after independence – and using them for producing commercial timber had a number of implications, even for non-Forest lands, such as:

- Farmers' rights to trees on their own private fields were restricted which contributed to a decline in the tree density on private lands; and
- Village commons rapidly deteriorated.

Trees on farm lands

Trees have been an important part of the farm economy in many parts of India. In Kerala, a region of high rainfall and good soils, farmers plant trees on homesteads and on farms to maximise overall returns from land. In arid western Rajasthan, farmers protect *khejri* (*Prosopis cineraria*) and *bordi* (*Zizyphus* spp.) trees to increase soil productivity and land sustainability. These trees recycle nutrients and provide mulch and shade for crops, and fodder for cattle, thus complementing farm production. In the hills, trees on farm boundaries are maintained for subsistence products, like fodder and fuelwood. Casuarina plantations for urban fuelwood have been a part of the rural landscape in southern coastal India for more than a century (Hill 1982: 159). The actual number of trees varies greatly, depending on agro-ecological conditions – more in high rainfall and fertile regions than in dry regions – and on farmers' perceptions of opportunity costs for farming inputs (G.B. Singh 1987; Tejwani 1987). In regions of abundant forests, farmers rarely plant trees on farm lands, as gathering from forests is considered more cost effective,⁸ but even in these regions trees occur naturally on farm lands.

Trees can be good investments as savings banks for the poor, enabling them to accumulate capital. But trees will become poor

⁸ Gilmour has documented similar farmers' responses for Nepal (1990).

people's banks only when their right to ownership of trees is not disputed and impeded by law or bureaucratic regulations. Quite often this was not the case. Movement of logs and tree products obtained from private lands was restricted during the colonial period, in order to prevent theft of similar products from FD lands. A widespread impression prevailed in the villages that all trees belonged to the Government, and so did land on which such trees existed. In contrast to Africa (Riddell 1987: 6), where trees are often planted to establish tenure rights, in India they are often removed to demonstrate claims to land.

These laws were continued and often made more stringent, even after British rule. There are three different sets of laws: a farmer cannot harvest trees without permission; a permit is required to transport them; and lastly some trees can be sold only to the FD. In most States people can sell trees only after going through a laborious process of obtaining a permit from designated minor functionaries – with consequences easy to imagine. These forest laws leave villagers in doubt whether any wood they produce will belong to them. Perversely, the immediate impact of such legislation is always more destruction of private trees as people wish to cash their assets before the government machinery to enforce laws is set up. These types of controls act as self-fulfilling prophecies: they deter protection and promote irresponsible felling.

Such laws have contributed to a decline in tree density on homesteads, boundaries and crop lands. The All-India Rural Credit Survey Report studied 75 districts all over the country in 1951-52, and noted that in most districts either no expenditure was reported or less than one per cent of the families reported expenditure on the establishment of new orchards and planting of trees (RBI 1956: 692). Farmers' indifference to planting trees was also caused by market distortions due to the government selling timber and pulpwood at a highly subsidised price to industries during the period 1950-1980. Another factor was the spread of irrigation, because of which trees on crop lands were not required, and so were felled or not protected (Gupta 1984). The area under privately owned tree crops and groves in the country was 2.77 per cent of the total reporting area in 1951-52, but fell to 1.15 per cent by 1980-81, with a substantial reduction in the area under farm trees (GOI 1989).

The trend of decline in the density of trees was reversed in the late 1970s when wood prices shot up and farmers responded to price signals and market opportunities by planting trees, especially eucalypts, on their lands. This is described in Chapter Six.

Village lands

While uncultivated land remote from habitation was declared by the government as Forests and managed under the new forest regulations, lands close to habitation were governed by state specific laws (Ribbentrop 1900: 86-122). There were two systems of land settlement evolved by the British, *ryotwari* and *zamindari*. In the *ryotwari*, the proprietorship of uncultivated village lands in India was vested with the government who appointed a local village headman to be in charge. Anyone wanting to extend cultivation had to apply to the headman. In the other type of village found in the north and the east, one family claimed to be owner or *Zamindar* (landlord) of the entire area, both cultivated and uncultivated. The uncultivated portion of the village was the common property of this proprietary body. It would locate tenants to cultivate its land, and tenants of longer standing could graze their cattle on the *shamlat* (the term used in north-west India for commons) of the landlord, as long as they did not cultivate it. Thus under the British, village commons became government property in western and southern India (which became known as *ryotwari* areas), and were settled as part of the *Zamindar's* estate in eastern and northern India.

The difference in revenue land systems in the south and the north continued after Independence. In the south, uncultivated lands are still considered to be government property, known as C&D lands in Maharashtra and Karnataka, or *poromboke* in Tamil Nadu. In Andhra Pradesh, although orders have been issued for transfer of uncultivated lands to the panchayats, in many places these orders have not been implemented, and thus there too uncultivated lands are mostly in the control of government. From this pool the State has been allotting land to the poor.

In the north, after the abolition of the *zamindari*, all uncultivated lands became vested in the State. Where there were large tracts, these were handed over to the Forest Department, and the rest was vested

in the village panchayats, which are under the overall supervision of the Revenue Department. Their use by the panchayat is regulated by local Acts, like the Revenue Codes, the Panchayat Acts, and various Manuals. Initially panchayats were free to lease the lands for temporary cultivation, but these powers were withdrawn when the programme to lease these lands to the poor started in the early seventies.

Table 1.2. Changes in land use in India (m ha)

	1950-51	1988-89
Unculturable/Not available for cultivation	47 (16.6)	41 (13.4)
Area under Forests	41 (14.5)	67 (22.0)
Cultivated area	118 (41.6)	142 (46.6)
Culturable area + grazing lands + groves	50 (17.6)	31 (10.2)
Fallow land	28 (9.9)	24 (7.8)
Reporting area	284 (100)	305 (100)

(figures in parentheses show percentages)

Source: GOI (1992)

Throughout the colonial period, and even after that, *de jure* control of the people over their commons was weak, being either with the State or the landlord, which led to their degradation, as these lands were looked upon by the people as open access lands, where they were not expected to contribute to their management. Other factors have also contributed to a decline in the area of village commons and their denudation. There was pressure on them due to increased population. The lands that were left out to provide the community needs for forest produce and grazing were often assigned and brought under cultivation in due course (see Table 1.2, showing increase in cultivated area from 118 to 142 million hectares). Often they were encroached upon by the village elite (Brara 1987; Jodha 1989) and others, and later the encroachments were regularised. A *laissez faire* policy was followed as there was neither any funding allocation for

these lands, nor was any specific government department made responsible for grasses and pasture development. Supersession of customary law by codified law shifted the locus of decision making away from actual users, causing uncertainty in the management of common lands (Gadgil and Guha 1992). Most village commons, due to lack of management and interest⁹ from all concerned rapidly deteriorated and were unable to meet local demands for fodder and fuel, leaving the villagers with no other recourse, but to turn to the Forests which increased pressure on them.

People dependent on forests

Forests are not spread evenly in India, but are concentrated in the North-east, the Himalayas and Shivalik ranges, the central belt, strips along the Western Ghats and other hill areas, and in patches of coastal mangroves. More than 50 per cent of Forest land is located in the central belt, which is the poorest region in India with low agricultural productivity and poor soils and heavy tribal concentration (see Maps 1 and 2). India's forests have generally speaking not been uninhabited wildernesses. Even in the remote Forests people have either been living traditionally or were brought by the Forest Department and settled there to ensure the availability of labour. Today, there are about 100 million forest dwellers in the country living in and around forest lands and another 275 million for whom forests have continued to be an important source of their livelihoods and means of survival. The number of people dependent¹⁰ on forests in India is the highest in Asia (Table 1.3).

Besides fuelwood and other wood products, forests provide what were misleadingly termed "minor" forest products, and now better known as NTFPs. Most NTFPs come from forests, although some

⁹ Analysis of efforts made by the locals to prevent their deterioration has important implications for assessing the potential for village management of Forest lands, and is discussed in Chapter Three.

¹⁰ There is no uniformity in the number of dependents as assessed by different authorities. One reason for this variation could be that dependence has not been rigorously defined in these studies.

Table 1.3. People dependent on forests

Country	Number of people (millions)	
	living on forest lands	dependent on forests
India	100	275
Indonesia	40-71	?
Philippines	20	25-30
Thailand	14-16	20-30
Myanmar	8	?
Papua New Guinea	3.5	3.5
Bangladesh	5	10
Nepal	8.5	?

Source: Lynch (1992)

trees yielding NTFPs occur on private fields, and also provide valuable assets and flows for subsistence and cash. Seventy per cent of NTFPs are collected from the five states of Maharashtra, Madhya Pradesh, Bihar, Orissa and Andhra Pradesh where 65 per cent of the tribal population lives (Guha 1983: 1890). NTFPs include fodder and grasses; raw materials like bamboo, canes and *bhabbar* grass for artisan-based activities of the poor; leaves, gums, waxes, dyes and resins, and many forms of food, including nuts, wild fruits, honey and game. These often play a vital part in the livelihood strategies of the poor, who have few employment opportunities for eight months in a year, once the main crop has been harvested.

Fuelwood provides 69 per cent of fuel for cooking in rural areas (only 5 per cent comes from commercial fuels, the rest from cow dung and agricultural residues). The importance of collection from public lands can be judged from the fact that only 15 per cent of fuelwood is purchased, 62 per cent is collected from Forest and public lands, and the remaining 23 per cent is collected from private lands (Leach 1987).

Productivity of forests

Of the area under Forests, 37 per cent is tropical moist deciduous forest (where sal is the main species), 29 per cent is tropical dry forest (with teak as the main species), 8 per cent is tropical wet evergreen forest, and the rest is sub-tropical, temperate, alpine and other forests. Nearly 12 million hectares have been set apart as protected area for wildlife, out of which 8 million hectares has tree cover (World Bank 1993). In 1985, according to the Forest Survey of India (FSI 1988: 31), 53 per cent of 67 million hectares of Forests had a crown density of more than 40 per cent, 37 per cent between 10 and 40 per cent, and the remaining 10 per cent has less than 10 per cent of crown cover. The FSI estimated current productivity for the entire Forests at 0.7 cubic metres of wood per hectare per year, which includes both recorded and unrecorded removals from forests. These levels are dramatically lower than the potential, which has been estimated at 2 cubic metres per hectares per year. Achieving this potential, which is about three times current productivity, would bring considerable improvement in the economic and environmental well-being of India's people.

Evaluation of past policies on forest lands up to 1988

What has been the impact of the past policies on the people, especially forest dwellers? The more important question is: have these policies been sustainable in terms of either increased production of wood, or checking the process of deforestation? Policies for Forest lands (1952-88) and for village lands¹¹ during the Social Forestry phase (1976-88) need to be considered separately.

Despite forest policy being timber-oriented, Forest lands during the colonial phase provided subsistence-oriented goods to the people and, with adequate supplies from Forests, it was possible to satisfy the market demand as well as meet people's demands. Forests at that

¹¹ The programme for farm lands is covered in Chapter Six.

time contained indigenous species, like sal (*Shorea robusta*), mahua (*Modhuca indica*), tamarind (*Tamarindus indica*), Acacia spp. and bamboo, which provided a great deal of NTFPs. How has this dependence changed over the years?

There is much evidence that people's access to forests for meeting their basic subsistence needs has deteriorated, and that this is fairly widespread (Chambers *et al.* 1989). Some causes of this are:

- deforestation;
- priority to man-made plantations in place of mixed species;
- lack of people's awareness about their rights and privileges;
- nationalisation of NTFPs and their diversion to industries; and
- exploitation by government agencies and contractors in marketing of NTFPs.

These will be briefly mentioned here, except the last two factors which are discussed in Chapter Five.

Deforestation

Poverty in India is generally considered to be linked with lack of private land, or its low productivity. Changes in the collection of free goods from forests go largely unnoticed by the planners, and are not accounted for in the GNP. However, much of the misery of tribals and forest dwellers is due to deforestation which removes the resources on which much of their livelihoods has been based (Dasgupta 1988: 7). For example, in the colonial period tribals of the Koraput District of Orissa used to depend for eight months of the year on forest products but by 1988, with the depleted forest resources, their survival was threatened, leading to several starvation deaths in one drought year (*Indian Express*, April 3 1988). Loss of forests has also increased the pace of migration of tribals to the towns where they become low-paid wage labourers (DN 1988).

Forests are subject to intense pressure from human beings, livestock and urban markets. The relative contribution to deforestation of the two categories of consumers, people and industry, has been a sub-

ject of controversy in India, and this has blurred objective analysis. FD officials argue that since commercial and industrial requirements are low as a proportion of the total demand for wood, at less than 20 per cent (World Bank 1988: 26), people's demands put an unbearable burden on Forests (Shyam Sundar 1993). The almost continual lopping for fuelwood and/or fodder as well as cattle and goat browsing, that occurs in many areas and prevents adequate regeneration, must play a major role in forest destruction (Blockhus *et al.* 1992: 31). Most of the Maharashtra soils contain a large proportion of clay, and compaction by trampling makes the surface impervious to water penetration and increases the soil density. The former leads to run-off, flooding and erosion during the monsoons and the latter reduces tree growth significantly. The result is that most forest lands have no regeneration (USAID 1991).

On the other hand it is argued that subsidising supplies to industries and giving them priority have reduced availability for the people and resulted in their further alienation from the Forests turning it into an open access resource. A study by a voluntary agency (PRIA 1984: 35) showed that one-third of rapid deforestation in Himachal Pradesh was due to excessive exploitation by the forest dwellers, and the rest was due to commercial interests. Often the two processes of industrial extraction and use by the people are related. The selective logging of a few large trees creates openings in the crown cover leading to better grass production, which invites cattle and goats. Their browsing makes regeneration difficult, and then the area is invaded by exotic, non-palatable weed species.

Some authors (Bowonder *et al.* 1986, 1988) make a distinction between use of fuelwood by rural people, which is largely twigs and branches and hence potentially sustainable, and by the urban sector. The greater use of logs and larger branches in the towns means that reasonably sized trees are sought after and cut, possibly in large patches. This has a more degrading effect on the forest than may be the case with village needs that can be obtained more often from pruning or pollarding branches of trees or even bushes in a limited area. Thus collection of fuelwood for sale in urban areas is the cause of much destruction and degradation of forests.

Most forests are located in regions of poor soil, where agriculture is not very productive, hence forests are the source of a major portion

of income through sale of fuelwood, called headloading.¹² Agarwal (1987: 181) estimated that at least 3 to 4 million people were involved in headloading, making it India's biggest source of employment in the energy sector. It is a low paid and a high risk occupation, as pilfering wood from RF for sale is an offence (collecting wood for self consumption from PF is permitted on paper, but frowned upon by the Forest staff in actual practice). The study commented that it was ironic that tribals, who for centuries lived in harmony with forests, were today forced to eke out a living by further destroying their forests (Agarwal and Narain 1991; Gadgil and Guha 1992).

Discussions with field officers indicate that during the last three decades two processes led to rapid deforestation. One, arising out of political populism, was to allow people to harvest in an unsustainable manner, and the other was pressure on officers to contribute more to revenues. It was not unusual for forest officers to receive letters right down at the operative level from the highest officials of the Forest Department instructing them to produce more revenue. The same pressure was repeatedly conveyed in the monthly meetings of Range Officers, always in the same form: "Range X has contributed (a stated amount revenue) and Range Y is not contributing enough". Ironically, before an election, it was common for a Minister to order that the forests be opened for the people without penalty. After the election, the same Minister was likely to demand more revenue.

Finally, deforestation has often been associated with sudden policy change or periods of uncertainty, like take-over of private forests, abolition of landlordism, setting up of Forest Corporations, and political unrest. Once large trees are felled, the old balance between people's demands and supplies through twigs and branches is disrupted, and the Department's efforts towards replanting come to nought. Thus deforestation, rather than being a continuous phenomenon, could be interpreted as a one-shot operation often directed by

¹² Fuelwood collection by the poor from public lands and carrying it on their heads to the nearest market. In Orissa for instance, a headloader would earn Rs 25-30 a day for a shoulder load and Rs 50 to 60 for a cycle load in 1992. This was against the agricultural wage rate of Rs 25 per day fixed by government, and actual payment of about Rs 16-17 a day (Jonsson 1992). However, agricultural work is available in mono-cropped areas for barely four months in a year.

governmental activity. It occurs as a result of not just local pressures on resources, but also “any momentary disruption of the institutional framework responsible for resource protection and management” (Dove 1992).

Aggravating the situation was the paucity of funds for the forest sector; forestry accounting for less than one per cent of the development budget as compared to agriculture which received between 20 and 24 per cent. Although the availability of funds has improved in absolute terms, the proportion of the forestry budget as part of the overall plan budget has remained generally less than one per cent, as shown in Table 1.4.

Table 1.4. Outlay in forestry and wildlife sector (billion Rs¹³)

Plan	Year	Total Public Sector	Forestry	% of Forestry to Total
First	1951-56	19.6	.08	0.39
Second	1956-61	46.0	.22	0.46
Third	1961-66	85.8	.46	0.53
Fourth	1969-74	157.8	.84	0.53
Fifth	1974-79	406.5	2.08	0.51
Sixth	1980-85	975.0	6.30	0.65
Seventh	1985-90	1800.0	18.59	1.03
Eighth	1992-97	4341.0	40.82	0.94

(GOI 1993)

Unlike other developing countries, extension for agriculture and shifting cultivation, the two familiar causes for deforestation, have not been the main causes of deforestation on Forest lands in India, at least in the last thirty years. The alienation of Forest lands from the

¹³ 35 Indian Rupees (Rs) = 1 US \$ in 1995.

people who need it for satisfying their needs, and consequently Forests becoming open access lands has been one of the main causes for degradation as well as for increasing misery of the people. Until the mid-eighties the response of the government to this crisis of deforestation was to bring more area under the Reserve category, and plant non-browsable and market-oriented single product timber trees in order to reduce pressure from local population and increase state revenues. This strategy was counter-productive and hastened the process it was designed to prevent.

Industrial plantations

Whereas the adverse effect of deforestation on the local economy is well understood, the impact of industrial plantations is not so well documented. Plantations have usually been of single species, equally entailing loss of diversity and access, and often on a large scale, and in practice seldom pursuing an objective of benefiting the local people, beyond wages.¹⁴ This was recognised even by the Inspector General of Forests, Mr. Dalvi who, while addressing the 1981 International Conference on tropical forest management at Dehradun, illustrated the inherent conflict arising out of forest plantations in the following terms:

Let us consider another example of a natural forest predominantly of sal. This forest represents to poor forest-fringe dwellers a source of livelihood yielding seeds for sale, branches and leaves for fuel and manure. The decision to convert this sal forest to industrially more valuable species like teak may satisfy the needs for higher revenues which may or may not be used for the welfare of these same people, but would certainly deprive them of an output from the forest which they were enjoying.

Other writers have been less charitable about the intentions of government. An ex-Forest Secretary of Madhya Pradesh writes:

¹⁴ Even wage employment becomes insignificant after the first year of plantation.

This (the policy of giving priority to industries and subsidising industrial raw material) is clearly discriminatory. The rights of a huge section of society cannot be wiped out in order to benefit a few industrialists. For instance, the Orient Paper Mills was promised a lakh (100,000) ton of bamboo per year from four districts of the state. This eliminated all bamboo from Rewa, Panna, Satna and Shahdol. When such a situation arises the Forest Department tells the villagers to fend for themselves because there is nothing in the forests for them (NCHSE 1987: iv).

Tropical forests were thus rapidly converted into plantations to meet market demands. Turning a complex forest into a genetically simplified plantation may help produce industrial raw material, but ignores the basic needs of forest dwellers – mostly tribals – and is therefore of questionable sustainability. To a vast number of the tribal people a mixed forest, containing usufruct-based trees, is part of their cultural heritage, besides giving them food, fruits of all kind, edible leaves, honey, nourishing roots, wild game and fish. It provides them with material to build their homes and practise their arts. By exploiting its produce they can supplement their meagre incomes. Their religion leads them to make special sacrifices to the forest gods; in many places offerings are made to a tree before it is cut and there are usually ceremonies before and after hunting. It is striking to see how, in many of the myths and legends, the deep sense of identity with the forest is emphasised. From time immemorial the tribal people enjoyed the freedom to use the forest and hunt its animals and this has given them a conviction, which remains in their hearts even today, that the forest belongs to them (Furer-Haimendorf 1982).

A plantation offers little of the product range of the old forests. For instance, mahua is of no significance to the Forest Department, nor have any efforts been made to increase its number in Forests. No doubt, mahua is also not felled by the Department, but its significance for them is not the same as for tribals. Compared with the Forest Department, tribal involvement in mahua is pervasive. In addition to collecting flowers and seeds for sale at the weekly market, or for exchange for salt or cloth, tribals use the wood to support the canopy at wedding celebrations, the dried flowers to add bulk to their food or

to feed their animals, the seeds and the flowers for preparing liquor and for religious ceremonies.

Rights and privileges

Rights and access which the people, especially tribals, earlier enjoyed, have remained uncurtailed on paper, but people are far from fully informed about what they can legally collect from forests, and what is prohibited. A government evaluation of tribal districts (GOI 1987) revealed that only 145 of 767 tribals interviewed said that they

Table 1.5. Government policy and its outcome during 1952-76

	RF	PF	village lands
Control by FD	full control	limited <i>de facto</i> control as area “burdened” with people’s rights	nil
Policy input from government	“scientific” forestry to produce sustained yield of commercial wood	same as for RF	<i>laissez faire</i> , treated as open access lands
Fund support from government	most funds out of forestry budget were for plantations	negligible except when exotics were planted	nil
Actual outcome	conversion of mixed forests into plantations	degradation & neglect, poor survival rate; where plantations succeeded, area was converted into RF	degradation/ encroachment/ conversion to crops
Benefit to people	mixed forests provided livelihood, plantations provided employment only	fuelwood and NTFPs, but productivity kept on declining	a little grass after rains

had the right to the collection of timber from forests for making agricultural implements, 222 thought they could send their cattle for grazing, 143 said that they had no rights in forests and the rest did not know the precise position in this regard. There has been little attempt by the FD to publicise people's rights; partly due to the fear that it would aggravate degradation, and partly due to the administrative culture of the FD of keeping the people in the dark. It suits traders and petty officials if tribals are not aware that they are entitled to collect MFPs. Dapubai, a tribal woman in Udaipur got only Rs 7 for 10 kg of gum, which took her 10-12 days to collect (Bhatt 1988: v), although its market price was Rs 250. When asked to comment on the low price, she said, "How can I demand a higher price? The trader's man threatens to report me to the Forest authorities for entering forest area. Then we will get nothing."

The ability of tribal people to enjoy their rights in forests is insecure when they are so uncertain what these rights are. But informing them is not considered politically desirable, whereas keeping the poor ignorant of their rights and leaving them to the mercy of the low-paid forest staff is perceived, ironically, as politically neutral.

The policies of the Government up to the beginning of the Social Forestry phase, and the outcome for the three categories of public lands, are summarised in Table 1.5.

Evaluation of Social Forestry

In terms of simply amount of planting of new trees, the Social Forestry programme has been immensely successful. Between 1980 and 1987, the Government claims to have grown 18,865 million trees (Chambers *et al.* 1989). If the estimate of survival of 60 per cent¹⁵ is taken as correct (IIPO 1991), and taking the number of villages as 580,000, the average number of surviving new trees per village comes to nearly 19,500. This is by all means an impressive achievement, and is reflected in the steep fall in the price of poles, and stabilisation in the price of fuelwood after 1985 in some regions of India (World Bank 1990).

¹⁵ Another survey, albeit for a smaller sample, put this at 77 per cent (GTZ 1992).

However this success was due to the popularity of farm forestry in commercial regions. Tree planting on village lands, with some exceptions, failed throughout the country. There were shortcomings in the way the programme was conceptualised and implemented, leading to marked divergence between the stated objectives of Social Forestry and the actual outcomes. The gap between the objectives and outcomes of Social Forestry on village lands can be discussed under two headings; design problems and shortfalls in implementation.

The faulty design of SF Projects

Perception of the problem

As deforestation was analysed by the NCA to be due to fuelwood and fodder demands of the people, it was assumed by the policy makers that, given government help, people would willingly invest their labour and capital in raising fuelwood and fodder trees. However, as fuel and fodder were often collected free, farmers (at least in the commercial areas where farm forestry had greatest impact), as well as panchayats, preferred income-generating trees, and continued to collect branches, twigs, leaves and grasses from Forests as before. Thus the assumption in Social Forestry about how village farmers would react to a given opportunity was untenable. Producers were interested in increasing their incomes, and not in the national objective of providing fuelwood and fodder to the poor.

The fuelwood “crisis”

At the same time, the extent and magnitude of rural fuel shortages was often over-estimated; and the role of other gatherable biomass fuels (woody shrubs, agricultural residues, animal dung) underestimated. Shortages of fuel are often severe, and bear particularly heavily on women. However, village studies have shown that when confronted with shortages of fuelwood, the landless and poor shift to other gatherable fuels rather than to purchased fuelwood (Bhagavan and Giriappa 1987). Moreover, the poor face many other shortages and have many other concerns besides fuelwood, including food, employment and cash (Leach 1987: 92).

Besides, the poor do not budget for fuel for cooking. As they need regular supplies of small quantities, sources which produce only at infrequent intervals provided by the harvesting of woodlots are likely to be of only limited value to subsistence users. In general, the woodlot planting has therefore created a resource which is unlikely to make a significant contribution towards meeting local needs of the poor.

Convergence of people's and panchayats' interests

Foresters and foreign experts who designed the projects did not fully grasp the complexity of the rural power structure and assumed that the village panchayats represented the interests of all concerned in the village. In actual practice, village panchayats often tended to be indifferent to the poor. They perceived the woodlots primarily as significant sources of communal income, rather than as sources of produce to meet village needs. For this reason there was usually a preference for auctioning the output, rather than selling it at preferential rates or distributing it. The nature of species also tempted the panchayats to sell in the markets, rather than distribute in the village.

The evaluation of the second phase of the Tamil Nadu Social Forestry Project in 1992 concluded that "community planting has had little social impact ... a large proportion of the benefit from community plantation goes to the town and cities - to middlemen, fuelwood using industries and retailers. The distribution of benefits has thus been different from what was intended in the project" (SIDA 1992: 45, 50). In the village of Medleri, district Dharwar (Karnataka), a local voluntary organisation had to obtain a staying order from the High Court against the auction of eucalyptus by the panchayat to urban contractors (*Indian Express*, 23rd April 1988; *Deccan Herald*, 23rd July 1988), pleading for equal distribution to all families within the village. Fuelwood which is to be sold, as is the case with most woodlot projects, is therefore unlikely to be accessible to the poor – even at concessionary prices.

Panchayats representing several villages may often come in conflict with initiative from a single village. The villagers whose common lands were developed insisted on all the benefits being made available to them only. On the other hand the panchayats wanted to have control over the forest products and services arising out of the developed lands.

Willingness of panchayats for management

In most communal woodlot activities planting and management was undertaken by the Forest Department on village lands transferred to the Department for this purpose. It was assumed that panchayats would take over responsibility for management, which did not happen. Evaluation reports of SF schemes in India (which were “for the community” but not “by the community”), such as those of Tamil Nadu (SIDA 1988), Orissa (SIDA 1987), UP, Rajasthan, Gujarat and HP (World Bank 1988), Andhra Pradesh (CIDA 1988), and Maharashtra (USAID 1991) have in general found little evidence of communal interest or of management capabilities of the panchayats. It remained a departmental activity on land transferred to the FD, alienating and dis-empowering local management and participation.

In addition there are practical problems with panchayat management, which have nothing to do with their political economy and class bias. First, panchayats are political organisations and find it difficult to enforce the discipline required for managing plantations. Secondly, continued involvement of the Forest Department discourages local bodies from taking over; and encourages them to opt for extending Forest Department management. Had village organisations been able to control and spend funds from the beginning of community forestry projects, there would have been better chances of them taking an active part in decision making and management. Thirdly, control carries with it financial responsibilities which panchayats have difficulty meeting – as a minimum hiring watchers to protect the woodlot. Fourthly, many panchayats have been superseded and do not exist. Finally, woodlot management plans, Village Forest Rules, etc., are often complex, unclear and are revised without informing panchayats, thereby making it difficult for them to understand the regulations.

Tenure on village lands

Throughout the Social Forestry phase it was not clear whether village lands belonged to the Forest Department, the Revenue Department or the village body. Such uncertainty about ownership and legal rights impeded community action. It was also difficult for the Forest Department to remove encroachments on such lands. Further, non-

forestry laws often conflict with Social Forestry. In Gujarat, village woodlots are not legal on Revenue land; but have been established there by the Forest Department because of a shortage of communal land (USAID 1988). Similarly, in Orissa communal land used for grazing may not be afforested, but some has been planted under Social Forestry (SIDA 1987). Although many of the woodlots in Orissa have been established on Forest land, none have yet been given legal status as “village forests” under the Indian Forest Act. States have thus been slow to amend laws in favour of viability of Social Forestry plantations.

Technical issues

Species selection, spacing and other silvicultural issues were considered technical questions to be settled in the field, and hence were not examined carefully at the project stage. Benefits which could flow to the poor from species yielding intermediate products were not properly appreciated. The value of a tree was linked, in the minds of planners, with the final product obtained through felling.¹⁶ Thus production of grasses, legumes, leaf fodder, fruit and NTFPs was neglected. Close spacing was prescribed to avoid intermediate management operations, to reduce plantation costs, and to cut down on staff supervision time. As a consequence, thinning and pruning, which could have produced intermediate yields of grass and tree products for the people, were not undertaken. Technology with which the Foresters were familiar for large-scale plantations for markets within Forest areas was applied to small-scale village woodlots, where the need was more for fodder and subsistence than for timber. As projects were designed around the ultimate felling of the planted trees, degradation often set in after the trees were harvested.

Estimation of land availability

The area under village lands which could be made available for afforestation was highly exaggerated when the Social Forestry pro-

¹⁶ In Karnataka, for instance, most social forestry plantations consisted of eucalyptus, casuarina and *Acacia auriculiformis* (Ravindranath *et al.* 1992).

gramme started, just as the area under private lands was grossly under-estimated, under a mistaken notion that the entire amount of private land is cultivated. Social forestry programmes in several states encountered shortages of actually available plantable land. Of the 30 community woodlots in Gujarat, set up between 1974 and 1976, only eight had a plot size greater than 4 hectares (World Bank 1988). The reasons included encroachment, competition from other government programmes (including competition between the Social Forestry programmes of different departments), competition from grazing and other existing local uses and poor productivity (additional land could be brought under trees, but only at a per hectare cost well in excess of what was budgeted and made available). As a result, the area of woodlots available to a community was usually small; liable neither to satisfy the fuelwood needs of the village, nor to promise sufficient non-monetary returns to village leaders who were expected to devote their time and energy to raising the woodlots.

Policy for Forest lands

The small size of village woodlots also had implications for policy on Forest lands. In district Ganjam (Orissa), it was noticed by the author in 1991, during the mid-term evaluation of the second phase of the Orissa Social Forestry Project, that the small area of the village woodlots was not likely to satisfy the fuelwood needs of the village. People continued to depend on nearby Forest areas, which were however being used by the Forest Corporation for timber and cash crops like teak and cashew, thereby depleting the availability of fuelwood which could be gathered by the people. People's pressure however endangered the success of commercial plantations. It was ironic that millions of Rupees were being spent to create new fuelwood resources through small woodlots, whereas the existing much larger potential fuelwood areas on Forest lands were being diverted for non-fuelwood commercial plantations. It would have been cheaper to rehabilitate the existing Forests for the purpose of meeting people's demands. Unless creation of woodlots and rehabilitation of nearby Forests were both undertaken in an integrated manner with the specific objective of satisfying people's needs, the long-term viability of village woodlots was in doubt.

Neglect of Forest lands

Funding availability for Forest lands became quite precarious during the Social Forestry phase. As state funds were reserved to meet the matching contributions required for external assistance for projects on non-Forest lands, Forest lands were starved of funds, with several adverse effects. The neglect of Forest lands hurt forest dwellers and tribals. It reduced timber supplies to the markets, resulting in price escalation, which further increased smuggling from Forest lands. Price increases for both timber and fuelwood were highest during the period 1975-85, compared to either before 1975 or after 1985.

Problems in implementation

Scores of problems were encountered during implementation of Projects, adding to the problems of meeting the needs of the people.

Scattered plots

There was no continuity in the management and control of thousands of scattered pieces of planted village lands creating enormous problems of protection. Another consequence of the shortage of village land was to divert Social Forestry planting onto areas such as roadsides which are available to Forest Departments but which are less easily brought under communal management and usage, and onto categories of public land, such as canal banks, for which legal authority for establishment of village woodlots was weak or absent. Programmes were target driven, and considerations of viability were often sacrificed.

Neglect of grasses and fodder

Although at the project formulation stage highest priority was given to “meeting fuelwood and fodder shortages”, in actual practice grasses and fodder trees were generally ignored, the latter because they are difficult to protect. Close spacing to accommodate more trees affected grass production. Woodlots often reduced fodder supplies to those who earlier used the sites for grazing. Though the protection of the grass cover in woodlot areas, and its enrichment in some places, often

subsequently increased fodder supplies, it required cutting and stall feeding and so was not necessarily available to the grazers displaced. When woodlots were re-opened to grazing the grass cover quickly deteriorated again.

Species choice and technology

The structure of most plantations reflects Forest Department rather than local preferences and priorities. There were many cases of unfulfilled requests for fruit trees. Where fruit trees were supplied farmers addressed the problem of protection and management by planting them around the homestead on currently under-utilised land. Farmers were willing to pay for fruit seedlings, which indicates the strength of the demand. They were interested in learning how to graft seedlings, if training opportunities were provided. Women were particularly keen on species to produce fruit for consumption and sale.

Though the earlier preponderance of eucalyptus and other commercial species was later superseded by a range of coppicing, timber and fruit tree species, and bamboo, these were commonly grown in intimate mixtures, which are difficult to manage. This is also an inefficient way of producing fuelwood and fodder as these species are likely to be progressively suppressed by the longer rotation species (Arnold and Stewart 1991).

Lastly, research on “rain-fed” horticultural crops is not adequate, hence not much technology is available for transfer to the farmers of these regions.

Rights and distribution policy

Another key reason for the poor performance of community plantations has been the failure to define, establish and publicise the rights to the trees and the procedures for marketing and allocating benefits. The mid-term evaluation report (CIDA 1988: 51) of Andhra Pradesh observed, “Final benefit sharing agreements are neither finalised nor formalised, which obviously causes uncertainties in the minds of beneficiaries.” In Karnataka several villagers, when asked by a World Bank team in 1988 about distribution said “we know nothing about this” (Brokensha 1988). Even forestry officials disagreed with each other about the rules. The shares which would go to the

individuals, village, panchayat and the Forest Department were not clearly laid down.

Rights to trees and distribution policy are not an official preoccupation in the early stages of tree planting, but are very important for the people. As they were not clearly defined and credible from the start, benefits were unfairly distributed later.

Lack of people's participation

Community plantations in fact, whatever the theory, have usually been bureaucratic impositions on villages. Participation has been limited, at best confined to a few members of a village elite. Community members, especially the poor, have not accepted these plantations as their own. People's involvement has been limited to the handing over of common lands to the Department and to wage employment. They have otherwise remained passive spectators of the raising of trees on their land. Even where the project envisaged setting up people's committees, forest officials found the task beyond their professional skills. Such committees existed only on paper and the villagers were unaware of their existence (SIDA 1990).

A government evaluation (CIDA 1991) of a village woodlot scheme in Andhra Pradesh found that only 20 per cent of the respondents knew about the woodlots at the planning stage, the rest learnt only after they were started, showing lack of communication. Only 14 per cent of the people and 24 per cent of the leaders participated in the village meetings regarding woodlots. The general belief among the people was that woodlots were to generate income for the panchayat, and they were not perceived to provide fuelwood and fodder to the people. About 83 per cent of the low-status people were adversely affected by the closure of the community land. Twenty-five per cent of the leaders did not know that these woodlots were to be handed over to the panchayat, they thought that these would continue to stay with the Forest Department. Sixty-four per cent of the leaders believed that the panchayats could not take over the woodlots because of insufficient funds, lack of experience and village factions. Further, almost none of the villagers reported receiving or collecting products from the woodlot. Only 8 per cent claimed that a benefit-sharing plan existed. Most people viewed woodlot management as a

departmental responsibility, and less than 10 per cent viewed panchayats as being responsible.

Nurseries

One of the reasons why fruit seedlings, which require longer to raise, are not distributed is the lack of a secure budget for nurseries in the Department. Generally a budget is available for nurseries only as a part of the plantation programme, and not separately. Thus only those seedlings which take three to five months to raise are grown at the nursery. This is a short-sighted policy, as it deters the officers from planting such seedlings which require to be kept for a longer time in the nurseries. Survival would be much better if taller seedlings were planted.

Target fixation

One of the most serious problems was imposition of high and unrealisable planting targets by the Government of India. In order to achieve the high targets, little emphasis was given to natural regeneration, which would have been cheaper and cost-effective. Similarly, fodder production, which cannot be measured in terms of saplings planted, suffered.

Financial procedures

There are three important financial problems. First relates to the untimely allocation of funds from government, the second to inadequate financial delegation, and the third to unrealistic yardsticks. There appears to be uncertainty about both availability of funds and its timing. Sanctions (budgetary approvals) are issued in the month of August or even later, although the financial year starts in April. Ideally, financial allocations should be decided for a period of five years, so that nursery, planting and protection activities can be better planned, but in practice even monthly releases of funds were not certain.

The Divisional Forest Officer (DFO) is the key person in the execution of a project, therefore he should be able to take almost all operational decisions. However, when a budget allocation is made by

the government, the actual withdrawal still requires the Conservator's authority. Similarly, the DFO cannot buy polythene bags from the market, the tenders require Conservator's approval. These administrative matters take a lot of field staff time, leaving little energy for extension or establishing contacts with farmers. The powers of a DFO in 1993 in Madhya Pradesh for technical works was only to spend up to Rs 0.1 million, and of Conservator up to Rs 0.3 million. These limits were fixed several years ago, and need to be revised upward.

The budget for protection is available only for three years, although based on field conditions it should be for five years. The bulk of funds are earmarked for planting schemes, which have a low rate of survival, as actual field constraints are not taken into account. Many field officers felt that the way they spend money, especially on village lands, neither creates assets nor helps the people beyond giving them wages.

Short tenure

Very few officers were willing to work in the Social Forestry Division (SFD), resulting in quick turnover. The USAID evaluation (1985) for Madhya Pradesh, while analysing the reasons for the failure of the programme, commented,

A critical factor has been the number of turnovers in the top position of SFD over the past four years. The Director's post has been used as a "port of last call" by the Forest Department for the last one year. Three times, persons who were on the verge of retirement were appointed as Director to hold office for a few months. The organisation is only three years old and is about to receive yet a fifth Director. Generally few top positions (Conservator level and above) have been held by an incumbent for the full tenure of three years.

The situation seems to have worsened after the withdrawal of the USAID Project. Between January 1985 and March 1993 there have been 12 CCFs in Social Forestry, giving an average tenure of only eight months. In 9 out of 12 cases, the stay was even less than 9 months, thus making a mockery of leadership which was to be provided by the incumbent.

Summing up

Neither of the two initiatives taken by the government in the last two decades – industrial plantations on Forest lands and Social Forestry on village lands – were able to halt the degradation of India's natural forests. Forests were over-exploited because of government concessions to forest industries, granted in an eagerness for industrialisation, which made forest raw materials available to industries at much below the cost of regeneration, in fact almost free. As such there was not much incentive for industries to invest in regeneration. The unsustainable exploitation of forest raw materials exhausted the sources of supply much sooner than expected by the forest industries themselves. This led to a search for raw materials, even from thousands of kilometres away (Gadgil 1989: 15-18), thus also devastating remote areas.

Furthermore, this exploitation occurred at the cost of local needs and broader conservation functions of the forests. To raise new plantations, natural forests were clear-felled even in ecologically sensitive regions, such as steep slopes. Such clear felling and lack of proper regeneration led to landslides, soil erosion, and siltation of rivers, reservoirs and tanks downstream (Nadkarni 1995: 3). Local people were deprived of their biomass supply, and were also hit by a reduction in employment in the informal sector that depended on NTFPs.

This experience led to a more sober view of the role of forest industries and of commercial or industrial use of forests in the larger national economy. This is best echoed in the writings of Westoby, who had earlier justified man-made plantations for industries. Completely retreating from his earlier position, Westoby (1987: 249) later observed:

Just because the principal pre-occupation of the forest services in the underdeveloped world has been to help promote this miscalled forest and forest industry development, the much more important role which forestry could play in supporting agriculture and raising rural welfare has been either badly neglected or completely ignored. In precious few countries have the energies of the foresters been bent upon helping the peasant to develop the kind of forestry that would serve his material welfare

Reasons for indifferent progress of plantations on village lands are much more complex and diverse, as have already been discussed in some detail. In a mixed economy, where both government and private sectors work, it is generally the government sector which looks after the infrastructural or welfare needs of the people, whereas market needs are met by the private sector. Thus, health, education and roads, etc., which are non-commercial programmes are under government control in India, whereas the private sector has been primarily responsible for commercial production. It was strange that in forestry this distribution of responsibility was not followed, and the reverse was attempted, as Forest lands were to meet the commercial needs of the economy and farm lands were to produce “fuelwood and fodder”. This conceptual weakness was perhaps one of the main reasons for the failure of the two programmes discussed in this Chapter. Despite rhetoric to the contrary, village lands in practice produced commercial polewood or urban fuelwood, and did not meet subsistence needs of the poor. The poor were at times displaced from common “wastelands” which once provided biomass (Hobley *et al.* 1994).

The new Forest Policy makes a complete and explicit reversal of the old policies. The new approach is that subsistence and consumption should be met from Forest and common lands, and market demand should, by and large, be met from private land.

*Two***THE 1988 FOREST POLICY
AND JOINT FOREST MANAGEMENT****The 1988 Forest Policy**

The new forest policy announced in 1988 is radically different from the two previous policies, of 1952 and the one enunciated by the NCA in 1976. The 1988 Forest Policy states that forests are not to be commercially exploited for industries, but are to conserve soil and environment, and meet the subsistence requirements of local people. The Policy gives higher priority to environmental stability than to earning revenue. Deriving direct economic benefit from forests has been subordinated to the objective of ensuring environmental stability and maintenance of ecological balance. It discourages monocultures and favours mixed forests. The focus has shifted from “commerce” and “investment” to ecology and satisfying minimum needs of the people, providing fuelwood and fodder, and strengthening the tribal-forest linkages. Para 4.3.4.3 of the new Policy reads:

The life of tribals and other poor living within and near forest revolves around forests. The rights and concessions enjoyed by them should be fully protected. Their domestic requirements of fuelwood, fodder, minor forest produce, and construction timber should be the first charge on forest produce.

Similarly Para 4.6 of the Policy lays down:

Having regard to the symbiotic relationship between the tribal people and forests, a primary task of all agencies responsible for forest management, including the forest

development corporations, should be to associate the tribal people closely in the protection, regeneration and development of forests as well as to provide gainful employment to people living in and around the forest. While safeguarding the customary rights and interests of such people, forestry programmes should pay special attention to undertaking integrated area development programmes to meet the needs of the tribal economy in and around the forest areas, including the provision of alternative sources of domestic energy on a subsidised basis, to reduce the pressure on the existing forest areas.

The Policy stresses the importance of NTFPs, and states in para 3.5 that “minor forest produce should be protected, improved and their production enhanced with due regard to generation of employment and income”.

Referring to supplies to industry, the first part of Para 4.9 states:

As far as possible, forest based industry should raise the raw material needed for meeting its own requirements, preferably by establishment of a direct relationship between the factory and the individuals who can grow the raw material by supporting the individuals with inputs including credit, constant technical advice and finally harvesting and transport services.

It is also stated in the same para that “the practice of supply of forest produce to industry at concessional prices should cease. Industry should be encouraged to use alternative raw materials. Import of wood and wood products should be liberalised.”

Para 4.3.3 determines that production Forests, which were in the past used exclusively for timber, “while meeting national needs should also be oriented to narrowing the increasing gap between demand and supply of fuelwood.” Para 4.4.2 bans the giving of mining leases without a proper mine management plan appraised from the environmental perspective and enforced by adequate machinery.

The June 1990 guidelines and Joint Forest Management

The implementation of the Policy was facilitated by the Government of India issuing a resolution on 1 June 1990 making it possible for the Forest Departments to involve people in the management of Forests. Even before 1990, some circulars from the Government of India and state governments had referred to “participation”. However, this was understood as getting people to agree to and go along with a project which had already been designed for them. With some exceptions (described in Chapter Four) people’s participation was never expressed in a manner which would establish their rights over land or its produce. The important question is, participation for whose benefit, and on what terms?

The June 1990 resolution breaks new ground as it, for the first time, specifies the rights of the protecting communities over forest lands. It also recognises the possible contribution which NGOs could make as intermediaries between the people and government. The order exhorts the state Forest Departments to take full advantage of the expertise of committed voluntary agencies for building up meaningful people’s participation in protection and development of degraded forest lands. By 1995, fifteen state governments had issued enabling resolutions (GRs) permitting partnerships with local people. These 15 states have 75 per cent of the country’s Forest land and 91 per cent of the country’s tribal population. The Joint Forest Management (JFM) programme is likely to be the central point of future forest development projects funded by the Government of India and the donor agencies. The salient features of the scheme suggested by the Government of India are:

- Access to Forest lands and usufructory benefits will be given to those villagers who are organised into a village association;
- The beneficiaries are to be given usufructs like grasses, lops and tops of branches, and non-timber forest produce. On successful protection of Forests, they are to be given a portion of the proceeds from the sale of trees when they mature. This varies from 20 to 60 per cent of the timber sold;

- Along with trees for fuel, fodder and timber, the village community may be permitted to plant fruit trees such as *Embllica officinalis*, *Tamarindus indica*, *Modhuca indica*, as well as shrubs, legumes and grasses;
- No grazing in the Forest land protected by the village communities is to be allowed. But the villagers can cut and carry grass free of cost to promote stall feeding;
- No ownership or lease rights over the Forest land including assignment of the Forest land will be given to the beneficiaries/voluntary agencies;
- In case of failure to protect the area from grazing, encroachment etc., the usufructory benefits could be withdrawn; and
- The benefits of people's participation should be to the village communities alone and not to commercial or other interests.

As is obvious from the above, the 1988 Forest Policy and the Joint Forest Management guidelines are radically different from the previous policies (Singh and Khare 1993) in which people and the environment were seen, all too often, as antagonistic. The Forest-people interaction was earlier conceptualised as a zero-sum game, in which neither party could not win. According to the JFM philosophy, the conflict model is neither necessary nor useful. On the contrary, ways can be sought in which the interests of people and of long-term sustainability are harmonised in a mutually supporting manner.

Political feasibility of reforms

A policy reform of the magnitude envisaged in the new Forest Policy and JFM guidelines cannot be implemented unless there is a strong political will to support it. Political will in India in favour of creating communal tenures has been rather weak. Land settlements carried out in the last 40 years have recognised communal tenure only in the north-east Indian states. In many states, such as Andhra Pradesh, the transfer of even non-forest government land to the panchayats has not taken place. Both the land distribution policy of the 1970s and the Social Forestry programme of the 1980s (which virtually amounted

to take-over of village commons by the Forest Department) seem to have been influenced by Hardin's ideas (1968, 1971) that there are only two sustainable policies: either the commons should be privatised, or they should be brought under the control of a government authority. How then did the Indian state suddenly turn around, and enact a pro-people Forest Policy and involve communities in management?

Marxists hold that a capitalist State cannot promote radical reforms in favour of the poor. The nature of State power depends upon the mode of production and the classes that own the means of production, and it is in the interest of these classes that State power is exercised. If this view is accepted *in toto*, and keeping in mind that the Indian State is becoming increasingly pro-free market (especially since 1991), it would be futile to expect the Indian State to promote reforms in the forest sector in favour of the Adivasis, forest dwellers and women, who in any case live in remote areas, and cannot easily influence those in power.

Two counter-arguments can be advanced against such a pessimistic view. First, rural interests cannot be ignored for long in a democratic country with 70 per cent rural population. A subsistence-oriented forest policy does not affect the rural elite at all, it in fact reduces the despotic control of the centralised bureaucracy, besides curtailing the outflow of Forest products to industries. Hence such a policy should not attract political impediments, which are inherent in distributive programmes such as land reforms. Secondly, the Indian political system has generally been resilient and responsive to public opinion, which can be built up without a proletarian revolution being a necessary pre-condition. Several environmental battles have been won in the recent past: scrapping the Blue Pine Project in Bastar (Anderson and Huber 1988); withdrawal of the Forest Bill 1980 (Fernandes and Kulkarni 1983); cancellation of leases of common lands to a paper mill in Karnataka (Hiremath *et al.* 1994); to mention a few. It is clear that radical restructuring of policies does not require a new constellation of the ruling classes.

The nature of State power in India is itself rather complex. People-oriented policies play a legitimising role. Deforestation and land degradation weaken the State, whereas land rehabilitation policies make people depend more on the State authority, and thus strengthen it. In West Bengal JFM programmes, the lower level

forestry staff, including Beat and Range Officers, have been quite enthusiastic about participatory methods, although conventional wisdom would have suggested their sympathies to be on the side of coercion. Rather than feeling threatened by the new approach, the lower level staff in West Bengal seemed to be enjoying their new role in extension, and in providing expression to the group feelings of the village communities. They still represented the State apparatus, but in addition they had also become spokesmen of the community to the Forest Department. Thus one should not be surprised if the State in India is re-positioning itself through JFM with a view to regaining its hold by improving productivity of degraded lands.

The debate “who loses and who gains” from an economic activity is often couched in conspiratorial terms; the neglect and the harm done to the poor is generally explained (Guha 1983) in terms of compulsions of a capitalist state or the hold that the rich have over policy and delivery. While the explanatory power of social structure is not to be denied, other important factors are sometimes lost sight of. Administrative failures have their own autonomy and do not always stem from class bias. The reasons for slow progress of development projects are often unromantic and mundane.

While the policy of 1952 stressed the needs of industry and defence as the paramount concern of the forests, since 1988 commercial interests are no longer a major concern. This striking policy reversal suggests that there were no strong political constraints to effecting a radical shift in forest policies. In fact this change in the policy has been facilitated by a history of forest-based movements in India. Environmental activism is not a new phenomenon in India, but is rooted in the past. One study (Verma 1990, cited in Poffenberger and McGean 1996) identified 64 incidents of major tribal revolt between 1778 and 1971, which were triggered by encroachment of the State on their commons. Although popular protest movements in defence of forest rights go right back to the inception of state forestry, curiously a public debate on the direction of forest policy is of quite recent origin.

Forest dwellers’ struggles in India can be compared with those of peasants with respect to land rights, and movements of industrial workers about wages and work conditions. At least from the 1920s, the rights of cultivators and factory workers had featured high on the agenda of the Indian National Congress, the political party which

championed the freedom struggle. Again, since Independence, political parties of left and right have cultivated unions of workers and peasants, while a variety of new laws and policy initiatives have tried, admittedly with mixed success, to safeguard their rights (Guha 1994).

By contrast, it is only since the early 1970s that intellectuals and activists have picked up, in any serious fashion, the long-standing grievances of forest-dependent communities. Consequently, in the last two decades the operation of the Forest Department has come under close and critical scrutiny. It has been demonstrated that State policies, by promoting commercial forestry, contributed significantly to the decimation of biological diversity and to an increase in soil erosion and floods (CSE 1985; Gadgil and Guha 1992).

The battles on behalf of forest dwellers have not only been fought in the press on an intellectual plane, but have actually been carried out in the country side. There have been both armed struggles and political movements to regain control over what they perceived to be their lands. Even today the Jharkhand (meaning land of trees) movement calls for the creation of a separate state in the central region of India. Several heavily forested districts in Andhra, Maharashtra and M.P. are witnessing armed rebellion, in the form of the Naxalite Movement directed against the State. One of the main demands of the Naxalites is better community control over forest resources.

There have also been peaceful and non-political forest movements in the country. In many places during the 1970s people started protecting forests on their own initiative; CHIPKO is a well-known example. It started in 1973 when a local village group was denied access to Forests for making agricultural implements, whereas the same coupe was allotted to a sports goods company. This favouritism provoked the villagers who prevented the company from felling trees by hugging them (Gadgil and Guha 1992: 223). It spread throughout the hills in northern India, forcing government to impose a ban in 1979 on all commercial felling in the hills above 1,000 metres, which still continues.

Political salience of forest-based industries

Further, movements such as CHIPKO brought to the fore the collaboration of forest officials with commercial interests, which received serious criticism. The sharp difference between the price at which

forest raw material, such as bamboo, was offered to the artisans and the subsidised price charged to industry was highlighted in the press and academic journals. Gadgil writes (1989):

Following the policy of making all resources available to the industry at nominal prices, the West Coast Paper Mills was awarded bamboo at the rate of Rs 3.12 per tonne of paper, or about Rs 1.50 per tonne of bamboo, less than one-two thousandth of the market price. The three sides of the iron triangle – the politicians who made bamboo available to industry essentially free, the foresters who administered the bamboo stocks, and the industry who used them to reap great profits were all happy. But the basket-weavers of Karnataka found that their very livelihood was threatened by the exhaustion of the bamboo stocks that soon followed its industrial exploitation.

The result of this state-subsidised profitability of forest-based industry has been an explosive growth in industrial capacity, and a non-sustainable use of forest stocks (Gadgil and Guha 1992: 199). The industry was also attacked on the issue of silvicultural practices. It used destructive methods, such as over-extraction of resin from pine trees. In tendu tree areas, contractors slashed all undergrowth to promote a better growth of tendu leaves. In the process, many fruits, roots and medicinal plants were destroyed, and soil erosion increased (Dasgupta 1986). Where industries held bamboo leases they utilised even the better quality bamboo for pulp although, according to rules, only inferior quality bamboo should be used as pulp, and the better quality sold to artisans. Furer-Haimendorf (1982) describes how a particular paper mill exploited bamboo in a tribal region by bringing in hundreds of labourers from different states and used methods of extraction which endangered future regeneration. Research by the Indian Institute of Science, Bangalore (Gadgil 1989) contradicted the claim of foresters that population pressure and fires were responsible for poor regeneration of bamboo:

Our investigations revealed that there was a qualitative difference in the way villagers traditionally harvested bamboo

and the way the industry did. The villagers took out one or two culms at a time from each clump. This did not disturb the thorny cover of short branches that forms at the base of each clump. The mill on the other hand was silviculturally prescribed to remove a much larger number of culms from each clump, and in the process to carry out an operation of deliberately cleaning the thorny cover at the base of each clump. More importantly, the clearing of the thorny cover from the base of a clump exposed young shoots to grazing by pigs, monkeys, cattle and buffalo. This grazing seriously cut down on growth of bamboo clumps; to this extent the claim that grazing affected bamboo stocks was correct. However, this impact of grazing would be far less if the thorny cover at the base of clumps had not been cleared by the paper mill extractors. Our controlled experiments also revealed that contrary to claims of foresters, fires did not hurt bamboo regeneration or growth; though grazing had some effect on regeneration.

When different interest groups have claims on a resource, policy and politics do not always favour the same group. In the years preceding 1988, while many decisions were taken (described in earlier at pages 38-41) to make forest policy acceptable to the environmentalists, the state government of Karnataka decided to lease out 30,000 hectares of common lands in 1986 to a paper company on a lease rent of 12 per cent of the produce. When agitation and petitions to government did not yield any result, a public interest writ petition was filed by several NGOs before the Supreme Court. The Government of India in this litigation decided to oppose the decision of the state government and side with the NGOs, with the result that the state government was forced to cancel the lease in 1991 (Hiremath *et al.* 1994). This was celebrated as an important victory against the lobby of forest-based industry.

In addition to the industry being discredited in the popular press, two other factors must have weighed upon the minds of policy planners in suggesting a diminished role for forest industries on Forest lands in the new Forest Policy. First, the popularity of eucalyptus among farmers increased the availability of pulpwood at a cheap price for the paper industry. In some states, such as Gujarat, large

farmers even set up teak plantations, a timber crop which takes 30 to 60 years to mature. Secondly, liberalised imports of pulpwood were permitted which eased the supply for the industry. With new sources of supply, it was no longer considered crucial for the industry to depend on Forests.

This is not to suggest that the lobbying by the forest-based industry has been totally neutralised by the newly emerged countervailing forces of rural user groups and environmentalists. Forest Policy being a non-statutory document, industry continues to receive a subsidy, though on a much reduced scale, from the state governments. They have also been clamouring to lease degraded forests as captive plantations for their exclusive use (see pages 183-185). The Government of India seemed very sympathetic at one stage, but this concession was hotly opposed by the environmentalists, who appeared to gain an upper hand ultimately in the battle which went on for four years, from 1991 to 1995 (CSE 1995).

In summary, the evolution of forest policy and its changing orientation over time can best be understood in terms of the competing claims, and relative influence, of the various interest groups identified above. From 1864 to 1988, forest management strategies were markedly biased in favour of commercial and industrial exploitation, with little attention paid to sustainability or to social justice. However, in the last decade, as the forestry debate has intensified, the State has increasingly responded to the claims of forest dwellers voiced by the activists and NGOs. Their call for a decentralised and democratic system of forest management has finally been accepted, at least in theory, through the programme of joint forest management or JFM.

Signs of change before 1988

Although the new Forest Policy marks a watershed, there were indications that even before 1988 the government was willing to respond and give concessions to the newly emerging lobbies. Several modifications were introduced piecemeal even before 1988. Until the Sixth Five Year period (1980-85), meeting industrial needs was mentioned in the Government of India Plans as one of the main objectives of investment in forestry. But the Seventh Plan (1985-90), for the first time, recognised the importance of non-market and ecological bene-

fits from forests. It did not explicitly mention producing timber for commercial purposes as one of the objectives of forest policy. It also stated that raw material for forest-based industries would be provided only after meeting the needs of the local people.

The Central Board of Forestry (the highest policy-making body at the Government of India level), in its December 1987 meeting presided over by the Prime Minister and attended by the Chief Ministers, decided that Forest lands would be used for preserving soil and water systems, and not for generating State incomes. All supplies to the market and industry would be met from farm forestry (GOI 1987). The Central Board of Forestry also took a courageous step in recommending bans on commercial exploitation of degraded Forests and replacement of natural forests by monocultures, which were accepted by various states.

Well before these changes by the policy planners, many perceptive foresters also realised that the old strict custodial policies were counter-productive and needed to be radically changed. In 1970 West Bengal Foresters resolved that “unless people’s participation is ensured the future of sal coppice forests in South Bengal is bleak. First the needs of the local communities are to be met and only surplus is to be auctioned”.

A major breakthrough was achieved in the 1970s in West Bengal with the initiation of the Arabari pilot project where Dr A.K. Banerjee, then DFO Silviculture, stressed the importance of involving village communities in the protection of natural forests. Since then, the Forest Department and village communities have set about attempting to establish such committees throughout areas of natural forest in south-west Bengal. Similar success in eliciting people’s participation was achieved by another forester P.R. Misra at Sukhomajri in the state of Haryana in northern India. These two experiments are described in Chapter Four.

From the 1970s on, several international studies also reported that the use of forests for industries created few jobs and had a minimal impact on the overall growth process. In 1980 the Director of FAO’s Forestry Industries Division argued that:

Forests, on the whole, are simply being mined, taking out the easiest to get and the most highly priced trees without any real concern for what happens afterwards. For the forests and the

people who are dependent on them, the only obvious lasting effect is retrogression (Leslie 1980).

Today the international focus on forests has shifted from sustained yield of timber to a much broader concept of managing ecological processes, environmental services and social goods. The new Indian Forest Policy is very much in tune with this concept of sustainability.

Involvement of donor agencies in forestry

Up to the mid-70s most development projects in India were funded with internal resources. After that time, because of the global attention on “the fuel crisis” and deforestation, forestry was one of the first among many development sectors in India to attract international funding on a large scale. A number of donor agencies are active today in funding forestry-related projects. The details of some completed projects is given in Table 2.1.

In addition to the agencies mentioned in the Table, DANIDA, IDRC and the Aga Khan Foundation have been active in financing smaller projects. Funding is also available to a large number of NGOs from international non-governmental organisations, such as OXFAM. The experience of involvement of international agencies in forestry projects is, therefore, two decades old. The advantages of such an involvement are many. First, it has created additional resources for a neglected sector which could previously attract only about 0.5 per cent of the plan funds (see Table 1.4). Second, the international agencies insist on proper documentation of project proposals followed by mid-term evaluation and final evaluation. They also fund research projects on socio-economic issues relevant to forestry.

Because of the wealth of data generated by donor-promoted consultancies, it is now possible to identify the mistakes made in various earlier projects, the knowledge of which was merely anecdotal in the past. The third gain has been increased interaction of forest officers with academicians from other disciplines, such as sociology, anthropology, tribal development, economics, ecology and rural development. The donor agencies generally appoint a

Table 2.1. Physical and financial targets of donor-assisted forestry projects

Name of project and state	Donor agency	Project period	Project cost ¹ (100,000 Rupees)	Project activity ²	
				farm forestry ³	village woodlots
National Social Forestry Project UP	World Bank USAID	1985-86 to 1989-90	1,611.60	P 147,210 F 536.20	14,000 150.40
National Social Forestry Project Gujarat	World Bank USAID	1985-86 to 1989-90	1,296.50	P 230,500 F 143.60	35,000 369.80
National Social Forestry Project Himachal Pradesh	World Bank USAID	1985-86 to 1989-90	572.90	P 66,838 F 139.30	41,000 201.20
National Social Forestry Project Rajasthan	World Bank USAID	1985-86 to 1989-90	391.90	P 91,500 F 121.80	5,000 30.20
Haryana Social Forestry Project	World Bank DANIDA	1982-83 to 1986-87 extended to 1989-90	333.25	P 30,000 F 25.65	12,000 46.39
Jammu & Kashmir Social Forestry Project	World Bank DANIDA	1982-83 to 1986-87 extended to 1989-90	237.40	P 19,000 F 17.40	5,000 17.00
Karnataka Social Forestry Project	World Bank ODA (UK)	1983-84 to 1987-88	552.30	P 120,500 F 180.00	26,946 98.50
Kerala Social Forestry Project	World Bank	1984-85 to 1989-90	599.11	P 69,200 F 162.25	14,100 na
West Bengal Social Forestry Project	World Bank	1981-82 to 1986-87 extended to 1989-90	348.65	P 52,000 F 18.84	6,000 17.84

Table 2.1. continued

Name of project and state	Donor agency	Project period	Project cost ¹ (100,000 Rupees)	Project activity ²	
				farm forestry ³	village woodlots
Bihar Social Forestry Project	SIDA	1985-86 to 1990-91	538.57	P 71,750 F 156.28	30,750 21.52
Orissa Social Forestry Project	Phase I SIDA	1983-84 to 1987-88	281.70	P 26,500 F 11.60	32,076 na
	Phase II SIDA	1988-89 to 1992-93	783.40	P 62,000 F 253.60	52,500 222.30
Tamil Nadu Social Forestry Project	Phase I SIDA	1981-82 to 1985-86 extended to 1987-88	591.38	P 85,165 F 50.80	131,405 178.94
	Phase II SIDA	1988-89 to 1992-93	854.00	P 18,000 F 154.40	56,300 247.50
Andhra Pradesh Social Forestry Project	CIDA	1983-84 to 1987-88 extended to 1989-90	383.78	P 108,100 F 68.78	25,000 61.03
Maharashtra Social Forestry Project	USAID	1982-83 to 1989-90	564.00	P 44,035 F 257.74	33,975 na
TOTAL			F 9,940.44	P 1,242,293 F 2,090.50	508,730 1,662.62

Source: Saxena (1995a)

Notes:

1. A large part of Project cost was committed to establishment, institutional development and plantings on roadsides, etc., not shown separately in the Table.
2. P shows physical target in hectares, and F is the financial allocation in lakhs (100,000).
3. Farm forestry component is shown in hectares by converting @ 2,000 seedlings/ha.

multi-disciplinary team for appraising projects or for evaluating performance and this has enabled technical officers of the Forest Department to understand the linkages between forestry and other related disciplines. The donor agencies have also funded a large number of workshops where the findings of their own evaluation studies as well as other research are discussed. Lastly, international opinion on tropical forests is now more in favour of strengthening the local economy (which is seen as compatible with the use of forests for ecological and social goods rather than clearfelling them for industrial use), and this changed perspective is reflected in the new projects approved.

These steps have certainly broadened the horizons of the IFS officers and improved the institutional capacity of the Forest Department. It has also led to some change in their approach from a timber orientation to people-centred development. However, there are also certain negative outcomes of the donor agencies' involvement in forestry projects.

Foreign money is seen as easy money

Before any State plan is finalised and the budget made available to a department, there is a tradition in government to closely scrutinise the proposals from the point of view of both short-term and long-term costs and benefits. Although such an examination is often dilatory, rapid expansion in staff or jeeps or other such non-productive expenditure is often checked due to the detailed examination by the Planning and Finance Departments. The state governments on the other hand look upon foreign assistance as easy money and often there is no close scrutiny. Projects are prepared by the Forest Department and are routed through the state government, Government of India, and the Ministry of Economic Affairs before submission to a donor agency. But these ministries generally accept whatever schemes are approved by the funding agency. The initiative for correction is thus passed from internal agencies to external agencies. This has resulted in a rapid expansion of forestry staff and proliferation of non-productive schemes. Schemes where money can be spent with ease get priority over schemes which require changes in policy or capacity building.

Lack of contact with other government departments

The consultants appointed by the donor agency interact with officers of the Forest Department very closely while discussing project proposals. Often there are working groups appointed by the PCCF which are manned by IFS officers of the rank of Conservator or Chief Conservator of Forests. Although there are formal meetings organised with the Forest Secretary and Chief Secretary of the State, these are seen more as exchanging pleasantries. Thus members of the appraisal team do not come to examine policies and programmes of other departments which have a close bearing on forestry activities. It is not sufficiently recognised that the levers of change in the forestry sector are outside the control of the Forest Department. Collection of fuel and fodder, legal issues involved in land ownership, the interest of logging companies and forest-based industries, programmes followed by rural development and tribal development departments, etc., all have a great influence on the success or otherwise of forestry schemes. However, these activities are hardly examined, at least not as rigorously as budgets of the Forest Department. This means that the constraints on forest development continue as before, and the effectiveness of the proposed budgets is weakened.

Influence of western ideology

The values of most advisors and consultants are rooted in western culture in which material gain is seen as the key indicator of success. The problem of poverty is also interpreted by them in terms of lack of wage employment. Because of such beliefs, projects have over-emphasised wage employment and have tried to measure their success by the increased availability of material goods to the poor. That the poor derive their livelihood through a variety of sources, of which gathering is an important activity, has generally been overlooked by the foreign consultants. The poor would be better off if more opportunities for self-employment through gathering and local processing were provided, in addition to wage employment. The control which the poor exercise over their livelihoods in a subsistence economy and the way they live in harmony with nature has never been quantified and, therefore, are ignored as project objectives. Whatever is not measured is not achieved, is an old dictum of management. For

instance, a woman may give a high priority to living with her husband. However, even gender-sensitive projects would measure how much time a woman spends in collecting fuelwood, but male migration from the village is never measured. Hence the significance of minimising male migration has not been emphasised.

Less emphasis on capacity building

Almost all projects have tried to “give” staff, jeeps and opportunities for foreign training, etc. to the Department. These activities are difficult to sustain after a project is withdrawn. There is little emphasis on building up the capacity of the Forest Department so that it may achieve better results by itself in the long run. Thus the projects end up by increasing a dependency syndrome.

Increase in overhead expenditure

As already mentioned, the donor agencies appoint multi-sectoral teams for appraisal and evaluation. Often such individuals, though well known in their respective fields, have little knowledge of the local conditions or of the problems facing the forestry sector. The time available to a donor agency to collect a team for appraisal is generally short and, therefore, foreign members of the team are often not able to contribute much to the analysis of the proposal.

Uniform application of recommendations

Donor agencies have often been guided by the whims and fancies of experts in their home countries to avoid criticism in their Parliaments and this has often meant uniform imposition of such ideas, ignoring local conditions.

Little integration with other anti-poverty programmes

The forestry sector receives a lot of funds from other departments such as DRDA¹, tribal development, soil conservation and watershed

¹ District Rural Development Agency, headed by the District Collector, which coordinates all poverty-alleviation activities.

development agencies. The projects and donor agencies have generally failed to take an integrated view of funding from other sources. It has been quite common to have different prices for the same seedlings in the same area, or varying cost estimates for protection because of a multiplicity of agencies directing the flow of funds in forestry.

Multiplicity of donor agencies

Often in one single state a number of donor agencies are active in the same sector. For instance, the Himachal Pradesh Forest Department receives funds from the Germans, the British and the World Bank. In addition, it proposed a project in 1995 to SIDA. Each donor agency has its own priority which often results in conflicting policies being followed in the same state.

Evaluation of only the immediate past

The mid-term and final evaluation studies look at schemes which were begun during the lifetime of the project, which is generally five to six years. This gives a distorted picture, as survival of recent plantations is much better. If schemes begun ten or fifteen years earlier are also evaluated, the emerging picture may be radically different.

Physical progress under JFM

As Table 2.1 shows, the earlier projects were essentially social forestry projects, with departmental woodlot planting and farm forestry as the main components. After 1990, almost all donor-assisted projects have allocated substantial sums for participatory components on Forest lands, as shown in Table 2.2.

Various official and non-official estimates of physical progress (Singh and Khare 1993) indicate that perhaps 1.5 million hectares of Forests were under protection by about 10,000 FPCs in 1993. The coverage so far may seem modest, but the area could easily spread by ten times if practical problems discussed in Chapter Five are resolved.

The progress of Joint Forest Management, including both locally and jointly managed areas, as reported by some state governments is shown in Table 2.3. However these figures do not indicate the quality of participation or long-term sustainability of people's efforts.

Table 2.2. Participatory components in externally assisted forestry projects

Name of the Project	Donor Agency	Cost (million Rs)	Period	Participatory components	Allocation (million Rs)
West Bengal Forestry Project	World Bank	1,140	1992-97	Rehabilitation of degraded forest and Mangrove forest rehabilitation via JFM	464
Maharashtra Forestry Project	World Bank	4,310	1992-98	Eco-development	208
Andhra Pradesh Forestry Project	World Bank	3,540	1994-00	Rehabilitation of degraded forests and JFM support	101
Madhya Pradesh Forestry Projects	World Bank	2,460	1995-99	Forest regeneration and Village Resource Development	1,468
Rajasthan - Afforestation and Pasture Development along Indira Gandhi Nahar Project	OECF-Japan	1,070	1990-00	not available	-
Rajasthan - Afforestation Project for Aravali Hills	OECF-Japan	1,670	1992-97	Reforestation of barren hills, rehabilitation of degraded forests, and plantations of common lands	971
Rajasthan Forestry Development Project	OECF-Japan	1,390	1995-00	Reforestation of barren hills, rehabilitation of degraded forests, common land fuelwood plantation and silvi-pastoral plantations	503

Table 2.2. continued

Name of the Project	Donor Agency	Cost (million Rs)	Period	Participatory components	Allocation (million Rs)
Haryana - Rehabilitation of common lands in the Aravali hills	EU	481	1990-97	Plantation activities	481
Karnataka - Western Ghats Forestry Project	ODA-UK	1,050	1993-99	Joint Forest Planning & Management, field operations to support participatory forestry	534
Himachal Pradesh Kullu Mandi Forestry Project	ODA-UK	130	1994-97	Forestry operations and JFM support	54
TOTAL		17,441			4,784

Source: data collected from SPWD

Table 2.3. Progress of JFM in the states

State	Number of villages	Area (ha)
Bihar	1,242	654,259
Gujarat	300	54,000
Haryana	38	15,000
Jammu & Kashmir	617	3,827
Orissa	1,181	180,900
Rajasthan	447	na
West Bengal	2,350	350,000
Andhra Pradesh	146	na

Impact of the new forest policy and JFM on deforestation

Although it is too early to link changes in the forest cover and prices with the new forest policy and JFM, there is some evidence to show that forest cover in India expanded after 1989, and that timber and fuelwood prices have also stabilised since 1987.

At the outset it may be stated that there is no agreement regarding the level of deforestation in India. The World Resources Institute (WRI 1990) cites a 2.3 per cent deforestation rate for the 1975-81 period. FAO/UNEP (1981) projected a less dramatic deforestation rate of 0.3 per cent per year for the 1981-85 period. Recent remote-sensing data show that during the last four years ending 1993 there has been no net deforestation at all, as shown in Table 2.4.

Table 2.4. Annual changes in forest cover in India from remote sensing data

Period	area gained /lost annually
1987-89	(-) 47,500 ha.
1989-91	(+) 28,000 ha.
1991-93	(+) 2,200 ha.

Source: FSI (1993)

The above conclusion is supported by a World Bank document (1994) on India which states:

Forest canopy cover has held up surprisingly well under these depredations. Four biennial estimates of forest surface cover during the 1980s and early 1990s show little variation over roughly the last ten years despite net removal before reforestation/afforestation of about 3.3 m ha worth of wood annually. The proportion of forest cover accounted for by dense forest (i.e., crown cover 40 per cent and above) has also increased from 59.1 per cent in 1985-86 to 60.2 per cent in

1987-89. Trends in “Forestry and Logging” output and prices over the last 30 years suggest that there has been some curtailment² of the exploitation of forest resources since the mid 1970s.

Price changes

The above assessment, which is generally believed by observers of the forestry scene in India (Hobley *et al.* 1994), is confirmed by the level of prices, both for timber and fuelwood, which has declined or remained steady since 1987.

Timber

According to Bentley (1984: 17), timber prices increased by 14 per cent annually between 1970-80. When deflated by the wholesale price index, real timber prices rose in the above period by 5.8 per cent annually. However, during the five-year period 1987-88 to 1992-93 wholesale prices increased by 56 per cent, whereas the increase in timber prices was only 30 per cent. This needs to be contrasted with the earlier five-year period of 1982-83 to 1987-88, in which a rise of 41 per cent in wholesale prices was accompanied by an increase in timber prices of 148 per cent (Table 2.5). Evidence of a fall in timber prices has been forthcoming from several markets. For instance, sal prices fell by 25 per cent between 1989 and 1992 in south-west Bengal, causing concern to the Village Forest Protection Committees (FPCs) which had been protecting sal forests in the hope of earning good incomes (Poffenberger and McGeen 1996).

The fall in timber prices after 1987 seems to have been caused by liberal imports of logs. There has been a sizeable jump in recent years in the import of timber. In 1989-90, the total imported was estimated at 1.5 million cubic metres (Singh 1992: 72). The total value of imports in 1992-93 had reached Rs 40 billion (pers comm., Ministry),

² The contribution of forests to state revenues, similar to land revenue, has been falling dramatically since Independence, because of expansion of economic activity outside land. This has enabled the states to ban logging in many regions, especially after 1980, under the pressure of environmental lobbies.

Table 2.5. Price index of timber compared with other commodities

Year	General index of wholesale prices	Index of timber prices	Ratio of the two indices
1970-71	100	100	1.00
1975-76	173	178	102.9
1980-81	257	407	158.4
1982-83	288	740	256.9
1986-87	377	1,418	376.1
1987-88	405	1,840	454.3
1992-93	632	2,398	379.4

Source: Chambers *et al.* (1989); and data collected from the Ministry

and the quantity imported may well be 50 per cent of recorded timber production from Forest lands. In addition, 1 to 1.5 million cubic metres of newspaper-grade pulp, which is almost 50 per cent of the total requirement, is imported (Khare and Rao 1991).

Fuelwood

According to Leach (1987), the real price of fuelwood increased by 34 per cent in 10 major cities of India during 1970-82, but based on monthly prices of fuelwood maintained at the Labour Bureau, Shimla, it was estimated that the fuelwood prices in some of the major towns of India have remained almost constant between the period 1985-90 (Saxena 1994).

It is likely that fuelwood prices have behaved differently in different regions. In north-west India the glut of eucalyptus may explain the decline. In some regions the fall could be due to the natural spread of prosopis (*Prosopis juliflora*) shrubs on public lands, which provide excellent fuelwood for both consumption and sale at almost zero opportunity costs to the poor. In fact more fuelwood may have been supplied from prosopis than from social forestry plantations. In Tamil Nadu alone, the total yield of prosopis for fuelwood accounted as a

single species for 75 per cent of the total fuelwood consumption (SIDA 1992). In the *prosopis* abundant districts sale of its twigs has emerged as a cottage industry for the poor, specially for women and children.

Therefore it is premature to suggest that the improvement in forest cover or the fall in wood prices is due to the change in forest policies. Other factors, such as imports, spread of *prosopis* shrubs, and the success of farm forestry may have better explanatory power. However, with the success of JFM in certain areas, there are examples of local over-supply of wood, and such instances are likely to multiply as the protected forests mature for harvesting. If the trend of improvement in forest cover continues for a longer period, it could well be due to participatory policies.

In addition to having a proper policy framework, the success of the JFM approach assumes that the potential for community endeavour for the protection and management of forests exists. This itself needs careful examination.

Three

LOCALLY INSPIRED COLLECTIVE ACTION

Community action and cohesiveness of Indian villages

In recent years there have been a number of studies (Wade 1988a, 1988b; Ostrom 1990; Singh 1994; Poffenberger and McGean 1996) trying to understand the conditions for successful local action in management of common property resources. Its success has been explained by sociologists in terms of social norms and codes of conduct, and by economists in terms of incentives and penalties. According to Ostrom (1990, 1994), why some groups succeed in collective action and others do not, depends upon both internal and external factors. The internal environmental variables include total number of decision makers, inter-dependence among the participants, the discount rate or risk perceptions of the group, similarities of interest, leadership, information about expected benefits and costs, and shared norms and opportunities. If those who directly benefit from using a resource can communicate with each other, agree on norms, develop trust or share a common future, monitor each other and the resource, and sanction non-compliance to agreements, they can substantially reduce over-use, conflict and the destruction of their commons. Collective action thus entails costs of organising and maintaining an organisation. The steps involved in achieving success are group consensus, organising, sustaining, ensuring compliance of rules, and overcoming individual incentive to free-ride. Collective action may be blocked by persons who stand to lose from it.

The external variables refer to the activities of external political regimes and government. Locally selected systems of norms, rules and property rights that are not recognised by external authorities may collapse if their legitimacy is challenged or if large exogenous

economic or physical shocks occur. Blueprint thinking, i.e., imposition of uniform solutions to a wide variety of local problems, overdependence on outside sources of help, and corruption or other forms of opportunistic behaviour on the part of external agencies are likely to cause threats to sustainable community governance of common property resources.

In this and the next Chapter basic features of collective action towards protection of degraded forests in five Indian states is described with a view to assess the role of internal factors on success of collective action; and also the impact of such action on the community and the resource. External factors (government policy, legislation, etc.) which inhibit co-operation or enable the adoption of new institutional arrangements will be considered in Chapter Five.

To exclude the impact of government intervention via the JFM on collective action, we will generally consider only those examples in this Chapter where the protection and village management was self-initiated and independent of external initiative. Specifically, the question, to what extent have village communities in India been managing common lands as opposed to only using them as an open access resource, is examined here. The next Chapter then looks at those regions where community action was initiated due to government efforts.

There are polarised views about the cohesiveness of Indian villages. One social science view of an Indian village is “an atomised mass, composed of individuals who are not in any organised fold except the family and extended kin-groups which form the sub-caste” (Gaikwad 1981: 331). According to this view, rigid stratification of village society inhibits development of institutions representing a common will. Grossly unequal land tenure and access to markets ensure that only a powerful minority gains in the name of the community (Eckholm 1979).

Bandyopadhyay (1983), however, disputes that social and economic inequalities have hindered the possibility of community ownership, participation and control in India. Management of village commons has been a historical reality for two reasons. First, whereas private resources in India were governed by individualistic and class-dominated norms, there have been communally shared norms when it comes to community resources. Second, the self-sufficient nature of

the traditional village economy guided the exploitation of common resources through a system of self control. He therefore concludes that there are no structural barriers to achieving community participation in social forestry projects. Many environmentalists support this viewpoint (Agarwal and Narain 1990).

It is difficult to settle this controversy. We can at best cite a few examples and take note of trends.

Tragedy of the open access

Several studies, however, have shown a lack of control and management of commons by communities. Jodha's (1986, 1987) study of 82 villages in dry regions of the country revealed that at that time not a single village was using control measures, such as grazing taxes or penalties for violation of norms on the use of common lands. Only eight out of 82 resorted to rotational grazing or provided for a watchman to protect against unauthorised use. Only 12 undertook measures such as fencing or trenching towards the upkeep of common lands. The most important determinants of whether the CPRs were being managed as opposed to just being used by the village communities was the relative isolation from socio-economic change, market centres and government patronage. Better management was also associated with villages which were able to maintain traditional social sanctions, stay free from serious factionalism within the village and have small and visible CPRs.

Another study (Gupta 1985: 313), of a World Bank-assisted project to develop pastoral lands in Western Rajasthan, showed that wherever management of projects had been handed over to the people, fences had broken down and resources became degraded. Or again, in many semi-arid tracts, for example in Junagadh district in Gujarat, it is common for people to appropriate top soil from the common grazing land and cart it to their own farms, sometimes continuing even until land is reduced to rocks (A. Shah 1987).

The community forestry programme of a few villages in Madhya Pradesh (CENDIT 1985), and its evaluation for the entire state (USAID 1985) observed that there was factionalism in the villages on caste and political lines and the poor were seldom consulted about social forestry activities. The interests of villages other than the main

village of the panchayat were ignored. There was no tradition of democratic decision making. The panchayats were not keen to take over plantations. Often community land was handed over to the FD to avoid encroachment by the poor, or its allotment to the scheduled castes by the Government. The practice of the panchayat auctioning grass from such plantations reduced the availability of fodder for the poor. Thus the principal aim of social forestry to build up institutional capacity of panchayats had fallen by the wayside because of the existing political economy of the panchayats. The studies concluded that short-term political motivation of the panchayat leaders and cattle pressure would not allow community-managed plantations to continue for very long.

A field study (Saxena 1989) of four villages in the states of Uttar Pradesh (UP), Himachal Pradesh, Madhya Pradesh and Tamil Nadu, respectively, observed that village organisations were weak, not trusted, had no experience of forestry programmes, and were dominated by the rich. They were also not keen to take over plantations unless funds for protection were provided, and their rights settled. People seemed to have more faith in the coercive authority of the State than in their own local institutions, which they perceived as dominated by local elites acting in self-interest rather than pursuing group interest. They wanted opportunities for family-based enterprises, and seemed indifferent to the fate of non-private lands. It also appeared that these villages had no history of providing management to the commons, since in the past this had been the responsibility of either the landlord or Government.

On the positive side, there are regions in India where communities have shown sustained capacity for managing their common resources. Wade (1988a) reported that every village on black soils in the area he studied had village councils. Brara (1987) noted committees of village elders in all 22 villages she studied in Rajasthan. Although these organisations were dominated by the land-owning households, they functioned effectively. One of the reasons was the fact that rules were simple in terms of the amount of information required to make enforcement easier.

The operation of village institutions in the management of their commons in two regions, the hills of UP and Orissa, are considered below. In UP, JFM guidelines were issued only towards the end of

1995, and in Orissa village committees have preceded the formal announcement of the JFM model of forest management.

Van Panchayats in the Uttar Pradesh hills¹

The Uttar Pradesh (UP) hills have a longer history of local people's participation in forest management than almost any other state in India, as the *van panchayat* (meaning forest councils) system was instituted in 1931. There are 4,804 van panchayats in the hills covering an area of about 2,44,800 hectares, although they control only 7 per cent of the total forests in the UP hills, the rest being managed by Forest (70 per cent) and Revenue (23 per cent) Departments of the state. The van panchayats are grass-roots organisations and have tremendous potential for enlisting peoples' participation. But due to the indifferent attitude of the administration and over-centralisation the van panchayats are not functioning efficiently. There is dual control by the Revenue and Forest Departments over van panchayats. All administrative powers are vested in the Revenue Department and technical powers, such as marking and auctioning of trees and tapping of resin, are with the Forest Department. This dual distribution of powers often leads to delayed decisions and creates confusion. Despite such centralisation there are few staff available with the Revenue or Forest Departments to promptly deal with requests from the panchayats. The van panchayats are last on the priority list of the administration. Most panchayats are quite poor, and have no source of income. It is ironic that, whereas social forestry funds are wasted on Revenue lands which have no organisation for long-term maintenance, there are no Plan schemes to strengthen the already existing panchayat institutions. Lack of funds for everyday expenses forces the panchayat chiefs to prefer pine trees over oak to generate some cash, although people's requirements will be much better met from oak and other broad leaf trees.

The Panchayat Forest Rules, 1976, while making the panchayats responsible for proper management of the forests, deny them necessary authority which is with the revenue and forest officials. Thus,

¹ This section is based on the author's report (Saxena 1995c) for the ODA.

section 17 requires that previous approval of the District Collector is necessary before a watchman or any other paid staff is kept by the panchayat. In practice, the Collector's approval is sought whenever salary is paid to the watchman. An offence involving a sum of more than fifty rupees can be compounded only with the previous approval of the Collector. Similar permission is required if the seized property (such as stolen timber) is proposed to be sold. The panchayat cannot independently locally sell surplus forest produce from the area to the right holders for their bonafide domestic use without obtaining prior approval of the DFO. If there are trees for commercial sale in the area, the permission of both Collector and DFO is required. Thereupon, action to mark and sell the trees shall be taken by the DFO. The panchayat can only sell fallen fuel and grass for the bonafide domestic use of the villagers, provided such a sale does not violate provisions of the Working Plan of the panchayat, which is to be prepared by the Forest Department. This also requires framing of by-laws which have to be approved by the Divisional Commissioner. Only a Forester can act as Secretary of the panchayat. Even worse is the fact that the earliest Rules drafted in 1931, and which continued till 1976, were quite liberal, but the subsequent changes have not been in the direction of delegation to the panchayats.

A study (Britt-Kapoor 1994) of forest panchayats in two villages showed that there has been a decline in the last ten years of former collaborative practices, such as of sharing timber allotments for house construction² and group responsibility for forest protection. Apart from changes in the internal dynamics of the village brought by out-migration, market incentives, demographic pressure and changing village ethics, greater appropriation of authority by government was cited as the main reason for lack of group protection by the villages. In the past, customary use patterns (including limited lopping and culling techniques) were regulated internally by the village, but in 1991 government decided to totally ban collection of anything green from the panchayat forest. This has resulted in greater isolation of the village from its forests.

² As no family can get the entire requirement allotted by the Forest Department in the year of construction of the house, in the past there was reciprocity in this arrangement between the families.

Despite these problems many panchayats are doing quite well. Factors which help satisfactory functioning of the panchayat can be summarised as (Saxena 1995c):

- Leadership quality of the Sarpanch. Time given by him for supervision. His ability to evolve consensus within the village. His equation with bureaucracy.
- Funds earned from resin tapping. Such panchayats which have a good bank balance find it easier to employ a watchman for protection.
- Proximity of the village to RF which satisfy a substantial part of the village needs. Distance from roads so that the produce cannot be marketed.
- Total area and quality of land of the panchayat forests.
- Single village panchayats do much better than multi-village panchayats. In the latter, smaller hamlets often feel discriminated against and therefore do not co-operate. Similarly, mono-caste villages do better.
- Chances of pilferage by the neighbouring villages are reduced if they too have access to a well-stocked forest.

The problem of migrant groups in the hills

Joint Forest Management programmes are based on the implicit assumption that one is dealing with settled populations. Though this is the most convenient and workable solution for the implementation of successful JFM schemes, it becomes problematic when migratory groups interacting with settled populations are involved. For example, in the Himalayan region of UP and Himachal Pradesh there is a substantial population of nomadic groups who come into contact with settled agricultural populations during the course of their migration in the hills. Conflicts over resource use between settled and migratory groups pose a different set of problems compared to those encountered in most other parts of the country (Vira 1993).

While earlier informal agreements were worked out between settled villagers and nomadic groups, with an increasing agricultural

population, deforestation, and scarcity of land and fodder, the situation today has become much more problematic. A more formalised arrangement needs to be worked out. Given that the nomadic groups are continuing to migrate, there needs to be some sort of negotiation between them and the settled villagers, prior to their annual migration. There is also a need for the Forest and Revenue Departments to act as a mediating body in these negotiations, to see that the agreement is not biased in favour of one group. The negotiations between the nomadic groups and the villagers can be conducted each year so that the villagers can vary the agreement based on changes in population, or the status of fodder.

In the event that there is a scheme to settle the nomadic groups, the issue of their rights over land and forests will have to be reviewed. It is necessary, as the nomadic groups demand, that they be given some sort of permanent rights over the land they are settled on. If this is not done, it could lead to complications for the smooth implementation of potential JFM schemes in the region.

There also needs to be a review of the condition of the forests and pastures within the Himalayan region, as the natural regeneration of the forest is being hampered by animal pressure. While on paper there exist provisions for planned closure of pastures, in practice these have never been implemented. However, because of the widespread erosion, there is a pressing need to protect these pastures. Even the DFOs admit that if the pastures go unchecked they may reach a point where the situation cannot be salvaged. They will be denuded beyond repair. The DFOs themselves recommend that permits given to nomadic groups need to be reviewed to lessen the pressure on the fragile alpine pastures. Many of the higher pastures that have not been able to regenerate naturally are drying up. There is a need for these to be artificially sustained. If the pastures are not given a chance to regenerate, in addition to erosion, there will be more encroachment on lower agricultural, pasture and forest land. This will lead to more pressure in already over-grazed areas. In the event of pressure in both pastures and forests there is a strong case to introduce stall feeding in the Himalayan region. This would reduce the burden on forests and pastures and facilitate monitoring and control.

What is really needed is that changes should be initiated simultaneously at all levels. A review of all the problems associated with

settled villagers and nomadic groups need to be co-ordinated; examining just one aspect in isolation would be futile. For example if a scheme for pasture development is implemented, but there is no effort to review the permit system and reduce the number of animals, the whole exercise would be wasted. The pastures cannot regenerate fully until the pressure of animals is decreased. Joint Forest Management must attempt to address these conflicts, and pay special attention to the need for an overall pasture management strategy in the north-west Himalayas.

Indigenous forest protection committees in Orissa

The most extensive examples of success in community action are from the poorest regions in India – Orissa and South Bihar³. In these hilly, upland and tribal regions poor communities have shown a remarkable capacity for managing their land resources (ORG 1985; Jonsson and Rai 1994). In some cases the initiative was taken by forest officers; in others it was local. A realistic estimate is about 150,000 to 200,000 hectares being protected by 3,000 villages in Orissa, although government figures are higher (Kant *et al.* 1991). There are villages in this area where people had been actively involved in protecting forests even before the official policy of JFM started in 1988. In fact the Orissa circular in 1988 was couched in a language believing that government would initiate a new movement, not realising that already a large number of societies were in existence (see also page 137).

Jonsson and Rai (1994) studied five successful protection areas in Orissa. The results are summarised in Table 3.1.

Reasons for forest protection

Orissa's acute poverty poses a challenge, and can also be seen as a positive factor, as it forces almost the entire population in a village to be dependent on forest resources, and this dependence helps in the evolution of a viable village institution. The Orissa upland settle-

³ See Bhattacharya (1995) and Sinha (1996) for case studies on Bihar.

Table 3.1. Summary of villages involved in protection (as in December 1992)

	Kudamanda	Kantapalli	Dangarmunda	Budhikhamari	Kaimati
District	Sambalpur	Bolangir	Bolangir	Mayurbhanj	Dhenkanal
Cluster type	hamlet	hamlet	3 hamlet + one village	55 villages ^a	village ^b
No. of households	110	55	78	na	293
Population mix	heterogeneous	heterogeneous	homogeneous	heterogeneous	heterogeneous
Start of protection	1980	1984	1988	1983	1962
Legal status of forest	Village forest (VF)	Reserve Forest (RF) ^c	VF	RF	private, VF
Area in ha	80	240	200	3,250	100
Forest type	sal	sal	bamboo mixed	sal mixed	sal mixed
Local institution	Youth Club (YC)	FPC	YC ^d	several FPCs	VC
Other functions of the committee	management of all CPRs, schools, roads etc.	resolution of inter-village disputes	sale of bamboo culms	inter-village co-ordination	managing school, club, street lighting
Material contribution from households	1 kg rice per family per month	?	entry fee of Rs 51 from each new member	Rs 2 per person per day from other villages for collection of sal leaves	2 kg rice per annum, only from landed families

Table 3.1. continued

	Kudamanda	Kantapalli	Dangarmunda	Budhikhamari	Kaimati
Benefits	NTFP	NTFP & fuelwood	bamboo & NTFP	NTFP	NTFP, poles, fuelwood
Women's participation ^e in management	nil	nil	nil	nil	nil
Main shortcomings	encroachments not removed except one ^f	lack of income to support the salary of watchman; fuelwood pressure shifted to a distant forest	fuelwood pressure shifted to the neighbouring reserve forest	encroachments not removed	panchayat elections in 1992 divided the village in two groups, each accusing the other of illegal felling
Protection mechanism ^g	watchman, fines	watchman, fines	thengapalli ^h , fines	thengapalli, fines	watchman, fines
Whether recognised by the Forest Department	no, as protection is by a hamlet, and not by the village	yes	yes, the YC was given the state award of Rs 5,000 in 1991 for protection	actively encouraged by the Range Officer; was given the state award of Rs 5,000 in 1992	yes

Notes for Table 3.1.

- ^a As a very large area is under protection, the option of shifting to other RF to satisfy their demands is no longer open to the people in these villages. As a consequence, people have been forced to switch to various fuel-saving devices. However, the main pressure on these forests comes not from the local people but from cycle loaders and charcoal makers of a neighbouring town, who have shifted to the Simlipal Reserve Forest.
- ^b Two factors have helped the village to deal with neighbouring villages; first, it is quite big in comparison with the surrounding villages, and secondly, its strategic location, as anyone going to the main town of Dhenkanal has to pass through this village.
- ^c Both in this village and in Budhikhamari where the Forests being protected were RF, protection started only when the Forest Department informally recognised the right of the village to the produce of the Forest. In the case of Kaimati, the fear was different; villagers were apprehensive that the Forest Department would start proceedings to declare their forest as Reserve because of its good growth.
- ^d A formal FPC was formed in the village as a result of VFC Rules enacted by the state in 1988, but except for the village teacher, no one was aware of this committee. In practice, all work is being done by the YC. The Youth Club in this, and in many other villages, works as representative of the entire village, and even elders are on the executive committee.
- ^e Women, even when caught breaking rules, are never summoned before the council. They are represented by a male member of their household.
- ^f He was protecting a two acre patch next to his house for private benefits of forest usufruct, rest of the encroachments were for cultivation.
- ^g Although fines have been sometimes imposed by many committees, the main protection mechanism is exerting the moral pressure and threats of isolation. These work because of the subsistence nature of the village economy.
- ^h All members undertake protection on a rotational basis.

ments are more homogeneous, with one tribe usually dominating both in land and number. A study (Raju *et al.* 1993) comparing success of collective action in the poor state of Orissa with Gujarat, a richer state, noted that in Orissa livelihood options are almost nil, whereas in Gujarat migration or agriculture has provided an option to the communities to cope with the problem of deforestation. Hence in Gujarat, despite external intervention either by the Forest Department or by NGOs to act as catalysts, the programme has only been moderately successful. In Orissa, most FPCs have developed on their own initiative and have survived with almost no incentive from government⁴.

Another reason behind the success is the lack of full control of the Forest Department over PF, which facilitates people's control over such lands. In Orissa, unlike other states of India, the ambiguous status of PF provides a highly favourable environment for evolution of community management systems. The ownership of the protected forest lies with the Revenue Department and management effectively with no-one. Only for a few demarcated PF have Working Schemes have been prepared by the Forest Department. Thus large areas of PF have been left unmanaged. As the forest started receding further from the villages, the local communities realised that open-access usage of the resources was no longer a realistic proposition and some kind of user group regulation was required to safeguard the interests of the community. This resulted in communities undertaking protection and management of forests, starting with PF. Later, at a few places, RF were also taken up for protection by communities who did not have adequate PF in their vicinity or under their control.

Thus an important factor behind the success of community action has been the long-term association of these villages with "their forests" and heavy dependence on these, assisted by the loose control of the Forest Department over PF. There are of course instances of successful protection of Reserved Forests too, but invariably these are patches where the control of FD had become weak and no "management practices" were being followed. Communities could assert

⁴ This is similar to Nepal where it is estimated that almost one-third of all forests are under protection by local groups without outside guidance or help (Pradhan and Parks 1995: 173).

their rights over such Forests once they were reduced to the level of open access.

In most cases, protection efforts started only when communities faced acute shortage of small timber for construction of houses and for making agricultural implements. Although there was a considerable reduction in the availability of fuelwood over the years, this was hardly an initiating factor. Gender biases are apparent here; fuelwood collection is the responsibility of women whose increased drudgery did not spur men into action. Small timber requirements, monetary benefits and expectation of greater availability of NTFPs, such as sal seed, have often initiated the process. The effect of deforestation on agricultural production has also been a factor which prompted protection, as in Kesarpur, described below (ORG 1985).

A protection committee with members from several villages has been functioning well in Kesarpur village of the Keonjhar district. The situation had become acute in the late sixties as deforestation led to soil erosion and gully formation. As the hills became barren a perennial stream dried up. A heavy landslide in a neighbouring village frightened the villagers and forced immediate steps to be taken to check erosion. In 1974, they started protecting trees from human and cattle intervention. In 1978, the FD agreed to introduce plantations on the hills provided people sold their goats. This was also agreed and a couple of households who initially did not do so were fined by the community and forced to follow suit. Today thirteen villages around Kesarpur (2,000 families) jointly protect about 400 hectares of forest. In addition plantations cover an area of 50 hectares. The hills now look green with a variety of forest species and good undergrowth. Gully formation has been checked and the stream has again started flowing.

When one or a few villages in a cluster take up protection, access to a particular patch by people from other adjoining villages is restricted. This often triggers a protection movement in the nearby villages, whereby each village starts to assert its right over a patch of land. This restricts each other's access.

Leadership plays an important role in the introduction of the concept of protection to a community. In some cases it was provided from outside the village (by FD personnel), whereas in others it was provided by influential people from within the village. Leadership

was dependent on the population composition. The more homogeneous the composition, the better was the leadership.

Rights of villagers over the protected patch play a critical role in the initiation of protection efforts. Where people have been assured that benefits would flow to the community, protection could be brought about. However, most of the villages in a cluster took up protection only after they had seen the rights of other villages over the protected patch being recognised by the Forest Department, although informally. This reflects the importance of clarity in the rights of the villagers over the protected patch.

Institutional arrangements evolved

Several kinds of organisations have been formed at the village level to take up the management of forest, Youth Clubs (YC), Village Councils (VC), and Village Forest Protection Committees (FPC). FPCs are generally of two types, one that is formally set up by the Forest Department under the guidelines issued for the purpose and the second type is a sub-committee of the VC entrusted with management of the forest. In some villages although a formal FPC had been formed by the Forest Department, management was looked after by the YC. Very few people were aware of the composition of the formal committee or the area that they were protecting.

Budhikhamari, where more than 55 villages were jointly carrying out protection and which has received several awards, was unique in this aspect (Kant *et al.* 1991). The VC of the individual villages were looking after protection and each village council was represented by a president and secretary in the central committee called the Joint Protection Party (JPP). Each organisation, irrespective of its type, had a president and a secretary generally elected by consensus. Care was taken to involve people from all sections if the village had a heterogeneous population. Each community had a general body with one person from each household and a core group comprising 4-5 persons responsible for taking decisions on day-to-day activities. Most of the committees were found to be struggling under financial constraints. In order to meet expenses incurred in protection, collection was made in cash or in kind. Expenses were also incurred in conducting rallies for environmental awareness, conducting meetings, payment to

watchmen, etc. Revenue for these came chiefly from cleaning and thinning materials which were sold to the villagers at a subsidised rate. Other sources of revenue included fines collected for the violation of rules by the people within or outside the village. However, it was insufficient to meet the expenses incurred in protection. Funds collected by the VC from other sources, such as the village pond, had to be diverted to forest management. This often proved to be a disincentive to the villagers, particularly the weaker sections, who perceived protection as an additional economic burden. It was reported that the YC were highly effective in protection because of their tough stand against offenders and this had often been the reason why VC had handed over the protection responsibility to YC (Singh 1993).

Arrangements for guarding forests vary between villages; some use voluntary labour on a rotating basis, others collectively pay for a watchman. It could be argued that the volunteer-based system is more equitable, because for the poorest households cash is in greater scarcity than labour time. The optimal arrangement would seem to be the situation found in some villages, where volunteer labour is used by most (called the *thengapally* system) but the richer households in practice paid poorer people to do their shifts (Singh and Singh 1993).

Fuelwood pressures

Fuelwood pressures in each cluster were very evident. Each village in a cluster had its own method of meeting its domestic energy needs. The first source of fuelwood was within the village boundaries. Some hamlets/villages had demarcated certain areas which included a part of village forest and pasture land for collection. In some villages, while there was protection in one patch, indiscriminate fuelwood collection was being carried out from another part of village forest and pasture land. While vegetation flourished in one part, degradation continued in adjacent patches. Often the village forest was seen as the property of the village whereas the RF was the Forest Department's. So, while degraded village forest was protected, the well-stocked RF was left as open access. As a result, this Forest is now reduced to an open scrub vegetation.

This raises the question of what would happen to fuelwood availability if the total area around a village is protected? In such cases, the

fuelwood pressure shifts to two other places. First, it increases on those distant RF with good growing stocks which are managed without community protection. Cycle-loads of fuelwood are illegally extracted every day from such RF by people of those villages with no area under their protection or only a very small and highly degraded area. Conflict often emerged between cycle-loaders and the people of the villages through which they generally passed. Cycle-load trading became a lucrative business as the demand for fuelwood increased and supply was curtailed due to protection efforts in the cluster.

The second type of pressure shift has been to those PF and RF where the village committees were found to be less effective in their protection activities due to internal conflicts, financial constraints and lack of leadership.

The problem of shifting fuelwood pressures was relatively less in the Budhikhamari where more than 55 villages were jointly carrying out protection under an umbrella organisation of JPP. Energy requirements were met partly from dried, fallen twigs and dried leaves from collection which has become a part of daily activity of tribal women in various clusters.

Several trends need to be analysed here. Why does a community protect a patch totally degraded with a view to gaining a significant benefit after one or two decades and not protect a well-stocked patch which would provide them benefits within a short span of time? It was generally felt by the villagers that it would be easier for them to protect a degraded patch than an already existing dense forest. Would this lead to a cyclic process of degraded forest developing into a well-stocked forest being converted to a degraded one? Further, well-stocked RF or PF are generally not selected for protection because of fear of threats from within and outside the village boundaries. Threats arise from those benefiting from a patch in terms of fuelwood and small timber when they are denied access. Thus degraded forests are brought under protection while well-stocked ones are left as open access property.

The issue of shifting fuelwood pressures places serious doubt on the effectiveness of this kind of protection. Although the cluster approach of protection does overcome the problem of pressure shift certain unanswered issues persist. Can this pressure be contained in any way? What kind of leadership is required to organise such a large

number of villagers under a common umbrella? If inter-village conflict exists, then bringing all of them together may result in an abortive attempt to organise a protection movement at a macro level. Lastly, when a number of villages join together they often perceive their mass as their strength and sometimes they mis-use their power. So before organising such a cluster what control measures should the FD have to check such mis-use of power? And what should be the ideal size of the joint committee for effective administration?

Equity issues

Looking at the equity aspects of forest protection from the broader perspective, there are large-scale processes causing inequities between villages. Some villages have to share a large forest area with many other villages, some have much smaller areas to themselves or with a few other villages, and some are not adjacent to forest areas at all. Different rates of forest degradation and different levels of awareness and concern have prompted some villages to take action and to exercise protective control over some forests much earlier than other villages.

Smaller villages are concerned about being disadvantaged by the larger villages with whom they share access to a forest area. Members of a tribal village adjacent to Dhamasahi criticised people from Dhamasahi village because they had taken over land that had been planted with trees given to the tribal village by the government. When asked what sort of problems they expected in the future they said that as the forest gets thicker more people will be attracted and there will be fighting, emphasising that they are “a very small village” and would find it difficult to oppose outsiders.

Potentially, forest protection can lead to a win-win situation, in that NTFPs can provide significant benefits to the poorest villagers. However the conditions for such benefits to accrue consistently will not exist until there is a general acceptance of rule systems which allow for access to these benefits by the poorest.

In many villages the “richer” households are least dependent on the forest. Because of their relative status and authority, even NGOs who initiate community protection have pragmatically sought their active involvement in forest protection. To have such people on their

committee was useful for dealing with other villages and external authorities.

Many village forest protection initiatives arise spontaneously when the forests have become very seriously degraded, to the point where even the poorest have great difficulty meeting any of their needs from forest resources, e.g., when rootstock is being dug up for firewood. At these times it is likely that everyone in the village, even the poorest themselves, see forest protection as a win-win situation, where everyone can gain and few, if any, will lose.

Nevertheless, there are circumstances where the needs of the poor will be at risk. Firstly, in forest areas where poorer households already have a stake in a forest which is still giving them some return, and in forest areas, especially plantations, where the distribution of returns from future cropping are yet to be agreed. One problem area in particular are those households which are wholly or partially dependent on the collection and sale of firewood for income. Such people cannot stop cutting wood in forest areas even after the introduction of forest protection in their area. Sometimes wood cutting has been displaced to more distant "unprotected" forests. Often wood cutting has persisted in the same village, albeit under continuing pressure to stop from the other members protecting the concerned forest. In both cases wood-cutting families are paying the costs of protection, in increased walking distances or in harassment and fines. The basic issue is of the alternative livelihoods available to those dependent on the forest, and that does not seem to have been addressed as a development issue by the FD.

In one village, the idea of establishing a firewood plantation to meet the needs of wood cutters was rejected on the grounds that the best firewood trees cannot be grown in plantations. The allocation of any special usage rights of forest areas to particular groups may inherently present a problem, because it would open up the possibility of other groups making special private claims on common land. In another village, a group of 35 to 40 potters who use wood to fire their pots are directly dependent on the forest. It would be ideal if an area of land could be left for the use of potters, but this advice was rejected by the community in favour of a policy of total protection. According to potters in the village, they need about three quintals of wood every month to fire 300 pots. Now they must purchase wood

from the Corporation depot and collect brushwood from a forest 10 kilometres away, yet they do not obtain sufficient wood to maintain their past production levels. In this village forest protection is not a win-win situation.

The equity issues concerned with current management of the forests pale into insignificance when compared to the impending problems of the future. The forests and plantations are maturing assets, increasing in value and visibility every day. None of the villages contacted had established any long-term management plans, especially for the allocation of benefits from plantations. It could be argued that this is an unreasonable expectation at present, where sustaining what exists is the main task at hand. However, some current decisions, such as the planting of trees over a whole area versus part-by-part, year-by-year, have implications for the ability of the villages to obtain a continuing yield from the land in the future. This in turn will affect the management of claims for benefits, with one-off distributions being more problematic.

Gender issues

When women were asked about their preferences for different tree species for planting, a marked difference was found between the better-off castes and the poorer Harijan (low-caste) women. The better-off caste women expressed their preference for teak and sal trees which can be used for furniture, whereas the poor Harijan women expressed their preference for fruit-bearing trees like mango, jackfruit, guava and ber (*Ziziphus mauritiana*).

Despite the above differences, in general all groups of women appear to have understood the need for forest protection and have expressed a positive attitude towards forest protection activities. In one village, women (not low-caste but not rich) said that the most important benefit next to fuelwood was the availability of privacy for defecation. They said that when the hills and the foothills were barren they had to walk very far away from the village to find privacy. It was very hard especially if they had to go during midday in summer. But now the regeneration of bushes has made their lives easier.

In contrast to the better-off women, the poorer low-caste women always emphasised their need for fuelwood, which they think can be met from the protected forest. This was for their own consumption

and in some cases for selling. The better-off women who have purchasing power to buy fuelwood did not see the need to protect forests in order to meet their fuelwood requirements.

In the overall analysis of the problem of environmental degradation, the protecting committees feel that both men and women are affected equally and the benefits of forest regeneration are shared equally by men and women. On the basis of this understanding, the Committees have never felt the need to consult women specifically in the planning and implementation of the project activities. In none of the successful VCs or YCs were women represented or consulted. These were exclusive male societies.

Neglect of women's concerns and indifference to their increasing workload is not merely confined to the protecting groups in Orissa, but is widespread in almost all FPCs, whether self-initiated or promoted by the Forest Department. These issues are discussed in Chapter Five. In addition to women, there are other losers from JFM, smaller villagers and poorest in the village as previously discussed (page 76), and migrant groups (page 65). These groups need special attention and diverse programmes, which have been discussed in detail in Chapter Six.

Reasons behind success

Why does collective action succeed in some cases and not in others? Empirical evidence discussed in this chapter, although from limited ecological regions of India, provides several clues. First, most effective local institutions develop in those small communities where people know each other. Collaboration is easier among small and homogeneous groups (Attwood 1988). For instance, villages in the UP plains are notorious for factionalism, whereas in the same state forest panchayats work quite efficiently in the hills. As a panchayat in the plains controls several villages, common land belonging to one village may be under the control of a Sarpanch who is not from the same village. This breeds distrust. The forest panchayat in the hills is typically an actual user association, managing its own small area with clearly defined boundaries.

Secondly, the topography of the upland villages makes their common lands visible from most of the dwellings, so that any unauthorised felling cannot escape notice. If a village is located inside the

forest or on a slope below the forest, individual households can easily provide protection services from their homes, thus reducing protection costs. In contrast, the area of a flat village in central-south India may well be spread over 5-10 kilometres in one direction, which makes it easy for “free riders” to escape undetected. Thirdly, hill and upland villages usually have better land resources. This attracts better management from the people, as protection is more vital for survival. On the other hand, once degradation sets in, people may become indifferent to protection. In district Kheda in Gujarat, grazing lands are so degraded that the dependence of an average milk producer on them – and hence his or her stake in their preservation – is low (T. Shah 1987). There are thus two scenarios: a valuable resource well managed because it is worth managing well; and a degraded resource neglected because it is degraded.

Next, remoteness from roads and markets further helps in retaining mutual obligations, and discourages poaching by outsiders. In remote villages, fear of reprisals from village elders deters too frequent abuse of common resources. In contrast, the old system of authority in the modernised villages has been undermined without being effectively replaced by a new one, resulting in a hiatus of confidence (Wade 1987). In addition, upland settlements are more homogeneous, with one caste or tribe usually dominating both in land and number, whereas other villages tend to be multi-caste, which makes social control more difficult.

Finally, collaboration is likely to succeed if all families including the rich are highly dependent on forests for their survival needs of fodder and fuelwood. As the productivity of the commons declines, the rich shift to privately grown fodder on their own land, while the poor still use the commons for their sheep and goats. The rich then lose interest in the upkeep of the commons, while the poor lack the power and organisation to manage the commons themselves. This may be one reason why in Gujarat, the Indian state best known for community endeavour, only 60 out of 18,000 villages have come forward to start community fodder farms whereas many times more villages have opted for income-generating eucalyptus planting on grazing lands (T. Shah 1987).

The personal interests of village elite in management of the commons appears a crucial element. Even a market-dominated village

may develop collective action if it is in the interest of all, including the powerful people of the village. An example in the context of fodder is a study of 41 villages in district Kurnool, AP (Wade 1985, 1988a), which found four institutions commonly at work in these villages: an informal village council (distinct from the statutory panchayat); a standing fund for paying wages for protection; a work group of field guards to regulate grazing; and common irrigators to regulate supply and distribution of canal irrigation water. Field guards patrolled the village area and made sure that no animal grazed a standing crop. After a crop was harvested, the stubble was put to common use, being let out to nomads who wanted grazing for sheep and goats, for which they paid to a village fund about Rs 5,000 in a space of six weeks. Field guards were paid from the money raised. Thus co-operation was enforced by stakeholders and a great deal of peer monitoring.

A study of fodder farms on common lands in Gujarat (T. Shah 1987) found that some panchayat leaders took a great deal of personal interest in setting up and running such farms. They seemed to work for non-economic rewards, such as power, reputation and social status. Once established, the successful farms were run on business lines, with the interaction between a farmer and the fodder farm similar to that between a buyer and a private seller. An average farmer did not show any interest in running the farm. In fact its success was due more to the initiative of the leader than to community spirit. This makes such enterprises precariously dependent upon quality and integrity of leaders, willing to work for non-economic rewards.

We can conclude, then, that community control and management can work in three circumstances. First, in villages which are small, homogeneous, remote from markets, and dependent upon produce from the commons. Second, where gains from organisation are high, for both the village elite and the commoners. And third, where a leader is willing to oversee for non-monetary gains. Analysing the success of sugar co-operatives in Maharashtra, Attwood (1988: 69-87) reached similar conclusions: co-operatives succeed not because there are no classes in the village society, but because an alliance between the rich and poor farmers for the successful running of the co-operative sugar factories is in the economic interest of both the classes.

A comprehensive study (Raju *et al.* 1993) of a large number of FPCs from three states identified a TRAITS factor (Transparency,

Rules, Awareness, Initiative and Independence, Tenure and Satisfaction of needs) that characterises vibrant FPCs. FPCs that are low on the TRAITS scale are beset with problems of “groupism”, leadership and dependency that affects their basic existence. The TRAITS factor provides for a basis of evaluation of intervention/support strategies. FPCs of Orissa score a high on the TRAITS scale, as against the low result by FPCs of Gujarat which are under Forest Department domination. The significance of these factors is discussed below.

Transparency in promotion of JFM is required at two levels – within the FPCs, and in the FPC-Forest Department interface. Transparency is a measure of openness, as perceived by the communities, what decisions are made, who makes them and how. This becomes complicated when the activity increases from mere protection to spending money, entrepreneurial functions and other developmental functions (for instance, refer to the controversy of granting bhabbar grass leases by many HRMS in Haryana in favour of contractors in Chapter Seven).

Rules for utilisation of forest produce and protection need to be self-imposed and their acceptance by all would be in the interest of viable FPCs.

High *awareness* about their forest resources, rules of utilisation, protection and good communication within the FPC and with the external agency, will sustain collective efforts.

Initiative and independence from the external agency is best. Too much dependence for support is not good.

Tenure needs to be secure. FPCs should strongly feel that the regenerated forest is “ours” – possible only with a change in laws and Forest Department attitude, discussed in Chapter Five.

Satisfaction of needs should be widely shared. The output of protection should enhance satisfaction of all, as few as possible should be left out, the principle of equity should be followed in distribution, and there should be certainty of benefits.

Summing up

In summary, emergence of community cohesiveness and participation cannot always be taken for granted, even when the people face distress. In Orissa, where success stories can be found in every district,

the total area under protection by indigenous groups is much less than 10 per cent of the total forest area of the state. This could be enhanced substantially if the problems faced by the groups, and especially those which groups cannot resolve on their own, such as inter-village disputes, demarcation, relations with external institutions and markets, are taken care of by the government.

In other words, the capability of a village group to manage commons may be enhanced if the group is supported in its efforts by government. This has often been the case in success stories of Joint Forest Management, in which the Forest Department helps the group in removing encroachments, providing funds and technical help, mediating in inter-village and intra-village conflicts, and taking legal action against free riders.

Local collective action has been undermined by a number of political and economic processes (Bardhan 1993a, 1993b). Village societies have become heterogeneous, and market forces have commercialised the once subsistence economies, integrating them into the urban and national economies. The overall result has often been to forestall local action. One way out of this hiatus is:

co-management-cooperative management arrangements between state and local organisations in which states assign group rights to specific resources, establish overall guidelines for inter-group interactions, and help to create more positive environments for the operation of local organisations. The latter can then mobilise local participation in resource management and advise the state on the desirability of proposed management practices. (Swallow and Bromley 1994: 5)

The precise distribution of control and management between the state and the local group should depend on a number of situation-specific factors, such as the ease with which groups can be formed and can retain cohesiveness. The process of sharing decision making and management of forest lands will then proceed at different paces in different conditions. Such cases of State and people collaboration are described in the next Chapter.

*Four***STATE SPONSORED
PEOPLE'S PARTICIPATION****Need for people's participation**

As discussed in Chapter One, forests were brought under government control presumably to save land from unregulated over-exploitation by the local people. This policy was based on the assumption that government is capable of enforcing its property rights, which in turn is built on the following propositions:

- People are afraid of interfering with State-owned property.
- General public has regard and respect for the rule of law.
- Law can be enforced effectively with punitive provisions against law breakers.
- A symbolic presence of forest staff representing the authority of law will be sufficient to deter potential law breakers.

It is a moot point whether the above assumptions are still valid in India in the context of ineffective laws, slow-to-act legal systems and growing societal indiscipline. Modifications and improvements to “the teeth of law” have been attempted, but to no avail.¹ Forest officials have responded to increasing pressures on Forests by ignoring incidents of illegal grazing and firewood collection because these are far too numerous and difficult to prevent. The Forest Department's

¹ For instance, the Government of India tried to introduce a Bill in 1980 in which Forest Officers sought to be given very wide powers of arrest and seizure of implements for committing offences, but powerful press and NGO opinion against such draconian measures forced the government to drop the Bill.

policing for exclusion leads to conflicts² and unrest, which make democratic government unpopular. Such over-use and high cost of enforcing property rights convert government lands into open access property, leading to further degradation and even encroachments. It is paradoxical that, by assuming ownership and responsibility for resource management, governments caused many of the former CPR systems to break down, in fact creating the very type of open access situations they were intended to control (Dembner 1995). Some field officers have therefore concluded that the traditional strategy of checking deforestation through bringing an area under government control and punitive action against the local people has generally failed (Khullar 1992).

Hence the need for radical new strategies which are compatible with the existing social environment. It is widely believed today that any effort towards reforestation can yield results if it involves local people in protecting trees. The people would obviously demand a share in management and usufruct as a price for the opportunity cost of their labour. Several experiments have been tried in India in which the Forest Department decided to alienate some rights to the people in exchange for their willingness to protect and regulate over-use. Such schemes, if properly implemented, could have wide-ranging implications for forest regeneration and welfare of the poor. These government initiated experiments in people's participation are discussed below.

People's participation – four models

“People's participation” has become a standard rhetoric among policy makers in India today. Different actors interpret it differently. Staff engaged on project implementation understand participation as getting people to agree to and go along with a project which has already been designed for them, or to get support of a few leaders. “I manage, you participate”, has been generally the dominant underlying principle behind government projects (Shingi *et al.* 1986). These have tended

² In Gujarat alone, each year an average of 18,000 forest offences are recorded. These include 10,000 cases of timber theft, 2,000 for grazing, 700 for fire, and 5,300 others. Between 1985 and 1989 there were 376 incidents of assaults in which 383 forest officers were injured and four died (Pathan *et al.* 1991: 3; Pathan 1992).

to try to make people aware of their responsibility towards the environment and future generations by exhorting them not to cut trees, or to sell their goats. People's participation is then expressed not in a manner which would establish their rights over land or its produce. The important question is, participation for whose benefit, and on what terms?

Kuperus (1987) presents FAO's definition of people's participation as "the process by which the rural poor are able to organise themselves and, through their own organisation, are able to identify their own needs, share in the design, implementation and evaluation of the participatory action". Thus various elements of participation are decision making at various stages, control and management of funds, share in usufruct and final produce, and ownership.

Up to 1990, the experiments tried in securing people's participation in forest management in India have generally not gone as far as recommended by the FAO, although the extent of control transferred in these experiments has varied widely. These will perhaps fit into four models, as shown in Table 4.1 and discussed below.

Table 4.1. People's participation – examples of four models

People as:	Nature of rights to the people	
	Full use rights	Limited rights
Individuals	Privatisation of Forest lands, as in BAIF project and tree patta ³ schemes	Wages as share of produce or limited use of land, as in social security schemes and taungya
A collective	Leasing in favour of the entire village, as in Sukhomajri (Haryana) and van panchayats (UP)	Control by FD and protection by the village, as in West Bengal and Gujarat

³ Leasing of land for growing of trees, but crops are not permitted and ownership rights on land remain with government.

People as individuals – limited rights

One strategy which has been tried in several states since the 1970s is to ask the poor to raise trees with their labour on Forest lands and promise them, in addition to wages, a share in the intermediate products and final produce. Thus FD retains ownership of the land and control over operations, but people too develop a stake in protection.

In Maharashtra during the 1970s, the poor were engaged in afforestation of 2-4 hectares of barren FD lands per family. The poor family was provided with material worth Rs 200 per beneficiary to construct a hut on the land. For their labour contribution they were paid Rs 150 per month for the first five years. They were also entitled to fruits from the trees planted by them. From the sale of the final product, the scheme provided half of the net realisation to the family. The scheme did provide wage employment but the other planned elements appeared problematic, as the scheme lacked credibility for the poor (Chambers *et al.* 1989: 154-155). In order to ensure that people did not develop a long-term interest in Forests, the implementing officers avoided publicising the welfare clauses of the scheme. A field study (Hiralal 1986) revealed that the beneficiaries had no knowledge about sharing of the final income or of their right over intermediate products. More than 80 per cent of the trees planted were teak, a commercial species, which would not yield any benefits in the short run.

Several states like Gujarat, Rajasthan, Madhya Pradesh and Karnataka have tried such schemes. The Andhra Pradesh experience was known by the name of the Family Assistance Scheme.

This was the only scheme in Andhra Pradesh in which people were involved in afforesting forest lands during the 1980s. Despite the fact that expenditure on labour per hectare of plantation was almost three times that on normal departmental works, the scheme has had only limited success due to a variety of shortcomings in its implementation. First, nowhere had any agreement been executed or any letter given to the poor establishing their claims to usufruct. Secondly, there were often problems in ensuring continuity in wage employment, as the same people did not turn up every year. Further, each year the workers were shifted to a new site. They did not work on a sequence of contiguous plots as was envisaged in the scheme.

Discrepancies existed from district to district on what was told to the beneficiaries, and the degree of effort made to accommodate local needs. Finally, species selected such as *Eucalyptus hybrid* and *Acacia auriculiformis* did not produce any intermediate goods of substantial benefit to the poor. Their sense of identification with the planted trees would have been stronger had usufruct-giving trees been planted.

The result of all this was that the beneficiaries saw themselves as wage employees. The part of the deal concerning share in the final produce meant little to them. Even where the scheme had succeeded, it was only on distant lands, where in any case there was no problem of protection, and through planting of eucalyptus. The same output could have been easily achieved at much less cost through departmental works. Thus a lot of money was spent for an output which did not require intensive supervision. One could have justified higher expenditure if a labour-intensive crop like cashew or tamarind was planted, which would have improved annual incomes of the labourers through gathering of usufruct for many decades. Income to the poor through departmental sale of eucalyptus means giving charity to the poor without expecting higher labour efforts from them. Ultimately the scheme was given up as it was held to be contravening the Forest Conservation Act.

People as individuals – full rights

Full use rights in favour of individuals can be created through leasing forest lands. Although the Forest Conservation Act does not permit leasing now, before 1988 a few experiments of leasing forests to the people were tried. One example is of the Bharatiya Agro Industries Foundation (BAIF), a large and reputed voluntary organisation active in work with poor farmers in several states. In Vansda Taluka of Valsad District in South Gujarat, 700 hectares of barren forest land was leased out to tribals on the basis of usufruct. On each plot of land a tribal family worked to plant mango, other fast-growing trees such as subabul, eucalyptus, casuarina and bamboo, and other varieties such as amla, neem, drumstick, mahua and jackfruit. The scheme envisaged that if the plantation succeeded, lessees could retain two-thirds of the land, and the rest will revert to the FD.

By 1987 over 5,100,000 trees had been planted on leased forest land as well as on the tribals' private land. By 1988 more than 5,000 families from 40 villages had registered under this scheme. Despite its best efforts, BAIF was not able to gain access to more degraded forest land, because of restrictions on leasing forest lands after 1988. The tribals were still keen to plant trees on their private land, as long as they got subsistence help during the first few years. This was arranged by the NGO. Since then, the scheme has continued on private lands.

The Forest Farming for the Rural Poor (FFRP) programme in Orissa enables the rural poor to practise both forestry and agriculture on degraded government (but non-Forest) lands on a usufruct basis. The poor are assisted with seedlings, fertilisers, and wages. All capital expenditure is borne by the Government but produce is to be used by the person. An evaluation (NISWASS 1986) revealed that there was a good response to the scheme which could be tried on a larger scale. The biggest drawback was that the scheme did not give any secure title over land to the poor, and therefore their interest in it was short term, limited to immediate benefits. Another evaluation (SIDA 1987) of this scheme reiterated that there was no written contract or document safeguarding the rights of the selected beneficiaries, and they had to rely on the assurances of the project officers. Even worse, the state government did not clarify until 1992 the kind of rights to land or trees to be conferred on the persons identified under the FFRP scheme.

Conditions of insecure land tenure deter the poor from long-term investment. It would be irrational for them to plant trees when they cannot be sure of their possession of the land ten years later. They are naturally tempted to take a quick agricultural crop – meagre and marginal though it may be – rather than wait for a tree crop to mature. If land is too degraded for a crop, it is liable to be left fallow, without trees being planted, thus defeating the very purpose of land distribution in the first place. It is significant that private tree planting is more successful in western and north-western India – areas with better traditions of owner cultivation and secure land rights – than in the eastern states, although the latter are better endowed with natural advantages of good soil and adequate rainfall. Only secure tenure encourages long-term investment.

Given good extension and proper technology such schemes⁴ can be successful, yet leasing Forest lands on a large scale has several other implications which are discussed in the final Chapter.

Full use rights to people as a collective unit: Sukhomajri (Haryana)

The success of the Sukhomajri project in Haryana in achieving people's co-operation is well known, thanks to the interest taken by the Ford Foundation. Due to over-grazing and consequent soil erosion in the catchment area, Sukhna lake in Chandigarh was silting up. To control this, a number of earthen dams were built in the uplands, from which each household was assured an equal amount of water, irrespective of whether it owned land or not. In their own self interest the village people sold their goats and kept their grazing animals away from forest lands which provided the catchment for the dams. The area sprang back to life, and is now full of grasses, shrubs and trees. The value of *Acacia catechu* trees alone, which have grown because of people's protection, is estimated to be several million Rupees. In addition, people have benefited from improved agriculture and dairy development (Chopra *et al.* 1989).

Several critics argue that what was possible in Sukhomajri is not easily replicable as, unlike other villages, Sukhomajri was homogeneous, being almost a one-caste village of Gujjars with equitable land distribution which helped minimise conflict. To explore the viability of the model the project was extended to about forty neighbouring villages.

During the period 1983-88, this remained essentially a Dam and Lease Programme, that is, the Forest Department constructed a dam for collecting rain water, registered a village society, called Hill Resource Management Society (HRMS), and transferred grazing and collection rights on Forest lands to the village society. The principles of equal rights and responsibilities, villagers' commitment to protection and regeneration of the forest areas were overlooked. At some

⁴ Another example, though on non-forest public lands, is Group Farm Forestry Scheme of West Bengal, discussed in Chapter 6.

places the problems of dam breaches, and poor distribution of resources emerged. In some other villages, powerful leaders took over the management of forest lands, and began acting as contractors for the sale of fodder grasses and bhabbar (*Eulaliopsis binata*, a valuable grass which is used both by the artisans for making rope and by the pulp industry). These problems were not only due to inadequate attention on the part of the Forest Department, but also to inter- and intra-village conflicts over forest utilisation.

However, after 1988 the Forest Department, aided by some NGOs including the Tata Energy Research Institute (TERI), has become more active in equity and participation issues. Despite problems, there has been overall improvement in the forest cover and the productivity of crop lands. Open grazing on forest lands is controlled; e.g., in village Kahinwala the number of animals were reduced from 135 goats and 65 cattle in 1989 to 55 goats and 26 cattle in 1991 (Poffenberger and Sarin 1994). From the increased incomes due to bhabbar leases, many families have purchased stall-fed water buffalo for commercial dairying.

Thirty-nine Hill Resource Management Societies (HRMS) are working in the Morni-Pinjore range of the lower Shivalik hills of District Ambala, Haryana.⁵ In the three successful societies studied in 1992, TERI claims that the tree density has increased from 91 to 472 trees per hectare in ten years. The effect of protection on stocking of trees in five different sites with varying periods of protection is shown in Table 4.2.

Most increase in stocking had taken place by the sixth year. The stocking of *Acacia catechu* increased most favourably whereas the number of *Acacia leucophloea* declined. The total population of shrubs increased significantly for the first three years, but showed no increase after that, in fact declined from 9,000 to 7,000 per hectare between years 3 to 10. A similar response was noted for grasses. If grasses are considered more valuable, wider spacing for trees and species with lighter foliage would need to be included.

⁵ Rastogi (1995) reports that six societies are working very well, 23 poorly, and 10 are somewhere in between.

Table 4.2. Effect of protection on the number and girth of trees in Haryana

Protection Period in years	No. of trees per ha in girth class (cm)					Total
	<20	20-40	41-60	61-80	>80	
0	6	63	20	1	1	91
1	17	70	30	3	2	122
3	33	100	42	-	-	175
6	73	205	117	27	10	432
10	93	187	130	47	15	472

Source: TERI 1992

Problems of implementation in the Haryana model

The Haryana experience is unique, as in no other state do the FPCs manage FD lands and enjoy the exclusive rights of disposing of fodder and bhabbar grasses. However, the system of sub-contracting bhabbar grass to one of the powerful members of the village community has been criticised. Some argue that the harvesting of bhabbar is a specialised activity requiring high skills and is best left to a contractor, who then hires *banjaras* (a nomadic tribe), a community which specialises in extraction of the grass. Not every one is skilled enough to supervise and monitor this activity. Others such as the Forest Department argue that despite the formation of the committee the system of middlemen continues, although now the middleman is from the committee itself. The contractor protects the forest during the production cycle of bhabbar, leaving the forest to open grazing during other months. The HRMS, on the other hand, complains that it is asked by the Forest Department to pay the entire lease rent in advance, and not in instalments, and therefore is forced to rely upon a contractor to arrange for the advance cash.

Secondly, in many villages land degradation is high and mere protection is not enough. However there is no budget provision for communities undertaking soil and moisture conservation measures,

The Dhamala Hill Resource Management Society in Haryana (AFC 1994)

The Dhamala Society has 105 households, with Jats, Brahmins and SCs (scheduled castes) being the main castes. Most of them are small to medium farmers, with holdings of less than five hectares. 65 families use kerosene and 5 have LPG connections, the rest of the poor families collect dry and fallen wood. Protection of 260 hectares of shamlat uncultivated lands (village commons) has been undertaken by the village. The Forest Department constructed two dams which irrigate the lands of 100 households. Water is shared on an equal basis by the villagers.

The Dhamala HRMS was registered in 1983 and the Executive Committee consists of 9 members, of whom 3 are women. The villagers are entitled to collect grass, for which they pay Rs 200 per year per household to the Society. The yield of fodder grass has not declined, which is an indication of effective protection. The Society has sub-let its rights of collecting bhabbar grass to a sub-contractor for Rs 28,000, who makes allegations of illegal removal of bhabbar by the villagers. In addition, the reservoir of both the dams are being used for pisciculture by a private contractor who pays Rs 4,000 to the Society.

The overall management by the villagers is passive, they merely restrain themselves from illicit removals. There is over-grazing during winter months. There is extensive infestation by lantana (a weed), and the crown density of trees after ten years of protection is about 20 to 25 per cent. Despite these weaknesses there is a high level of awareness and enthusiasm amongst the villagers. Though the village is multi-caste, there are no caste tensions. There is considerable social pressure against forest offences, and violation of rules leads to social boycott. There has been improvement in tree cover, although the pace has been slow.

or gap filling and enrichment planting, or of re-seeding fodder and bhabbar grasses. People are willing but there is no government scheme for sharing of benefits and costs.

Problems of breaches of dams, siltation, clogging of pipelines and poor distribution of water have emerged. In some cases, the original construction was faulty, in others negligence, poor maintenance and lack of collective action regarding sharing of water have been the reasons for general failure. Further, the construction of dams has not

been preceded by extensive planting in the catchment area (except in Nada and Sukhomajri) which has led to erosion of catchments and siltation of reservoirs (Dhar *et al.* 1991).

In addition, no arrangements exist for help in the marketing of processed goods such as baskets (see from pages 120-128).

Lastly, grass leasing arrangements are not integrated with long-term resource management requirements of the larger forest ecosystem. As protection succeeds, grass production goes down after a few years and tree cover increases. At this stage, various vegetative manipulations may be necessary to continue production of bhabbar grass. At the same time, villagers need new rights to trees and tree products, which are not part of the agreement at present.

Inter-group conflict in Haryana

Where more than one village shares traditional rights to the same forest patch, inter-village disputes arise (Sarin 1993). These become more complex because different groups with different interests and occupations live in different villages, and demarcation of the forest patch becomes difficult. Often gathering rights do not extend to all commodities, thereby discriminating against some village communities who depend upon that commodity. In village Kalka, people can take bamboo, but not stones, which they require for their occupation. In Meerapur, very good *Acacia catechu* trees exist, but people have no right to the trees or to *katha* (a valuable NTFP) which is extracted from the tree. On the other hand, because of healthy *Acacia catechu* trees and lantana the production of grass is almost nil, and the village society is close to being extinct. Forests thus have to be maintained for multiple products, and the rights of the people should be extended to all outputs. A strategy of integrated resource appropriation is lacking. Also, the key question of maintaining grass yields has been neglected.

Conflicts also arise between the panchayat and HRMS (such as in Lohgarh). When there is a shortage of funds in the panchayat, it expects the society to contribute funds, which is resented by the society. The panchayat is a power-sharing body, whereas the society is a resource-manager. The two are often in conflict, an issue which is addressed in Chapter Five.

In principle, the villagers' interests are quite simple. If they can be assured of better satisfaction of their needs for forest produce, they will be willing to co-operate with the improved management of forest areas. But, in practice, the simplicity ends there. This is because, unlike the FD, villagers have diverse needs and priorities. These vary with economic status, cultural traditions, caste, division of labour between sexes, and with the occupations of different groups of villagers. Generally, the greater a group's dependence on forest produce, the greater is its intrinsic interest in assured access to forest produce, improved productivity and sustainable management of forest lands.

In Haryana's Shiwalik belt, villagers dependent on forest produce fall into three categories (Sarin 1991). First, there are grazier communities like Gujjars, who are dependent on open grazing. The graziers cannot shift to stall feeding, which implies considerable availability of family labour per livestock for hand-harvested grass. It also requires more capital for buying animal feed. But the tradition of open grazing often damages forest vegetation. The second category is comprised of such occupational groups as the bamboo basket makers and bhabbar rope producers, whose dependence on forest lands is not intrinsically damaging to the forests. Their conflict with forest staff is normally over existing rules preventing them from meeting their requirements of raw material, or FD policies giving priority to contractors or industry.

For these two communities, direct consumption of forest produce or processing it is their main or only source of livelihood. Due to their near-total dependence on forest produce, both these communities live very close to forest lands, and use these lands intensively. Their social and economic status tends to be low. Other communities also see them as backward and primitive. Often there has been a tradition of mistrust and hostility between these communities and the FD, making it difficult to start a dialogue with them.

The third group consists of communities who have shifted to commercial buffalo milk production, and obtain grass from forest lands as a backup fodder support. In addition, they collect fuelwood and small timber. The poorer members of such communities are more dependent on such products than the well-off farmers. The well-off agriculturalists are interested in enforcing a total grazing ban to protect the village irrigation tank from siltation (Sarin 1993).

Arriving at a consensus becomes even more difficult when different groups with different interests, described above, live in different villages, all having traditional rights in the forest. This adds a third dimension to the other two divisions along caste and occupational lines. The main issue to be resolved in such a case is whether each village should have its own society, or all villages should have a common society, which would then obtain the lease from the FD. The other issue, no less important, is whether forests should be managed for production of bhabbar grass, to be utilised in rope making or for fodder grasses. In such villages, despite the best efforts of the NGOs, Ford Foundation and the Haryana Forest Department, a lasting consensus has been almost impossible to reach. Although efforts must continue to prepare villagers for total self-management of forest resources, one should also be conscious of the problems.

Restricted rights on forests to people as groups: Arabari (West Bengal) and Gujarat

Despite shortcomings, the Arabari model has shown the greatest potential for replication, especially in areas where sal (*Shorea robusta*) is the dominant species. It is an excellent coppicer, and provides sal leaves and sal seeds which can be harvested on an annual basis to support people's livelihoods. There is greater diversity of NTFPs in sal forests, such as mushrooms. As control and management remain with the Forest Department, the scheme does not threaten their dominant role. Whereas the Sukhomajri model of leasing rights in Forest lands could not succeed beyond a few dozen villages, the Arabari model, in which villagers protect Forest lands and help in natural regeneration in anticipation of rights of collection and a 25 per cent share in timber, had already spread to more than 152,000 hectares of degraded Forest lands in south-western Bengal before the June 1990 guidelines (Poffenberger 1990). It is now in other Indian states such as Gujarat, Rajasthan and Madhya Pradesh.

The Arabari experiment

The land ownership pattern in the southern laterite tracts of West Bengal corresponded to the zamindari pattern. The zamindars con-

trolled the entire village, both cultivated and village forests, but lost control over both by the early sixties with the abolition of the zamindari and take-over of private forests. While cultivated lands were settled with tenants who acquired ownership rights to the land they tilled, uncultivated village forests were vested with the FD. Vast deforestation took place during this time, as the zamindars wanted to remove as much timber as possible before forests went to the government. Migration from East Pakistan (now Bangladesh) increased pressure on forests. Due to the dispersed nature of these forests, government too found it difficult to effectively check its over-use, and by the early seventies, the forests – once a rich and dense source of food, fuel and fodder – had become virtually unproductive because of unregulated fuelwood collection by poverty-stricken people and grazing by village cattle. This increased the levels of soil erosion, as without tree cover the red sandy soils lost much of their retentive capacity. The farming systems in Midnapur, Bankura and Purulia districts were severely affected because of the rain-fed nature of agriculture and the great dependence on forest resources.

In 1972, the Divisional Forest Officer, Midnapur, West Bengal, took over a block of 1,272 hectares of denuded forest for rehabilitation. Until then, the stumps left in the area had thrown up vegetative shoots every year which local poor people cut down and sold in the nearby market for subsistence. The value of the forest in terms of commercial timber in 1972 was nil.

The rehabilitation scheme focused on generating sustained productive employment in the forest area, so that people did not have to sell fuelwood in the market. The project also grew fuelwood so that people could get it for a token fee at cost price and arranged cattle grazing on a rotational basis. The project permitted the people to raise paddy on forest lands, which was sold to the same people at cost price. Thus all immediate requirements of the people were taken care of. It was also promised that people would get 25 per cent of the final produce if the scheme succeeded. In the period 1972-1985, people's co-operation was almost complete. Productive employment was created by maintenance of shoots that grew on stumps over 700 hectares, and plantation of *Acacia auriculiformis*, *Eucalyptus hybrid*, cashew nut, sabai grass and sisal over about 560 hectares. People received their fuelwood and plough pieces at cost price and rotational grazing

areas for their cattle. The government of West Bengal in March 1987 approved the distribution of 25 per cent of the timber revenues to 618 beneficiary families in view of their exceptional co-operation in the maintenance and protection of these forests.

The aim was to make these people realise that they had a vested interest in the health of the forests. This attitudinal change was achieved by making them responsible for the protection and maintenance of the forest tracts near their homes and sharing the forest produce with them in a fair and equitable manner. This arrangement made it clear to the people concerned that they had a right to enjoy the enhanced benefits of forests, but this right was accompanied by their duty to nurture and protect the forests.

A once totally degraded government forest has now become a lush forest. The commercial value of the standing crop, which was nil in 1972, has been calculated at Rs 90 million in 1988. In 1987-88, 97 hectares of sal coppice forests and eucalyptus plantation was sold for a revenue of Rs 1.8 million through sale of 2,540 cubic metres of firewood and 92,947 poles. From this 618 families received Rs 379 per family, as a 25 per cent share, in addition to Rs 600 per family as wages during harvesting. Up to 1990-91, 181 hectares of forests had been worked from which an average family received Rs 1,938 as a 25 per cent share, in addition to Rs 1,618 from collection and sale of sal leaves, etc.

The Arabari experiment has been a big success and people's protection by 1993 had already spread to 2,350 villages and 350,000 hectares of degraded FD lands, leading to immense improvement in their productivity (CMA 1994). The initiative to form an FPC often came from the village with the FD readily agreeing to formalise the arrangement. The area protected by the FPCs covers about 60 per cent of the total Forest land in the region. In many cases protection had started even before 1989, the year when the West Bengal Government issued orders to share produce with the village communities.

Functioning of the FPCs

In most cases the pattern of FPC formation has been similar. After a consensus was reached to form an FPC, a list of participating households was drawn up and office bearers were selected. In multi-caste

villages, usually representatives from all castes were included in the executive committee of the FPC. The initial years of protection are difficult, as the group has to not only restrain itself from unrestricted use, but also struggle hard to establish its authority over the area *vis-à-vis* other villages. Once the FD recognises the right of the FPC over an area, the intensity of the vigil increases. Protection was accomplished through patrols and fine systems. The FPCs did not function well in villages where only a few families were involved. Also, the system of paid workers as watchmen did not have the desired results.

Using a sample of 42 Forest Protection Committees (FPCs), studies by IBRAD (Malhotra 1995), a Research Institute in West Bengal, found that:

- Seventy-four per cent of the FPCs were functioning reasonably well.
- There was considerable heterogeneity of ethnic composition, number of villages, and proportion of participating households among FPCs.
- The smaller the number of villages participating the greater the FPC effectiveness.
- The greater the proportion of tribals in the FPC the greater the effectiveness. In general, tribal communities are better managers of forests because of their better knowledge, greater economic dependence on the resource, cultural traditions, and prevalence of community institutions.
- The greater the proportion of households in each participating village included as FPC members, the better its management of the forest.
- FPCs with low forest area per member were found to be severely lacking in incentives.

Peer group pressure, small fines and social sanctions were commonly used for control by the FPCs. Heavy monetary fines are generally not imposed because FPC members believe that imposition of heavy fines would result in retaliation by the offender by cutting more

forest. In difficult situations and where outsiders were involved, the backup authoritative support of the Forest Department was sought. People felt that their authority was undermined in situations where the FD did not support them. In such cases the relationship between the FPC and FD were strained. FPCs desired formal recognition from the FD, and this was reflected in their demand for issuance of identity cards. Government orders stipulate that the Beat Officer should convene the FPC meeting. However, there are practical problems, as the Beat Officer has to look after a large area. Therefore meetings are convened by the villagers whenever necessary, often without the Beat Officer.

There are two clear groups involved in forest protection. On the one hand there are the forest-dependent groups who have a very real concern to protect the forest in order to ensure continued collection of NTFPs. They are less concerned with sharing final harvest benefits. On the other hand, there are land-owning groups not very dependent on the forest for whom the promise of sharing in the final harvest is a primary concern and incentive for participation. Because of their position, they are on the FPC committees and have a major voice in decisions. The poorer group feel that they do most of the protection yet do not get a larger share, because they cannot assert themselves against the land owners on whom they are dependent for wage labour and cash loans. Such class differences are less important in tribal villages.

There are regional variations in the pattern of sharing. In North Bengal, with high forests, the full production of timber will be retained by the FD, but the people will get a 25 per cent share from the sale of firewood and poles. In the Sundarbans, the crop has to be more than 15 years old at the time of harvesting, as opposed to ten years for South Bengal.

Outcomes of protection

Economic benefits via NTFPs

Regenerating forests created expanded livelihood opportunities from increased production of grasses, leaves and gatherable biomass. Some ethnic variation was observed in the use of NTFPs. For example, mahua flower, bakhar root and the karkut (larvae, used as human

food and fish bait) ants were exclusively consumed by the tribals. In Jamboni range in south-west Bengal, a study (Malhotra *et al.* undated) of 12 communities indicated mean household incomes from major NTFPs for a tribal and caste household to be Rs 2,523 and Rs 2,738, which constitutes 22 per cent and 16 per cent respectively of the total family annual income.⁶ The greater availability of a range of NTFPs also allows some forest communities to reduce their dependence on commercial fuelwood headloading. After six years of protection in Raigarh village of south-west Bengal, men had reduced their labour allocation for fuelwood cutting from 47 per cent to 14 per cent, while increasing their labour inputs for NTFP collection from 12 per cent to 41 per cent. In this area, the collection of medicinal species was an important source of cash. The most commercially important of these were *bel* (*Aegele marmelos*) and *kalmegh* (*Andrographis paniculata*), while the highest value medicinal plant *sarpaganda* (*Rauwolfia sapantina*) fetched the gatherers Rs 65 per kilogram. In addition to medicinal plants, villagers also collected sal leaves and seeds, fruits, fuelwood, fodder, mahua flower, discoria, tubers, tassar and mushrooms. Production of *sabai* (*Euliopsis binata*) fibre grasses and the collection of *tendu* leaves (*Diospyros melanoxilon*) for locally rolled cigarettes, called *bidi*, are also important. Mushrooms are collected during the rainy season by women and children, when no other employment is available. The study team also estimated that income flows from NTFPs over a ten-year rotation is three to seven-fold greater than the amount a household will receive as its 25 per cent share from poles.⁷

⁶ Income has been calculated on the basis of total consumption plus savings. Thus the income from NTFPs takes into account the market value of NTFPs consumed by the family plus the cash received from sale of the remaining NTFPs gathered by the family. No allowance has been made for labour effort in collection and selling of NTFPs, or in protection of forests. The average annual rural household income in 1992 for India as a whole was Rs 15,000.

⁷ Again labour input has not been taken into account. It may be argued that the household has to make virtually no input to get the income from poles, whereas gathering NTFPs requires labour.

Biodiversity

Tree growth studies (SPWD 1992a, 1992b) indicated that in degraded, unprotected areas no trees are found with a GBH above 10 centimetres. After five years of protection sample survey plots averaged 765 trees above this size, increasing to 961 after ten years of protection. The basal area for sal trees alone increased from zero in unprotected areas to 7 square metres per hectare after five years and 16.3 square metres per hectare after ten years, with similarly impressive gains in biomass productivity. Another study found 122 plant species in naturally regenerating sal forests as opposed to only seven if eucalyptus and *Acacia auriculiformis* were planted on forest lands. Mushrooms and herbs did not occur on plantation soils, but supported poor people's livelihoods in regeneration forests where they occurred in the wild.

In one study (SPWD 1993) of regenerating sal forests in south-west Bengal, researchers found 214 species of flora and fauna after five years of regeneration. The study also discovered the local tribal community members used 72 per cent of the species present, including 47 species of medicinal plants and 39 edible species. Among them were 6 types of tubers and 11 varieties of mushrooms. In all 28 species are collected for sale. Thus increased biodiversity in the sal forests increases subsistence and incomes of the poorest people.

Problems in marketing

A large number of households are engaged in sal leaf plate making. However, income depends on marketing infrastructure. When men are busy with the agricultural operations, women have no option but to sell in the village itself to the agents who visit the village and pay only Rs 1.5 to 2 per 100 plates. If sal plates are sold in the village itself to rural consumers, villagers get Rs 3 to 3.50 per 100 plates, whereas the retail markets of district towns offer Rs 4 to 5. The latter option involves six to seven hours of travel and all the plates may not get sold. In the bigger markets sal plates made in Bengal have to compete with the ones made in Orissa, where the wage rate is lower and the quality of sal leaves is superior.

In 1980 the government claimed monopoly rights of collection and disposal of tendu leaves and sal seeds. These operations are exe-

cuted by LAMPS (Large Multi-Purpose Societies) for a para-statal, WB Tribal Development Cooperative Corporation Ltd. However, LAMPS have not been able to arrange for prompt payment, so private trade has not been eliminated. Delay in disposal of sal seeds by LAMPS leads to loss of oil. The relationship between LAMPS and gatherers is that of wage payment only. This employer-employee relationship is against the philosophy of co-operatives or of JFM. These marketing issues are discussed in detail in the next Chapter.

Encroachments

A major fear of some forest officials is that JFM will lead to encroachments of government lands. In fact the reverse has happened, and some old encroachments have been given up by the people because of popular pressures. The figures for one district are shown in Table 4.3.

Table 4.3. Recovery of encroached land in Bankura

Year	Annual recovery of encroached land (ha)
1988-89	30.45
1989-90	30.52
1990-91	112.55
1991-92	125.52

Women's involvement in forestry in West Bengal

The revised orders issued by the West Bengal government in 1991 direct that both men and women be joint representatives to the FPCs. However, a field study for the World Bank of Jorkusma and Lekhiasole villages (Guhathakurta and Bhatia 1995) showed that the lower-level staff knew about the revised orders but had taken no action as they were expecting further advice from the DFO about its

implementation. The women had no idea about this government order nor had the officials raised it with them. No specific attempts were made either by the forest officials or the male members of the FPC executive to involve women in the running of the FPCs. Women's non-involvement in management has two causes: social constraints due to age-old conventions, and physical constraints imposed by diverse household duties of women so they can hardly find time for FPC activities.

However, women are involved in gathering of NTFPs much more than men, as shown in Table 4.4. The proportion of consumption of NTFPs in the household is equal between the sexes. Processing of NTFPs was done exclusively by women. Even in marketing NTFPs, for every two females one male was involved. The distribution of males and females in collection of particular items of NTFPs is shown.

Table 4.4. Gender difference in collection of forest products

NTFP	Number of species gathered by:	
	Females	Males
Food	37	7
Fodder for goats	3	3
Fuel	38	4
Structural	2	2
Religious	4	1
Ornamental	2	0
Medicinal	5	14
Minor household articles	3	0
Number of species exclusively collected by women		71
Number of species exclusively collected by men		23
Number of species collected by both		10

Source: Chatterjee undated

NTFPs accounted for 20 per cent of household income. Men contributed little to sal leaf plate making. In marketing mushrooms, fruits, mahua flowers and liquor men contribute to the extent of 25 per cent. In sal leaf plates, tendu leaves and mats, marketing is done mostly by men.

The study concluded that women should be involved in FPCs actively in greater numbers for the following reasons:

- They are more prudent resource users.
- They would provide stronger social fencing through more effective patrolling.
- They would provide sustenance of forest-based household industries.

Replicability of the West Bengal model

While Joint Forest Management has resulted in substantial regeneration in southern West Bengal, it is too early to pass a definitive judgement on its implementation in other states. The critics of the programme point to peculiar conditions prevailing in southern West Bengal; such as:

- Historic land-use pattern under zamindari led to dispersal of forest plots, and thus made departmental management difficult.
- Favourable and stable political climate, the state being ruled by the Communist Party since 1977 which has several rural development successes to its credit.
- Commercial value of forests was almost nil after the 1960s which encouraged the Department to innovate.
- Dominant species is sal which not only coppices well but gives useful non-timber products on a regular basis.
- Benefits from sal pole harvests under a coppice management system begin flowing in five years, and from sal leaves even earlier.
- Topography of forests which makes each forest coupe identifiable with one or a group of villages.

- Ethnic homogeneity of the population in many villages.
- The panchayat system was in operation for more than a decade which increased devolution of funds and responsibility for them, increasing people's awareness about local issues in the process.
- People's fuelwood demands were met from the eucalyptus plantations raised on private lands, thus reducing dependence on forest lands (see Chapter Six).

On the other hand, supporters of the programme argue that there is no need to be unduly pessimistic about its success in other states. There are many instances from throughout India where people on their own initiative started to protect forests, of which CHIPKO (UP) and Ralegan siddi (Maharashtra) are well-known examples. In other areas too, many communities have protected their disturbed environments for a long time to allow natural regeneration, independent of government initiatives. The view that community participation is an empty slogan, or can work only on very small areas in exceptional circumstances and then only for a short period, or that rigid stratification of village society in India inhibits development of institutions representing a common will, appears simplistic and exaggerated in the face of positive evidence of community action from diverse agro-ecological zones. Even if it is assumed that most effective local institutions develop in those small communities where people know each other, it should be remembered that most forests in India are located in the hills, uplands and tribal regions which have ethnically homogeneous communities living in small and less-populated villages. Hence it is argued that the present emphasis on JFM in almost all states of India is well placed. However, not enough is known about the progress of JFM in other states, except Gujarat, which is considered below.

JFM in Gujarat

Gujarat has a little under 10 per cent of its geographical area declared as forests, much of which is seriously degraded. The Landsat Satellite imagery from 1985-87 indicates that 40 per cent of all State Forests had less than 10 per cent crown density, and another 31 per cent had

a crown density of only 10-40 per cent. JFM has been attempted in the southern districts of Surat, Valsad, Sabarkantha and Bharuch, which account for 37 per cent of the total forest area of the state (SPWD 1992a: 16). Teak is the main species in these districts. Twenty-five per cent of the population in these districts is tribal.

The forest scene in Gujarat has a number of distinctive features. First, the state is highly industrialised and migration of the poor from less-developed regions to towns on a seasonal basis takes place on a large scale. Second, there is significant emphasis on raising cash crops, such as groundnut, cotton and tobacco. Third, most lands now classified as FD lands were inherited from some 200 ex-princely states. The local rulers leased out forests to contractors for timber felling, and there was no tradition of government management of these lands in the British days. Fourth, in the agriculturally prosperous districts of central Gujarat, farm forestry was a big success in the late seventies, although the enthusiasm declined after 1985 because of marketing problems. Fifth, several NGOs have been active in developing people's institutions to enable a sustainable use of natural resources. Compared to other states, NGOs in Gujarat have a better rapport with the State, and are represented on several government committees.

Sixth, the strong co-operative movement in the state (especially in dairy development) also had an impact on the forestry scene, and timber contracts during the 1970s and later were awarded to Forest Labour Co-operative Societies, which had predominantly tribal membership. The aim was to transfer the task of timber logging from forest contractors to these co-operatives and enable tribal communities to earn higher incomes from forest harvests. The leaders of these co-operatives wielded considerable political influence, and some built up large capital bases (Femconsult 1995). However, with a view to earning more income, they started deviating from the principle of sustained yield. This, combined with people's pressures, led to deforestation.

Lastly, much before the official acceptance of JFM in 1991, a few Foresters were quite active in promoting people's committees in tribal villages, and many have survived even today.

Several studies (IIM 1994; Femconsult 1995; VIKSAT 1995b) of JFM in Gujarat show that, unlike eastern states of Orissa and West

Bengal, the FPCs are the creation of the FD which has to promise wage employment-creating opportunities in order to sustain the interest of the people. This fosters a dependency relationship. On the other hand, FPCs are encouraged to register as co-operatives which gives them an independent statutory status. However, not all households in a village become members of such co-operatives. For members too, there was little evidence of their participation in important decision making, they had a role only in implementation.

Value of products collected in Gujarat – a case study (VIKSAT 1995b)

The rich forests of district Sabarkantha in Gujarat were owned by the princes and landlords up to 1962. Fearing nationalisation, a great deal of deforestation took place at the time of the merger of princely states and the abolition of landlordism. Forests were leased out to the coal industry in the 1950s which further hastened their degradation. People's pressure also contributed to deforestation, and though the Forest Department took over management in 1962, by the late 1970s forests had become barren with only some teak root stock left.

Bhudrasan is a semi-arid tribal village with 325 families and 241 hectares of net cultivated land, out of which 151 hectares is irrigated. The area of forest land in the village (728 hectares) was under people's protection from 1987. Forty species are now available in the area, the dominant ones being teak, *Butea monosperma*, *Diospyros melanoxylon*, *Cassia fistula* and neem. The total basal area after seven years of protection was 5 square metres per hectare and the volume of trees was 34.2 cubic metres per hectare. The growth of teak, which constitutes about half the total number of trees, is likely to suffer from congestion and the presence of a large number of species.

An executive committee of 11 persons is responsible for forest management. Patrolling is done by four hired watchmen. Cattle grazing is permitted, but cutting of trees is prohibited. In addition to all NTFPs, all fuelwood produced through cutback operations is given free to the village. The total value of products received by the villagers from the area is given in Table 4.5.

Table 4.5. Annual value of products received in 1994 from 728 ha of people-protected forests

Species	Seasonality	Quantity	Value in Rs	Comments
Fuelwood	April	200 tonnes	100,000	Obtained from mixed species through cutback of 100 ha
Tendu leaves	April-May	400-500 bags	100,000	About 100 households are involved in its collection and then rolling into cigarettes
Flowers and seeds from <i>Modhuca indica</i>		10-20 tonnes of flowers and 2-4 tonnes of seeds	50 to 160,000 from flowers and 30 to 50,000 from seeds	This tree, although highly valued by the tribals, occurs in the village only on private lands.
Fodder	July and December	na	na	There is little grass production in 500 out of 728 ha of forests due to closed canopy cover

Forest in the village is predominantly single tier. This needs to be changed to a multi-tier system. Diverse kinds of silvicultural manipulations are necessary so that the forest can withstand extraction pressures. For instance, continuous thinning and wider spacing of trees in a part of the forest will ensure better production of grasses. This village is fortunate to have an adequate forest base, on which other villages have no claim. Therefore it is possible to have people-based management provided continuous income and equitable distribution can be ensured.

Inter-state differences

As already stated, JFM is being implemented in several Indian states. The southern states of Andhra Pradesh and Karnataka are the latest

Table 4.6. Inter-state differences in JFM

	UP	Orissa	Haryana	West Bengal	Gujarat
Main species	pine	sal	<i>Acacia catechu</i>	sal	teak and bamboo
NTFPs	resin, fuelwood and fodder	fuelwood and sal leaves	fodder and bhabbar grass	mainly fuelwood and sal leaves	bamboo and thinnings
FD involvement in FPC formation	nil	low	low to medium	high	very high
Form of organisation	van panchayat has a legal basis	unregistered and informal	registered with FD	registered with FD	created by FD, many registered as co-operatives
Panchayat involvement	nil	low	medium	high	low
Linkages with other RD activities	negligible	nil	dam constructed by FD	high linkages via Panchayats	high, FD and NGO led many activities
Opportunities for wage employment	nil	nil	medium	low	high, through migration
NGO involvement	nil	low	medium (outsiders such as TERI)	medium	high

entrants, and it is too early to comment on the sustainability of the programme in these states. On the basis of what has been discussed in Chapters Three and Four, the differences in some of the states are summarised in Table 4.6.

Five

CONSTRAINTS OF GOVERNMENT POLICIES

Defining group and resource boundaries

Joint Forest Management has been attempted in diverse ecological conditions by several state governments. Their policies and approaches have an important bearing on the success of JFM. As well as structural and sociological factors as barriers to community action, greater attention needs to be paid to government policy, which has often hampered such initiatives. In this Chapter we discuss these external factors and their influence on local action.

Customary rights

The legal and organisational framework for joint management remains weak and controversial. First, the old rights and privileges of the people have continued in most of the PF, and often such rights include free access to expensive timber. This breeds corruption, as only the powerful in a village are likely to get free supplies of trees like deodar and teak. Privileges without corresponding responsibility is counter-productive. Secondly, often more than one village have rights in the same forest, with the result that it becomes difficult to promote village protection committees. Next, a large number of new settlers in a village (they may be the poorest) have no traditional rights in forests, as their ancestors did not live in the village at the time of forest settlement. They thus are deprived of benefits, and are compelled to obtain these illegally. Finally, sometimes people living several hundred miles away from the forest have customary rights (called *nistar* in central India) in that forest which they have never seen!

On the whole, the way rights and privileges are implemented is a serious disincentive for the evolution of sustainable policies in forest management. There is an urgent need to bring rights into harmony with efficient forest management by the people. Perhaps a mechanism to allow newcomers to “buy” forest management rights, and allow emigrants or those no longer interested in their rights to “sell out” could be considered.

The Forest Department in Madhya Pradesh recognised the gravity of this problem in May 1993, and resolved:

It seems for the success of protection of degraded forest areas, the FPCs will require an exclusive access to these lands. It also appears that these lands might be burdened by other rights and the system of beneficiaries of nistar. It was therefore suggested that a thorough study of nistar rights in the light of emerging new realities and programmes is called for.

As already noted, often villages distant from forests, with no possibility of involvement in their management, have customarily used these lands as an open-access resource without any restriction, for grazing and collection of fuelwood and NTFPs. Often the forest officials, while recognising the FPC formed in a village with respect to a particular forest tract, keep issuing permits for collection of firewood from the same forest area in favour of right holders from other villages. Migratory tribes from other states also send their cattle for grazing (Vira 1993), and their rights have been upheld by the Supreme Court. Thus, a forest patch does not have a well-defined and recognised user group, recognising the rights of the entire population of that region or the entire forest area. This kind of a “rights regime”, which makes forests open-access lands, is not conducive to successful protection, as rights of contiguous villages protecting forests may come in conflict with those of distant villages not protecting but still having rights to enjoy usufruct. Some GRs (government resolutions) provide that the existing right holders will not be excluded, but this would mean extending benefits to those who do not contribute to protection. Therefore, at least in JFM areas, use rights should be reviewed so they are in harmony with the “*care and share philosophy*” which is the basis of JFM. The task would be simpler in unclassified forests with no pre-

vious settlement. Elsewhere, old settlement rights may have to be modified to make these amenable to the formation of viable FPCs. This is easier said than done, as changing customary or legal rights would be an unpopular step and may face political hurdles. Such a policy can be made acceptable if it is accompanied by other pro-people changes in technology, nature of species, secure rights over produce, etc.

Inter-village disputes

Depriving communities far from the resource but with traditional rights is a sensitive issue. Some close communities have solved this by charging fees to distant villages because they do not have to protect the resource. In West Bengal, some FPCs negotiated with neighbouring communities to clarify rights and territorial responsibilities when they began to initiate protection activities. As the user groups have a strong incentive to avoid conflicts, they have often demonstrated that much of the negotiation can be conducted independently or with the help of the panchayat leaders. However the Forest Department holds ultimate responsibility for seeing that management groups do not create conflicts over pre-existing usufruct. Some foresters feel that wood depots could be opened or social forestry started. (The latter option is discussed in the next Chapter.) In practice, bringing disputing communities (including migratory herdsman) together on the same platform and finding a compromise is the only feasible solution in the present circumstances.

Confusion over forest boundaries is a recurring problem for the FPCs. In one case, members from Chandmura village in West Bengal thought that they were also protecting the Arabari forests. Only when the forest was harvested for timber did they realise that they were not part of the programme. The village took the government to court, thus delaying harvest benefits to others. The problem could have been avoided had there been maps and regular dialogue between the participating villages (Roy 1993).

The Rajasthan Government Resolution provides for formation of one FPC per one revenue village, which may consist of several hamlets removed from each other. This makes the smooth functioning of the FPC very difficult (VIKSAT 1995b: 17). Where multi-hamlet forest protection committees have been formed, experience shows

that the constituent communities keep their independent identity within the large group, maintaining clear boundaries of their areas and by retaining exclusive control over harvests in their territories. Often such groups surrounding a large tract of Forest form an apex committee to co-ordinate activities and report to the FD. Although the larger group may facilitate joint protection and dispute resolution, informal partitioning of the resource has no validity in law and may not be sustained over a long period.

Most FPCs want their forest tract boundaries to be formally demarcated. Rough agreements between villages over these boundaries may be sufficient when the resource is degraded, but once valuable products are regenerated, conflicts will ensue in the absence of formal notification. Often forest maps are not available which delays formalisation of boundaries. This is not a simple exercise, since natural, administrative and customary boundaries do not coincide. In practice, under existing customary use, different boundaries apply to different products, e.g., grazing and fuelwood. Boundary disputes between neighbouring FPCs are likely to increase as harvesting approaches.

FPCs and panchayats

Another legal problem concerns the status of FPCs with respect to the village panchayats. The state government resolutions recommend FPCs as functional groups. However, these committees have no legal and statutory basis, and it may be difficult for them to manage resources on a long-term basis. Their relationships with the statutory village panchayats need to be sharply defined (Poffenberger and Singh 1993).

The 1989 West Bengal GR stated that the local panchayat land-management committee shall select beneficiaries to constitute the FPC. This indicated that the panchayat, which is outside the user group, would determine who could and who could not participate. Although in 1990 the West Bengal government allowed every member in the village to be a member of the management group, the hold of the panchayat remained strong. The Orissa order prescribes that the female Naib Sarpanch (Deputy Chief) of the local panchayat will be the head of the FPC, but the panchayats are not working well and her stewardship is not seen as legitimate by the indigenous FPCs.

There is also some concern that if JFM groups were absorbed by the village panchayat, vested interests might exert control over decision making. Since small user communities may comprise less powerful groups, they may lose authority to the elite if management becomes a direct adjunct of the panchayat. FPCs are recognised only by the Forest Department, all other government departments recognise panchayats making them much more powerful than the FPCs. On the whole, the relationship of local forest management groups to panchayats needs to be clarified. Simply subsuming them as part of the panchayat would almost certainly threaten their effectiveness.

Experience over the last 20 years from Indian social forestry programmes indicates that in many cases panchayats had difficulties effectively managing community woodlots due to their inherent political nature and often diverse constituencies. As already discussed in the context of Haryana HRMS (Chapter 4), panchayats are political organisations based on an electoral system, whereas conflict can be quite harmful for the effective functioning of the FPCs. Protection can work only if there is near unanimity and consensus amongst the user groups.

Unlike panchayats, powers of the FPCs are not given under any law, which may affect their ability to check free-riding in the longer run. Thus, most successful FPCs charge fees for collection of forest produce, although this practice is technically against the Forest Act. The illegality can be removed if the allotment of Forest land to the FPCs is done under section 28 of the Forest Act. At present it is done administratively.

It is interesting that people's initiatives have been most successful in the states of Orissa and West Bengal, where the number of villages per panchayat is more than 10 as shown in Table 5.1, whereas in most other states the average is only between 1.2 and 2. The number of hamlets per village may also vary from state to state. It is likely that the very big size of Orissa official panchayats, combined with their ineffectiveness, ensured that the cohesiveness at the hamlet level was not destroyed.

Due to the increasing importance of panchayats in decision making in India many field activists feel that community forest management must take place at the lowest possible level of those who actually use the resource. This would require statutory changes in the current panchayat laws.

Table 5.1. Number of villages per panchayat in some of the Indian States

State	No. of villages per panchayat
Haryana	1.2
Tripura	1.2
Kerala	1.2
Punjab	1.2
Delhi	1.3
Gujarat	1.4
Andhra Pradesh	1.5
UP	1.5
Maharashtra	1.6
Sikkim	2.9
Arunachal Pradesh	4.0
Madhya Pradesh	4.1
Jammu & Kashmir	4.7
Rajasthan	5.1
Bihar	6.6
Himachal Pradesh	7.3
West Bengal	11.7
Orissa	11.8
Assam	29.1
All-India	2.8

Changes in silviculture

Some conservative field officials understand JFM as an arrangement in which wages are paid in kind (100 per cent of NTFPs and 25 per cent of final harvest) in place of cash. Others define it as a new management regime in which protection is done by the people and technology is controlled by the Department. These narrow perspectives assume that the objectives of forest management need not be re-defined, and should continue as before to be timber-oriented. However, with a new Forest Policy in favour of local needs and

usufructs, silvicultural practices and management options should also be radically altered to meet these new objectives. Foresters will have to accept a reduction in yield in timber from the stem or bole of trees, and settle for a diverse menu of biomass-based products (Rathore and Campbell 1995).

For instance, local people often prefer production of grasses to wood. In the case of a pastoral tribe, Bashir Khan was persuaded to reduce his stock to allow regeneration on the forest patch allotted to him in the alpine pastures. He found that although tree density increased due to control on grazing, the output of natural grasses and carissa bush, which he used to feed to goats and sheep, had gone down. He wanted the coupe to be thinned in order to encourage more grasses, but unfortunately the Forest Department is not geared to the silvi-pastoral system of using a forest compartment to produce the kind of biomass which is useful to the herdsmen. Thus there is a danger of him becoming alienated from the Department and reverting to the old unsustainable practice of uncontrolled grazing. The onus is now on the Forest Department to shift to a new silvicultural practice of maximising biomass and NTFPs rather than timber (Rizvi 1994).

Similarly, the FD's present management of sal seems to be for timber, and hence only one shoot is allowed to grow. Since sal is an excellent coppicer, degraded forests and hills close to a village should be managed under a coppice or a coppice with standard system for fuelwood and sal leaves.

Although after the advent of the new forest policy in 1988 there has been some effort to involve forest communities in management, little thought has been given to make necessary changes in the technology which will be suitable to achieve the new objectives. The desired changes can be broadly understood from Table 5.2.

Multiple objectives to maximise outputs from many products will require innovative and experimental silviculture (discussed in greater detail in the next Chapter), which must focus more on the management of shrub and herb layers, and on forest floor management to enrich the soil and encourage natural regeneration. Unfortunately there is not much evidence that state governments have appreciated the need for change in silvicultural practices as a tool to promote JFM.

Table 5.2. Changes in objectives of forest management before and after 1988

Before 1988	After 1988
market	subsistence
end products	intermediate products
one time	recurrent
timber from dead trees	non-timber from living trees
monoculture	poly-culture
single purpose	multi-purpose and multi-layer
felling	gathering

Source: Dubey and Singh 1994

Marketing of NTFPs

The JFM programme is undoubtedly oriented towards the subsistence needs of local communities, but once the produce of forests increases through proper protection there is every likelihood of production increasing beyond what can be consumed within the village itself, hence the importance of marketing. Moreover many NTFPs have traditionally been used by the gatherers to generate cash incomes (Shepherd 1989).

Most state resolutions allocate all NTFPs for community use, however there are restrictions on their processing and marketing (discussed below). Timber-sharing agreements vary from fuelwood only in Bihar and timber for subsistence use in Orissa, to 60 per cent of net commercial timber revenues to participating communities in Rajasthan. The restriction on sale of collected items in Bihar and Orissa is unrealistic, as the poor need cash too.

Studies indicate that while collectors of NTFPs often belong to the lowest income groups in India, they may receive only 5 to 20 per cent of the retail value of their goods (see Chambers *et al.* 1989: 152 for several examples). Various governments run marketing and co-operative schemes and have established para-statal for this purpose, but these have frequently failed to result in major improvements in

prices. Case studies of bamboo basket makers in Haryana and Gujarat indicated that, while FD programmes provided raw materials at subsidised prices, the raw materials were often of low and inadequate quality and locked them into selling to FD operatives at below market prices. Experience shows that open markets may give producers the best chance of gaining a competitive price for their products. In other cases, NGO-run programmes to develop NTFPs, which make processing more efficient and improve market access, can enhance the income of forest communities. In West Bengal, the presence of an NGO that provided improved sal plate processing and marketing support allowed village producers to increase their incomes to Rs 11.50 for an eight-hour day equivalent, compared to Rs 5 to 6 for other communities dependent on middlemen.

Direct management of the supply of raw materials may also give producers an incentive to increase productivity in terms of quantity and quality. There remains a need to break the dependency of forest communities on money lenders which often give unfair prices for forest products due to their loan-based leverage. Access to reliable sources of credit would help to achieve this. In some areas local NGOs have assisted communities, such as Samakhya in Andhra Pradesh, and these experiences should be documented and extended to JFM areas. Other NGOs have explored ways to improve processing systems to increase income through value added.

Marketing of NTFPs in Orissa

Much of the misery of tribals and forest dwellers in heavily forested regions is due to their lack of access to RF to collect NTFPs. Even where collection is permitted from Revenue and Protected Forests, the poor have no right to process these items and sell them freely in the market. Some examples from Orissa, based on the author's field work in 1995, are discussed below (Saxena 1995b).

Nationalisation or creation of private monopolies?

The Orissa Forest Act gives the state the right to exercise a monopoly over any declared forest produce. As the commercial importance of NTFPs increased, the state government nationalised almost all important NTFPs, i.e., these can be sold only to government agencies or to

agencies so nominated by the government. In theory, this right was acquired ostensibly to protect the interests of the poor against exploitation by private traders and middlemen. In practice, such rights were sublet to private traders and industry. Thus, a hierarchy of objectives developed: industry and other large end-users had the first claim on the product at low and subsidised rates; revenue was maximised subject to the first objective which implied that there was no consistent policy to encourage value addition at lower levels; tribals and the interests of the poor was relegated to the last level, or completely ignored.

A close study of the political economy underlying these changes is essential. The major institutions set up by the State, the Orissa Forest Development Corporation (OFDC) and the Tribal Development Cooperative (TDCC), are confronted with growing liabilities. They have a huge and redundant capital and manpower base. Even on a variable cost basis, they need big mark-ups to break even. Faced with this situation, they wish to pursue a completely risk-averse policy. In the few commodities that the TDCC still continues to trade, purchase transactions are first finalised, and then the selling prices are marked down to fix the procurement prices for the tribals. Because of the middlemen involved, the actual prices received by the tribals could be lower still. More generally, the institutions have opted to extend their role by becoming renters. Beginning with bamboo and sal seeds, collection rights of a large number of NTFPs have been given to paper mills, owners of oil extraction plants, and to large trading houses acting on their behalf. The state monopoly has provided room for a private monopoly, and is aiding and abetting market imperfections, besides pouring money into the coffers of bribe takers at all levels. The results are already obvious – a cursory study of the markets shows that prices of NTFPs have fallen, even in relation to the low prices set by the State.

Illustrations of a few important NTFPs are discussed below.

Bamboo

The government of Orissa has decided to assign bamboo forests to the paper industries, who have been appointed sub-agents of the OFDC. Despite the prescription in the new Forest Policy 1988 that the needs of the forest dwellers will be the first claim on the 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 also excludes such areas from being brought under participatory management.

The disposal of bamboo from one small depot, which the author studied, was:

To industry	33,60,000 pieces (Rs 0.15 a piece)
Through open auction	27,275 pieces (Rs 10 to 13 a piece)
Sent to other divisions	2,892 pieces
Local sale to cultivators (tenants)	350 pieces (Rs 4.30 per piece)
Sale to artisans	nil

Only those who own land and pay cess (tax) are entitled to fuel-wood and bamboo, and only then after verification from several officials. There is no system by which the landless and artisans can get bamboo even at a price, and thus are forced to resort to illegal harvesting.

Sal leaves

These are sold by the primary gatherer at Rs 3 for a bundle of 80 plates to TDCC, who has appointed traders as its agents, and who enjoys a legal monopoly over the product. The gatherers have absolutely no control on the prices they are paid. The trader often does not pay in cash, and insists on barter payment in terms of grain, thus enjoying a monopoly as the tribal has no choice, neither in terms of the dealer nor price, nor terms of payment. In one particular case a woman was sent back and her plates were not bought by the agent. In another case the agent comes only for four days in a month. Thus the way the scheme works in practice is that the poor are taxed to support an inefficient government organisation. The stated objective may be to do away with “middlemen”, but the unstated objective is to create patronage by exploiting the poor, and helping just one trader (and those who have the powers to “inspect” and grant licences), rather than allow a free market to operate.

Sal seeds

The case of sal seeds is even more tragic. In 1995, just before the start of the collection season, the government decided to change the existing arrangement and appoint private parties as the sole buying agents. These new private industries could not make advance arrangements to appoint sub-agents and to distribute the cash to them, with the result that several primary gatherers could not find any ready buyers. In the process the government also lost revenue. Often in such cases the poor who need cash desperately are forced to sell illegally to a third party at a throw-away price, who then supplies to the government agent and gets the benefit of the support price.

Hill brooms

According to Orissa's laws, processing of hill brooms can only be done by the lease holder, TDCC or its traders. Forest dwellers can collect hill brooms, but cannot bind them into a broom, nor can they sell the collected item freely in the open market. Thus the poor are prevented from both adding value through processing and the right to get the best price for their produce. In one case a woman's group had collected hill brooms from poor tribal women with the intention of binding them and selling in the market, so that the primary gatherers may get the benefit of higher prices in the market than offered by the TDCC trader. Rather than helping them with processing and finding the best price, the state government machinery decided to launch prosecution against the women and their organisation. Their stocks were seized, and had not been released up to January 1996, despite the case receiving adverse publicity in the press.

Analysis of marketing issues

In other states, many important NTFPs are also nationalised, and can be sold only to government agencies, such as LAMPS and TRIFED. Nationalisation reduces the number of legal buyers, chokes the free flow of goods and delays payment to the gatherers, as government agencies find it difficult to make prompt payment. This results in contractors entering from the back door (and in Orissa in the guise of being sub-agents of government bodies), but they must now operate

with higher margins to cover uncertain and delayed payments by government agencies, as well as to encourage the police and other authorities to ignore their illegal activities. This all reduces forest dwellers' collection and incomes.

Even for those products which are not nationalised the gatherers are generally in a weak bargaining position *vis-à-vis* the traders. There are a number of reasons:

- Restrictions on the free movement of NTFPs: Laws restricting the free movement of NTFPs bring uncertainty in market operations, and inhibit gatherers from maximising returns to production.
- Market information: Gatherers' information and awareness about buyers, the prevailing market price and government rules may be inadequate. In a competitive and efficient market, information should circulate freely.
- Market access: Gatherers' contact is generally limited to the village buyer alone, whereas in a competitive and efficient system there should be a large number of buyers and sellers. Gatherers seldom bring their produce to the town. They are uncertain about the price they would get in relation to the costs and risks of transporting NTFPs. Thus, although these products ultimately reach a very large market, the market is geographically limited from the gatherers' perspective.
- The limitation in access to markets is more pronounced in the case of items like handicrafts made from wood and bamboo, toys, lac products and leaf plates. Except for a small demand in nearby villages for specific items the rest of the market is geographically dispersed over a wide area which remains inaccessible for most of the small manufacturers. The limited access to markets and the dependence on intermediaries have a direct effect on prices. The price of produce gathered by the forest dweller, whether sold to consumers or to the intermediaries, bears no relationship to the cost of labour, input and transportation.
- Poverty of gatherers: Most forest extractors are poor, chronically indebted to middlemen or landowners, and are thus not in control of their labour or other terms of exchange. They will stagnate at

the subsistence level, and not benefit from high prices, unless they can move out of their serfdom.

- **Intermediaries:** The number of middlemen between the producers and consumers is large, though gatherers do not have a choice of many intermediaries. This may be due to interlocking credit and output markets forcing the gatherer to sell to the money lender. In a competitive and efficient system there should be a choice of several buyers.
- **Lack of processing:** The sale of most NTFPs is done without any processing or value added.
- **Gender:** The above problems become more acute for women entrepreneurs. Burdened with other roles within the family traditionally assigned to women, their ability to look for distant markets is restricted. The small size of production further aggravates the problem forcing them into a vicious cycle of a small market, low production and (thus) small surplus. The limited surplus makes women more vulnerable and makes their exploitation possible because it continuously erodes bargaining capacity as their need for conversion of small production into cash becomes more acute (Agarwal 1989).
- **Seasonal collection:** Most NTFPs are collected seasonally, although these may be in demand throughout the year. Selling locally during the flush season creates an excess of supply over local demand, thus depressing prices. Adequate local storage facilities are thus required.

Possible solutions

It appears from the examples discussed above, that the state agencies have reached a stage where they are unable to fulfil the roles for which they were intended. The policy framework wherein a state monopoly was considered necessary to counteract severe market imperfections has also become counter-productive and is encouraging market monopolies. If the poor are to enjoy the fruits of their labour (and of the forests which they are supposed to protect), a drastic overhaul of the policy framework as well as the supportive institu-

tional framework is necessary so that it is consistent with the 1988 Policy objectives.

Practical considerations point out that government is incapable of effectively administering complete control and of buying and selling NTFPs itself. It is better for the government to facilitate private trade, and to act as a watchdog rather than try to eliminate it. Monopoly purchase by government requires sustained political support and excellent bureaucratic machinery. It is difficult to ensure these over a long period and hence nationalisation has often increased exploitation of the poor. Government should not have a monopoly for marketing NTFPs, nor create such a monopoly for traders and mills. The solution is to de-nationalise NTFPs gradually, starting with sal leaves and brooms, to encourage healthy competition. The government should set up promotional Marketing Boards, as distinct from commercial corporations (which are inefficient and hence demand nationalisation), with responsibility for dissemination of information about markets and prices to the gatherers. The Boards would help to bridge the gap between what the consumers pay and what gatherers receive. Free purchase by all would also be in line with the current liberalisation and open market climate. Government organisations may compete with the private trade in the open market, as in the wheat purchase scheme in north India, but the government should never acquire a monopoly.

Processing

Encouraging establishment of processing units within the tribal areas is also to be recommended. In fact the Forest Department should be given targets to set up such units by tribals and local groups, so that the role of the FD becomes that of a facilitator, and not of regulator.

A large number of families have the expertise and skills to process bamboo, and make hats, baskets, etc., but they are prevented from receiving the full price for their labour, because stocking bamboo and selling bamboo products requires permission from the FD. Freeing the artisans from such constraints can itself lead to widening the base of entrepreneurial activities in the village, as these value-added activities can be undertaken in their cottages. Similarly, a lot of tendu (a shrub) occurs on private lands, but the people cannot stock it and convert it into bidis (locally rolled cigarettes); it must be first sold to the government. Every year raids are organised on the poor

people's houses with a view to preventing them from directly processing the bidis and selling them in the open market. In a meeting called by the CCF Social Forestry, Orissa, on 22 September 1995, several examples were given by the NGOs of FD seizing even household items like neem toothpicks, brooms and sal leaves from poor people's houses. The problem can easily be solved by permitting a certain quantity for storage for different articles of such household artisan activity, if not altogether removing restrictions on storage.

The artisans require young and green bamboo, which is not produced by the FD. In fact the present silvicultural practices ban felling of green bamboo. At least in some coupes this restriction needs to be relaxed. If tendu can be maintained only at the bush level and not allowed to grow into a mature tree because of revenue interests of the state, similar concessions should be available to the poor artisans for bamboo so that cottage industries can grow.

In summary, with a view to promote people's participation, state governments permit collection of NTFPs from JFM areas. However, this hardly acts as an incentive for two reasons. First, even from non-JFM areas people have *de facto* or *de jure* collection rights. Secondly, the marketing environment for realising the full value from NTFPs is constrained by exploitative governmental regulations restricting sale, processing and transport. At least in JFM areas, markets must be freed from unnecessary government controls so that gatherers are free to optimise returns on their labour.

Women in JFM

Protection of a degraded area under JFM often increases women's drudgery as they have to travel a greater distance to collect their daily requirements of fuelwood and fodder. Study of some areas under community protection confirms this (Table 5.3).

Thus, despite the good intentions of forest protection, community forest management has burdened women with additional hardships, or concentrated it on the shoulders of younger women. They also had to switch over to inferior fuels like leaves, husk, weeds and bushes. The widespread shift to the use of forest sweepings to meet domestic fuel needs has a negative effect on regeneration and nutrient recycling essential for maintaining soil productivity.

Table 5.3. Time/distance for women to gather one headload before and after JFM

Village	District and state	Before protection	After protection
Kamardanga	Bankura, West Bengal	1.5 to 2 hrs	4 to 5 hrs
Bhadli	”	1/2 km	4 to 5 km
Barapaccha	”	1 to 2 hrs	3 to 4 hrs
Karapara	”	5 km	8 to 9 km
Vena	Panch Mahals, Gujarat	1/2 hr	3 to 4 hrs
Chari	”	1 hr	4 to 5 hrs
Malekpur	”	1 to 2 hrs	whole day

Source: Sarin 1994

Obviously, merely shifting the protection role from the Forest Departments to the community does not provide any immediate relief to women. Further, the gender-differentiated impact is not restricted to firewood – it applies equally to other forest produce. For example, protecting sal trees with the existing technology of multiple-shoot cutting results in the leaves being out of reach. This affects the making of sal leaf plates, which is a common source of income primarily for poor women in many parts of West Bengal, Orissa and Bihar.

Another problem is of providing an adequate share to women in management responsibilities in JFM committees. Women’s rights and entitlements have been almost totally overlooked (see Table 5.4). For instance, Bihar, Karnataka, Madhya Pradesh and Tripura provide for membership of only one representative per household; Gujarat, Rajasthan and Maharashtra have left the matter open; Punjab has no provision for a general body at all; and in Jammu and Kashmir, it is unclear whether both a man and a woman or either can represent a household.

Table 5.4. Representation of women in JFM committees

State	Eligibility for membership in general body	Minimum number of women in managing committees (MC)	Benefit-sharing entitlements
Andhra Pradesh	1 female & 1 male per household	3 out of 9-13 members	Unspecified
Bihar	1 representative per household	3-5 out of 15-18 members	MC to decide
Gujarat	Any interested person	2 out of unspecified total	To be "suitably" distributed
Haryana	All adults	2 women; all could be women	Equal access to loans for men & women
Himachal Pradesh	1 female & 1 male per household	2-3 out of 9-12 members	For all villagers
Jammu & Kashmir	1 female or male per household	2 out of 11 members	Institution to decide
Karnataka	1 representative per household	2 out of 15 members	Among "beneficiaries"
Madhya Pradesh	1 representative per household	Not specified	Equitably among members
Maharashtra	Unspecified	2 out of 11 members	Among members
Orissa	1 female & 1 male per household	3 out of 11-13 members	Equally between households
Punjab	No general body	1 woman	Per household
Rajasthan	Not specified	Not specified	Equal shares for members
Tripura	1 representative per household	Not specified	Distributed among members
West Bengal	Joint membership of husband & wife	Not specified	Either husband or wife
Tamil Nadu	1 female & 1 male per household	50 per cent women	Basis unclear

Source: Sarin 1994

Thus, in 9 of the 15 states implementing JFM, there is no clear provision for women's membership. In cases where only one person can represent a household, it is invariably a man (except in the case of widows with no adult sons). This happened in Sukhomajri and Nada in the early eighties, due to which Haryana's membership has now been opened to all adults. Andhra Pradesh, Orissa and Tamil Nadu have attempted to overcome this shortcoming by providing for one male and one female representative per household and West Bengal for a joint husband-wife membership. Although these are improvements over the usual formula, they still exclude several women and men, as in the case of joint or extended families.

Membership on committees is not synonymous with a share in rights or of benefits. One needs to ensure both, and not one or the other. Forced inclusion of women through legislation has not led to genuine participation. Often meetings are scheduled in the evenings to suit men, but at times when women tend to be cooking. When attending meetings, women feel marginalised, unheard and shy to talk. It is considered against Indian culture to talk in the presence of men, much less to question their ideas. Often they are busy arranging tea and snacks for the male members and thus are unable to concentrate on the deliberations of the Committee. As a result, there is a bias in favour of those forest products of interest primarily to men. In a van panchayat in Kilmora village in UP (Britt-Kapoor 1994) the female member who has the added advantage of living at the house where meetings are held rarely stayed longer than was necessary to sign the register. In another village Katuul (*ibid.*) a female member said, "I went to three or four meetings. My suggestions never got implemented. No one ever listened. I marked my signature in the register. I am illiterate so I couldn't tell what was written in the meeting minutes. I was told that my recommendations would be considered, but first that the register had to be signed. They were uninterested."

Given the sex-segregated and hierarchical nature of Indian society, separate women's organisations and staff are needed to work among women, to instil confidence, so that they can fight for their rights. Therefore, whenever there is recruitment, more women need to be recruited in the Forest Department. The village-level committees should have adequate representation of women. Forestry staff should be sensitised to gender issues through orientation pro-

grammes. As women in many societies still feel inhibited to express themselves in mixed gatherings, each committee should have a separate women's cell for raising their awareness and improving their skills. The quality of women's participation and the control they exercise over decision-making processes is more important than the sheer number of women present in such bodies.

Gender sensitisation through micro-planning

How can gender issues be adequately addressed in forestry development? The key to meeting this objective is identifying and, to the extent possible, quantifying the potential gains that will accrue to women and the likely losses they may have to bear as a result of the planned intervention. Micro-planning provides an ideal forum for this type of thinking. Specific issues to be considered include:

- pre-project benefits likely to be forgone by women and their households, with special attention to households headed by women: e.g., when common land is to be utilised for tree plantations; when gathering and sale of wood from government forests is eliminated as a source of income for poor households; when the utilisation of NTFPs is expected or likely to become commercialised; or when changing gender-specific economic interests and incentives induced by project interventions are likely to deprive women of access to previously accessible resources.
- workload implications for women: e.g., the extent of added labour required of women of various socio-economic groups for project activities (such as watering, weeding, protection); longer distances to walk for gathering fuel, fodder and other products previously obtained from land now brought under a different production and management regime; the effect of such additional labour requirements on women's time and labour allocation and on women's and household welfare (such as curtailing time allocated to other tasks, increasing reliance on child labour).
- probable gains to women from planned interventions: e.g., increased availability of forestry products (but check for potential conflicts arising between men and women, between commercial

and subsistence users); availability of new products for subsistence and/or market-oriented income generation; introduction of new income-earning activities based on forest products not previously available; generation of wage-labour opportunities (but check for potential distortions in male-female competition for new employment).

- differences and potential conflicts between probable gains and losses for women and those anticipated for men, households in general or the community as a whole: e.g., men's strong preference for timber species crowding out women's need for fuel and fodder trees; men's preference for selling trees *en block* conflicting with women's need for the domestic or home-industry use of by-products; or men's interest in cash-cropping of trees and their command over the labour of women in their household forcing women to reduce their time allocations to other family-care and/or income-earning tasks.

Balance of power between Forest Department and communities

In many states, the Forest Department can cancel or dissolve the FPCs. The detailed mechanism for this dissolution may be formulated so that the order does not appear arbitrary. While Forest Departments will require some statement in the resolution to dissolve the management agreement if their community partners fail to uphold their responsibilities under the JFM programme, it is also important that the identity of the user group is respected. In Rajasthan and Haryana, where the GRs require that the user groups become registered societies, these have greater independence, and will continue even if their relations with the Forest Department are severed. In Gujarat, FPCs are registered as co-operative societies which, in addition to providing legal status, ensures functional autonomy. Once the user group has a separate legal status this can be used for several purposes. For instance, in Haryana 14 groups met together to request the Haryana Forest Department to modify the terms of the grass lease pricing and payment system. The need for autonomy and democratic process at the community level are currently not reflected in the state resolu-

tions, but should be given careful consideration when these documents are revised.

Another important element is the response of FD staff to FPCs' grievances. In the initial stages, FPCs look forward to receiving support from the Forest Department in prosecuting offenders, negotiating with other villages/departments, etc. FPCs also need flexibility, and field staff should not interpret the rules too literally. Many protecting villages have complained (VIKSAT 1995a) that the FD unilaterally overrules their decisions, without explaining their reasons. In some places protection is preceded by cleaning, weeding, etc., for which the FD pays wages to the labour. This must change and the FD must hand over the responsibility of handling funds to the FPCs. This would make financial dealing more transparent and protect against misuse of funds. FPCs will also develop a greater sense of accountability in the process.

For instance, in Gujarat the committees raided houses and confiscated illegally poached wood. When they wanted to conduct an auction of the seized material, not only did the FD not permit them to use the money so received, but it also objected to the place of auction, pointing to the Rules that auctions must be conducted at the Range Forest depot only.

With the exception of clauses in the National and West Bengal resolutions, most state guidelines do not address the long-term rights of participating communities. Clear tenure security enhances the authority of community management groups to carry out protection activities, especially when under pressure from neighbouring villages and private interest groups. It is necessary that the time frame for such agreements is clear, as well as the basis for extensions. It may be appropriate for the time period of the agreement to correspond to the production cycle (rotation) of the primary products.

The most crucial aspect is transparency and clarity about "who would get what and when". Even in the case of successful societies, there was little awareness about the distribution aspect of forest produce.

Need to develop strategies for conflict resolution

Capitalising on this potential of joint management on a large scale will require significant shifts in investment and strategy. Some of the constraints have already been discussed. Where regenerating forests

are already beginning to increase in value, conflicts will escalate between contending resource users such as adjoining villagers, migrating herders, or more distant and periodic forest users. As a more lucrative range of non-timber products begins to mature, and the sharing of timber harvests becomes regularised, questions of equity and the distribution of benefits will create new management challenges and conflict resolution skills. Strategies to deal with these problems are yet to be developed.

Overhauling forest policy at state level

None of the state governments has issued any directive revising its state forest policy after the radical overhaul of Forest Policy by the Government of India in 1988. The new National Forest Policy of 1988 laid down that forest-based industry should meet its raw material needs by establishing a direct relationship with the farmers rather than depend on government lands, which would henceforth be maintained primarily for ecological functions, and for meeting the subsistence needs of the people. However, subsidised supplies to industry still continue. In keeping with the new Policy species choice and silvicultural practices will need to be geared towards multiple products and multiple functions. Where a large number of people have claims to forest produce, decentralised management and low commercial value output (but high in biomass) strategies have perhaps a better chance of success. However, "business" seems to continue as usual in state governments, and commercial trees continue to be encouraged and planted on Forest lands.

Working Plans and JFM

Most government resolutions envisage preparation of a village micro-plan. As a micro-plan developed for a forest patch will also be a part of a particular forest block, range and division, there is a need to co-ordinate with Working Plan prescriptions. The integration of village plans will require changes in the philosophy and contents of the Working Plans which, at the moment, are steeped in the old philosophy of maximising production of timber rather than of biomass suitable for local needs. In the south-west region of West Bengal no conflicts between the two approaches have arisen because coppicing was the

traditional silvicultural practice in gregarious sal forests. Elsewhere conflict could arise as high forest management practices are not in tune with local requirements for grasses and NTFPs.

Micro-planning should be the negotiated outcome of discussions between the FPC and FD as equal partners. In practice, the FD staff tends to play a major role in preparing micro-plans and the process is rarely participatory. These are mostly budgetary documents, focusing on inputs rather than on benefits (Femconsult 1995). This is seen by the FD as essential since project money for planting is to be budgeted according to prescribed project models and to facilitate accounting arrangements. Since the release of the budget from the state capital is often uncertain, the FPCs never learned the fate of their recommendations. Micro-plans, to the extent these provide jobs, become instruments by which the FD retains control over the community, rather than building up participation and equality.

Flexibility

There should be no target setting but local officers and village communities should be free to move at their own speed, and select those components which will help to establish decentralised management systems. Under international pressure, states are being pushed to increase their targets for JFM, but as it is a new programme requiring high managerial input, one should go slow and leave each state to draw up its own plans and flexible targets.

Involving communities in decision making takes time. To stay on schedule, it is more convenient for the forest officer to take the lead in plans, and assume overall responsibility. This must be avoided at all cost, and no targets should be prescribed for such pilot projects, so that at all stages within the first three years, the initiative in decision making by the community is not lost sight of.

Greater budgetary flexibility is needed so that the FD may respond to sudden but acute needs, like water shortage, irrigation problems and the disruption of communications (D'Silva 1995). Similar flexibility is required in the distribution of produce, such as grasses. Some communities may harvest grass collectively and share it equally among those members who harvested. Others may allot a strip to each family for fodder, and then leave the timing of harvesting to the family.

According to the West Bengal GR (and this is true of most GRs), only degraded forests are to be given for protection to the villages. The area of degraded forests depends upon the perception of the FD about the capacity of the FPC to protect it. This creates problems, as the already existing protection groups may have been protecting a larger area. Moreover, the group may feel that it was due to their efforts that the forest became more productive, but rather than being rewarded for their effectiveness, they are being deprived of the area on the ground that it is no longer degraded! FPCs should also be free to devise their own rules for dealing with free-riders.

Confusion over JFM in Orissa (SPWD 1992a and SPWD 1993)

The state government orders of 1988, 1990 and 1993 pertaining to JFM in Orissa led to the formation of nearly 23,000 official FPCs. Some of these FPCs are functioning very well, but a large majority have problems, or exist only on paper. Often, they were brought into being in a hurry without giving attention to details, such as adequate consultation with local villagers. In some cases, the area being traditionally protected by a village was allotted to some other village for protection. In other cases, villages considerably distant from a forest patch were allotted an area while those in the proximity were neglected.

Too many committees

There is proliferation of committees handling matters relating to forests and grazing. In addition to the indigenous committees already discussed in Chapter Three, there are Village Forest Committees (VFCs) formed under the Social Forestry Programme, and now FPCs under the JFM, often in the same area. Further, Rule 249 of Orissa Gram Panchayat Rules 1968 provides for the constitution of committees in each village panchayat to deal with various subjects. It would be better if a single Forest Committee could be constituted to look after matters relating to forests, grazing and JFM aspects of the village.

Confusion over sharing

If a forest area is protected by villagers and they form a Village Forest Committee under the Social Forestry Programme, they will be enti-

tled to 100 per cent of the benefits. On the other hand if they form a forest protection committee under the new JFM resolution, the same village community will receive only 50 per cent of the produce from the same patch. This causes confusion. Further, the two programmes are being implemented by different wings of the Department. When the entire effort came from government by way of funds and management for Social Forestry, the people get 100 per cent of the benefits, but when regeneration takes place as a result of people's efforts with little financial help from the government, the FD would take away half of the produce. This is discriminatory and unjust.

In the Protected Forests of Orissa, communities already have considerable rights over forest produce. Joint management agreements, while claiming to give usufruct, are thus not giving anything extra. In fact they reduce the share from 100 to 50 per cent! The response of the villagers, who are currently protecting the forests independently, to the JFM resolution is not very positive, as right now the villagers have complete control over the managed forests and do not share the produce with anybody. There is widespread suspicion among the indigenous committees that the FD wishes to formalise their committees in order to enjoy the benefits of enhanced production without sharing the hassles of protection. In some cases, the villages have been protecting large areas, but the FD has restricted their jurisdiction on the grounds that no committee can protect more than 200 acres (80 hectares). Therefore, one needs to address the question as to how to provide better gains by way of greater security to communities in such forests so that they benefit from protection-related work.

In the villages which have started protecting forests after the formation of FPCs or where the informal forest protection has been formalised, there is a sense of uncertainty over sharing forest produce, both from the intermediate and final harvests. In addition to the factors discussed above, this uncertainty arises from the extra-legal character of the FPCs, mutual distrust between the FD and the villagers, lack of knowledge about the legal provision and the general casualness with which the FPCs have been formed.

Office bearers

The Orissa order specifies that the Deputy Chief (a post reserved for women in Orissa) of the panchayat will become the President of the

committee and the Forester will act as the Member-Secretary. Considering that each panchayat has more than ten villages, it would not be possible for them to attend each meeting of every FPC. In reality, the place of the woman leader is taken by her husband, which is not appreciated by the FPC (VIKSAT 1995b). The Secretary's function is to prepare agenda, call meetings, write minutes, etc. These functions make him very powerful *vis-à-vis* the FPC. It is suggested that the Secretary should be a local person and member of the FPC.

In summary, where innovative forest officers have built up community initiatives results have been excellent, but often imposing new rules, the government has eroded viable local institutions.

Problems of indigenous committees with government in Gujarat (VIKSAT 1995b)

Unlike Orissa, the number of self-initiated protection committees in Gujarat is not very high. However, in Surat and Panchmahals some such committees do exist (Vaishnav 1995). They wish to be integrated into the process of officially sponsored JFM, but would not like to lose their autonomy. Their main complaints and requests which need to be accommodated in the official plan are:

- The GR dated 13.3.91 embodying the acceptance of the JFM policy provides for the formation of a working committee by the village organisation (VO) which should include, among others, a representative of the panchayat concerned. The members said the panchayat member who would work on the committee should be selected by the panchayat only after consultation with the VO. The VO may suggest a panel of two or three names from which the panchayat may finally nominate one person. This would show that the panchayat has regard for the views of the protecting village organisation.
- The GR insists on total closure to grazing of the entire forest area, but the village committee would like the extent and location of the area that would need total closure to be decided by mutual consultation. In the remaining area, regulated grazing may be permitted.

- According to the terms of the GR, 50 per cent of the income from final felling, after deducting costs, would be given to the village committee. The members want the Government to clarify as to what would be included in the “costs” – cost of harvesting alone or all costs? The clarification from the Government would help members understand the issue better and work out possible returns to them from final felling.
- The 25 per cent quota of material to be given free to committee members who actually do the thinning operations should also be raised to 50 per cent on a par with the 50 per cent share from final felling.
- The members are concerned that while they protect their forests through patrolling and imposing restrictions on themselves, they have no legal backing to their action in apprehending offenders, if required. The committee should therefore be empowered under the Indian Forest Act to take action against forest offenders to apprehend and bring them before the nearest Forester/Range Office. They feel that during patrolling most of the time they are alone and the offenders do challenge their authority to apprehend. Suitable empowerment under the law would remove the anomaly. The committee should also be empowered to seize material and recover the fine as per norms that might be laid down by the FD and retain them until such time as the amounts were credited to the FD.

A meeting of protecting groups organised by a Gujarat NGO, VIKSAT, listed the following problems which people’s committees face with the FD:

- Ambiguous forest boundaries create problems with neighbouring village communities;
- Recurrence of free grazing;
- FD takes no action against encroachers of FD lands;
- Neighbouring communities trespass into forests under protection for fuelwood and grazing;

- Frequent transfer of field staff of Forest Department results in neglect of the programme;
- Participation of women in the activity is poor, although provision for women members exists in the Executive Committee;
- Restriction in access to loose stone boulders and small timber for agricultural implements;
- Dependence of communities shifting to neighbouring unprotected forest;
- Differential treatment, or allocation of funds by the Forest Department to village forestry development varies across villages; and
- Issue of *Adhikar Patra* (Permit): In Gujarat, the Deputy Conservator of Forest issues an *Adhikar Patra* specifying the extent of Forest land, survey number, etc., for protection of the forest by communities. Some people's institutions in Panchmahals have experienced difficulties in acquiring an *Adhikar Patra*, such as:

Adhikar Patra is not given for the whole of the Forest which the people's institution wants to protect;

Past history of forest protection is discounted and permit is being issued to a neighbouring and relatively degraded patch of Forest land instead of the one that is under protection;

Although forest protection has been operating for several years, *Adhikar Patra* has yet to be issued; and

The managing committee members are unilaterally changed by the Forest Department.

Existing commitments (Femconsult 1995)

The field staff tends to view JFM as any other programme, therefore the paradigm shift in policies which should have accompanied the introduction of JFM has yet not taken place. A number of existing

commitments which are still in place are in conflict with JFM arrangements and therefore act as a disincentive.

Protection

Previous protection arrangements for schemes under which the FD hired and paid for watchers are now in conflict with the new JFM arrangements, with watchers resentful that their role has been transferred to the FPC. However, the FPC are sometimes unsure of their responsibilities for protection while the old arrangements are still in place.

Working Plans

Working Plans are being prepared independent of the micro-plans. As a result, the FPC have little say in provision of inputs or the time of harvest.

Harvesting

All harvesting in Forest areas is currently carried out either by the FDC, or through industrial units by contract/agreement with the FD. These harvesting arrangements directly affect the return to the FPC, as it is unable to decide the timing of the harvest and, thereby, to maximise the sale price, and control the FDC's harvesting costs. FPCs argue that harvesting costs are higher than normal as a result of the monopoly position of the FDC. This point was made forcefully in West Bengal when prices for two adjacent fields of eucalyptus poles were compared; on private land each pole would fetch Rs 8, while on FD land each pole was worth only Rs 1 to the FPC.

Where industrial contracts involve the pulp mills in harvesting, such contracts are agreed between the FD and the enterprise and negotiated at headquarters level. At the local level, FPCs perceive them to be against their own interests.

Administrative ethos

One aspect of forestry bureaucracy that demands greater understanding is its "culture" – something that is highly relevant to the success of JFM. For example, while the principle of JFM assumes a participato-

ry/consultative framework, the government bureaucracy that is charged with its implementation operates in a decidedly non-participatory/non-consultative fashion. Bureaucratic regulations regarding release of budgets, physical targets, development of Working Plans, all act against the more flexible adaptive process needed to successfully implement a JFM programme. What is needed, therefore is an effort to identify the key points of leverage through which the forestry bureaucracy could be incrementally moved toward more open working practices. Change in bureaucratic structures takes time and continued support; it cannot be imposed from outside but must evolve from within – but this evolution could be accelerated with appropriate training.

Historically, the ethos of the Forest Department has been oriented towards estate management and territorial control. Laws have been framed to meet these objectives. At the same time, the integrity of the forests has been severely compromised through massive deforestation. The natural reflex, though, has been to blame the people. That they have played a part in deforestation is not in dispute. But to blame them is a convenient diversion. Moreover, the prescription which follows is counter-productive. The prescription has not been policies to meet people's needs for forest products, it has been to demand and impose more stringent laws, with military-style controls, compulsory castration of bulls, banning people from entering Forests, and curtailing the rights and concessions of forest dwellers. These measures have their roots in the bureaucratic psyche which believes in the power of the stick and in rewards to those who wield it.

Some officials are concerned that empowering forest communities will erode departmental authority over natural resources, leading to their misuse. Others fear that providing additional use rights to community forest management groups will lead to over-exploitation and raise expectations unrealistically. These are thoughtful questions which deserve thoughtful answers, and should therefore be raised in training programmes. Experiences from West Bengal, Gujarat and Haryana indicate that the FD had already lost much control in many degraded Forests. In fact, it is this uncontrolled access, combined with the absence of incentives among users to delay exploitation which had led to unsustainable cutting and grazing practices and forest destruction. Forest communities in conflict with forest depart-

ments no longer respect the rights and responsibilities of the foresters. Establishing joint management allows the department field staff to regain the trust of the forest communities and to work with them to achieve the goals of the community and the Department. In this way the training programmes can emphasise that empowering community forest management groups re-establishes government authority, by making it acceptable and supportive of local forest user communities.

Need for training

Forest officers have been trained to understand forest dynamics, plant and fell trees; few of them have been trained to work with local communities. While innovative courses are being run by a few NGOs for forest officers, the National Forest Academy and the Rangers Colleges responsible for the education and training of the foresters continue to teach a curriculum that has changed little in the last 100 years. These institutions too should modify their curriculum to incorporate the social skills and the changing silvicultural and administrative concepts. Although the number of workshops and short-term training courses has certainly gone up in the last five years, these often do not clarify all the doubts of the field officials. Perhaps training programmes linked with actual field trials and demonstrations would be more useful.

Rather than solely depend on the initiative of a few leaders, JFM puts greater faith in communities, in their own management systems, skills and abilities. These abilities need to be enhanced through adequate training programmes. Therefore training is needed not only for the forest officials but also for communities, so that they may learn to manage resources more sustainably.

Monitoring and evaluation

It is generally believed that officials reflect a greater concern for the expansion of the programme than for its effectiveness. JFM without any effective mechanisms for people's empowerment, autonomy, self-realisation and secure implementation is unlikely to achieve much even in terms of its own proclaimed objectives. Through the JFM programme the monitoring and evaluation should become more

open, intense, continuous and action-oriented through the involvement of local NGOs, research institutions and community representatives.

While many states have agreed that forests under JFM are to be managed by village management plans, the funding to work in the forests comes, not in relationship to the management plans, but from “plantation schemes” which may not cover the needs of all the village plans. Thus financial planning is divorced from physical area planning. One of the more serious deficiencies seems to be in funding of routine silvicultural maintenance activities for existing stands, both natural and plantation. Thinning, clearing of vines and creepers, and removal of weeds are sometimes not done for lack of funding. It appears that the emphasis should change, at the highest level, from funding primarily new plantations to regeneration through taking care of existing forests.

The primary monitoring activities of the FD at present concern fiscal accountability. While it is necessary, it should not be allowed to overshadow the need for human and resource monitoring. At present, it appears that there is great pressure on the FD as a whole to account for money spent and man-days spent in terms of hectares of trees planted, numbers of tree smugglers prosecuted, etc., but not in terms of longer-term results, such as collaboration with people and their morale, because those are not monitored. The fiscal responsibility has to do with funding annual allocations and five-year allocations, but the business of producing trees and keeping forests healthy requires a longer-term perspective. Under the current monitoring, emphasis is laid only on the initial expenses. After five years, little is done or monitored. This is partly responsible for the poor state of many plantations.

Officers at all levels in the Forest Department spend a great deal of time in collecting and submitting information, but this is not used for taking corrective and remedial action, but only for forwarding it to a higher level. This defeats the very purpose for which information is collected. As there is no system for evaluation of schemes, especially of the social content, efforts which should be made to improve long-term viability of projects and to secure people’s co-operation are neither monitored nor insisted upon.

Another weakness of the present monitoring system is that the failures are not reported and analysed as they are not accepted in the system. Such failures are simply explained because of factors beyond

the control of the organisation. The learning process of the organisation is thus blocked. The forestry administration should develop a system in which mistakes or failures may be reported and analysed so that they are not repeated.

Co-ordinating JFM with other Departments

The relationship of the JFM with the Social Forestry programme has to be clarified and spelled out. Within one Forest Department there are likely to be separate divisions for social forestry and territorial forestry. Since JFM is under the jurisdiction of the territorial division alone, it is possible that two different rangers and their respective staff could be working in the same village with different mandates: JFM on FD land, and Social Forestry on non-FD land.

There is also need to co-ordinate the JFM-related efforts with the activities of other departments, such as Animal Husbandry and Cottage Industries. As a result of the presence of active Forest Protection Committees grass production may go up, or there may be a potential for development of local cottage industries for adding value to the produce. It may therefore be desirable if such activities are taken up in the same area as the JFM for better results and multi-dimensional development of these villages (see also Chapter 6).

Role of NGOs

The relationship between NGOs and the bureaucracy in India is complex, characterised by mutual suspicion and hostility (McGean 1991). While the NGOs regard bureaucracy as inherently insensitive, oppressive, inefficient, parasitic and corrupt, the image of NGOs among government officers is that of being trouble-shooters, wasters and totally dependent on foreign funding. The fact that most NGOs today, unlike their predecessors 20 years ago, no longer have an austere life-style and are well-paid professionals opting for social work as a mainstream (and frequently globalised) career adds to such an impression.

There are a variety of NGOs working in India today, from those organised for immediate relief and charity to those that directly fight entrenched interests, with “delivery system” NGOs being the largest

in number which aim to offer more effective and sensitive development and social services than government. NGOs generally function within a two-tier system consisting of an apex level for investigative research and a second at district level where they develop an affinity with the local people with whom they intend to work. With regard to finance, the larger NGOs have their own independent sources of funding, the others may have to be funded by government with provision for funding being in-built into each project (Fernandez and Mascarenhas 1993).

The NGO delivery system has several weaknesses, such as:

- smallness of scale and extremely talent-intensive organisations which limits the replicability of their models;
- centralised decision making, often dependent on a charismatic leader; and
- uncertainty about continuity of schemes which depends upon availability of funds.

Despite these shortcomings, the strengths of the NGO delivery system are increasingly being appreciated by policy makers in government. The NGOs show higher motivation and dedication, as well as creativity and innovation, than government officials. They have far greater face-to-face interaction with local people, they are more responsive to people's aspirations, are more sensitive to equity and gender issues, and their sanctions are based on consensus and social pressure rather than on coercion backed by State authority. They have greater organisational flexibility and generally follow a more holistic approach than the sectoral departmental character of government systems.

In the last decade, India has witnessed the rise of several governmental programmes in which the NGOs have been assigned an important role. The best examples of these programmes, where both the government and NGOs act as facilitators, are the mass campaign for literacy, the Women's Development Programme popularly known as the Saathin's programme of Rajasthan, and Joint Forest Management. The major difference in these programmes from the past has been in their focus on empowerment through mass mobilisation,

motivation and organisation, with information on rights, laws and schemes, and through training. As the philosophy of empowerment runs counter to the established image of government as a coercive institution, such programmes are not very well understood by the bureaucracy, especially at the lower levels.

As in similar interventions, the role of NGOs in JFM has also been hotly debated, some feeling that it is unnecessary to involve them, except in certain problem areas, others contending that they have a major role to play, albeit a complementary one. The anti-NGO group feels that the re-orientation of the FD could quite well be achieved without the help of NGOs. Since most villages in the country do not have viable NGOs, informal village committees for forest protection in any case have to function effectively on their own.

The proponents of NGOs feel that the role of NGOs is complementary to that of village protection committees. Their most important objective is to build up the capability of village institutions to manage common property resources, a task which is highly extension intensive and requires interaction with the villagers over a long period. In addition, the NGOs can disseminate information, act as a channel of communication between the FD and the people, provide training and technical inputs, and resolve conflicts. They do not aim to usurp the role played by FPCs.

NGOs and the Forest Department – examples of conflict

Many conflicts between the NGOs and the FD are due to the “ownership” problem, in which both organisations become over-possessive of their “adopted” villages or FPCs and see each other as a potential threat to their influence and authority in the village. We describe below two incidents, one in which the NGO sought, but was not given, active help from the Forest Department, as the Department considered that local problems should be solved by the NGOs themselves; and the other in which the Forest Department considered the attitude of the NGO patronising.

Seva Mandir, a large and well-reputed NGO, has been working in the village of Shyampura (Rajasthan) for over a decade in the field of adult education and irrigation. In 1985, the Forest Department planted

trees on half of the FD land linked to the village. Seva Mandir decided to do it on the other half. However, it ran into problems. After giving permission to the NGO, the Forest Department withdrew from the picture. Without the Department's help the NGO has not been successful in removing encroachments or in solving the problem of illegal grazing from cattle belonging to a neighbouring village. Employment generation attracted people initially, but after two years the project has not generated enough grass or NTFPs to sustain people's interest (Choudhury 1993).

In March 1993, VIKSAT, working in Gujarat, complained to the DFO that the way the Forest Department worked in the village did not enhance the capability of the village society, as their members were not involved in the decisions, and that the villagers were not happy with the manner in which benefits were distributed. The DFO copied this complaint to the village for comments. The letter was considered by the EC (Executive Council of the FPC) in April 1993, and it entirely disagreed with the allegations of the NGO. The EC threatened to take the NGO to court if the wild allegations were not withdrawn. They also indicated that they did not need any help from the NGO in future. The NGO clarified its stand that it wanted to enhance the capability of the village society so that it became independent. This incident however led the NGO to withdraw from helping any village development directly, and it decided to concentrate upon training needs of the societies at its head office (Kolavalli 1994).

Summing up

In this Chapter we have referred to some of the shortcomings of government policy in the way JFM is being implemented in the field. Much needs to be done by senior government officials to remove these constraints. A short summary of recommendations is given in Table 5.5.

Internal factors behind the success of collective action in managing community resources were discussed in Chapters Three and Four. While social variables such as cohesiveness and size of the community are no doubt important, often these are like "givens" of a situation, not amenable to outside intervention, at least in the short run. On the other hand, external factors of government policies and the way

Table 5.5. Analysis of government orders and suggested changes

Existing	Suggested changes
No policy on tenurial issues	Protecting communities should have clearly defined property rights over Forests in comparison to distant villages
FPC is a creation of Forest Department	Should be an independent and spontaneous entity
FPC has been given mainly protection role, for which wages are delayed and in kind, control and authority is with FD	FPC should manage and control all natural resources within their domain. There should be genuine partnership
Panchayats have been given authority over FPCs	User groups alone should manage their commons
NTFP markets distorted by government regulations	Markets should be freed from over-control
No policy on changing silviculture	New silvicultural practices required
Focus is on Forests	Focus should be on sustained benefits to the people, and on empowerment
No deviation from norms, membership determined by government order	Flexibility and decentralisation should leave many decisions to the judgement of the village
Working Plan (WP) is absolute	Micro-plans should over-ride the traditional WP
Emphasis on harvest cycles	Seasonal benefits from NTFPs
Creation of FPCs through administrative decree	Recognise, legitimate and empower them through law
Training de-linked from action	Link training and research with action
No specific provision about the short-term suffering of disadvantaged groups, such as women and headloaders	Link JFM with other Rural Development programmes, as discussed in the next Chapter

Source: based on Raju 1994

government functionaries interact with the local communities may have greater explanatory power about why communal action is sustained over time, because these variables are in the realm of public policy, and are of greater practical significance in influencing collective behaviour.

Despite this, state governments and senior forest officials have hardly taken any ameliorative action in removing the constraints of policy, and initiating measures on the lines listed in the above Table. Such an indifference could have many causes. Firstly, state governments treat JFM as another programme, which they think can be implemented without making any changes in other sectoral programmes. JFM however requires a paradigm shift as illustrated above, and will be successful only when radical changes are introduced in rights and privileges over forests, policies and laws pertaining to NTFPs, Working Plans, silvicultural arrangements, etc. Secondly, field officials are willing to entrust protection to the communities, but hesitate in involving them in management and control of government forests. Unless serious efforts are made to trust the communities with control functions, people's efforts in protection may not be sustained for long. Thirdly, government resolutions tend to over-prescribe what communities may or may not do, leaving little flexibility for them to adjust to their local situation. Finally, the main support to JFM has come so far from environmentalists, academicians, NGOs and the Ford Foundation in India. While their support is crucial in documenting the dynamics of community behaviour in different ecological conditions and identifying policy issues, the hold of this class of people on instruments of policy formulation is rather weak. In addition to forest bureaucracy which is often hostile to the idea of empowering the people, politicians too have not put JFM high on their agenda. They see greater political advantage in espousing schemes which bring individual benefits.

Despite these serious constraints, the success in JFM would have been more widespread if the scheme was linked with other afforestation programmes, on farm lands, village lands and Forest lands remote from communities. These linkages form the subject of our discussion in the next Chapter.

*Six***PROGRAMMES COMPLEMENTARY TO JOINT FOREST MANAGEMENT****Losers from JFM**

The success of JFM depends on several factors. While issues internal to the group are debated, the nature of the resource being protected and the alternatives available to the people are often ignored. During the period of protection, people have to limit extraction to allow for sustained supply in the future, additional labour may be spent in the short run to collect wood from greater distances, and participation entails enforcing rules and regulations which requires labour. These costs should therefore be compensated by the anticipated future economic benefits to the people. Such benefits will in turn depend upon:

- future timber yield – rate of growth of trees, unit value, gestation period;
- annual NTFP harvest – biological productivity, unit value;
- amount of effort required to obtain that NTFP income, ease in gathering;
- marketing infrastructure for wood and NTFPs; and
- alternatives available for household labour in agriculture, non-farm employment, migration, etc.

Costs and benefits from protection will not be uniform for all concerned, and may differ from situation to situation. As discussed in the previous Chapters, the introduction of Joint Forest Management into small, homogeneous user communities with similar economic interests could result in an increased sense of belonging and responsibility for the Forest and in an improved relationship between the FD

and the community. Other benefits may include a sense of pride in the development of group rules and norms and satisfaction at the “legitimisation” of a share of benefits going to the community.

However not all village communities are cohesive. Heterogeneous groups, not only in class and caste terms, but also in degrees and nature of forest dependence are more common. The introduction of JFM into such groups may result in internal conflicts; and the gains and losses to any particular group may be influenced by its economic interest, the extent to which other groups are willing to compromise, and by the existing power relationships. In particular, some vulnerable groups, such as headloaders, women, graziers and the landless poor are in danger of losing their livelihoods or means of sustenance when protection of a degraded forest begins. In the previous Chapter we have given some instances of the effect of JFM on such disadvantaged groups.

A study (Femconsult 1995) of the impact of JFM on various groups in a Gujarat village calculated net worth of the benefits from JFM at a 12 per cent discount rate over a period of 30 years and compared it with another village under a departmental plantation where JFM had not been undertaken. The results are shown in Table 6.1.

The overall gains to the FPC are tremendous. This was primarily because the village forest had valuable teak as the main species. When a similar calculation was done in a West Bengal village with sal as the main species and where FPCs get a 25 per cent share in the final harvest as opposed to half in Gujarat, the corresponding gains were much less. In both cases, headloaders emerged as the biggest losers. In the latter case, graziers and gatherers of NTFPs also lost as closure of forest canopy led to reduced grass and tendu production. Often in sal forests, leaf sweeping needs to be controlled in order to induce regeneration. This too adversely affects women and the poor. Failure to compensate losers may disrupt the consensus over protection, and thus one would need income generating programmes for them until the trees mature.

Integration of JFM with other rural development programmes may be necessary even in villages which are homogeneous. A study (SPWD 1992b: 40) of a NGO-inspired JFM initiative in Gujarat noted that a major reason for success was the co-existence of many complementary activities along with JFM, such as:

Table 6.1. Economic gains¹ from protection compared to “without JFM” situation

	Net worth in 000 Rs at 12% for 30 years			
	With JFM	Without JFM	Increment	% change
FPC Revenue	2,242	0	2,242	-
Employment	562	0	562	-
Headloaders	108	583	-475	-81
Livestock owners	611	608	3	0
NTFP collectors	1,270	240	1,030	429
Net in kind	2,551	1,431	1,120	78
Total FPC	4,793	1,431	3,362	235

Source: Femconsult 1995

- biogas installation under a scheme of Gujarat Agro Industries Corporation;
- fodder plot programme under which green fodder was provided and villagers were able to stop open grazing in forests;
- village nurseries under DRDA were started to take up peripheral plantations; and
- homestead garden scheme began under Tribal Area Sub Plan.

By definition, Joint Forest Management programmes attempt to optimise, through people’s efforts, productivity of forest lands which are close to habitation. However, Joint Forest Management should

¹ These have been calculated on the assumption that protection in the JFM village will continue by the people throughout the 30 year cycle. This in itself will depend on a number of variables, considered in the previous Chapters. However, no account has been taken of those factors when calculating the economic returns, hence it makes conclusions somewhat suspect. The inadequacy of this type of economic analysis is apparent from the fact that JFM is more successful in West Bengal than Gujarat, though the financial analysis given here suggests otherwise.

not be seen as a panacea for deforestation or for alleviation of rural poverty. In itself Joint Forest Management sets out the minimum conditions necessary for halting land degradation. Whether it will succeed, and where, may often depend on other rural development programmes or on efforts made to increase productivity of land other than degraded forests: private lands, non-Forest village commons and Forests remote from villages. If programmes to make these lands productive are taken up simultaneously or prior to protection, these may meet employment and income needs of the people during the period they are required to reduce their consumption from specific forests. Therefore the village micro-plan should be comprehensive enough to include all elements of land management within a village, including crop lands. These strategies are discussed below.

Farm forestry in backward regions²

Most forests in India are located in regions where the quality of land is poor and agriculture is rain-fed. Even those who own land are quite poor and depend upon collection from forest lands. The opportunity cost of diverting crop lands to farm and agroforestry is comparatively low. Despite this advantage, it was not in this region that farm forestry made an impact during the eighties. On the other hand, it succeeded generally in “green revolution” areas, where farmers faced a labour shortage for labour-intensive annual crops and were keen to shift to lucrative but labour-extensive tree cash crops, such as eucalyptus. Familiarity with markets helped them in such a transition.

Scope of farm forestry in commercial regions

For several reasons, the earlier trend of diversion of good-quality crop lands in agricultural-surplus regions to tree crops may not be sustained. First, since such wood production would generally be for sale, limits of demand might appear as a big constraint. A World Bank report (1993), quoting FAO figures, states that the total extraction of

² Based on Saxena (1992).

wood in India in 1988 was 264 million cubic metres, of which 240 million cubic metres was consumed as fuelwood. Thus, of the total wood consumption in the country, only 10 per cent is industrial wood. Most fuelwood is collected, both for consumption and sale. The gatherers can always beat the producers over the pricing of fuelwood; the producers would be price-takers, rather than price-makers. This means that the market price of fuelwood would always be lower than its social cost for replacement of growing stock through investments in plantations. Therefore the market price of fuelwood does not make its production on farms an attractive financial proposition in countries with large open-access lands and widespread poverty. Second, the entire arable land in green revolution areas is devoted to high cost and high profit commercial farming. Thus the opportunity cost of diverting land to tree crops is very high, which is not likely to be compensated by returns from growing fuelwood. Third, farmers would like to grow pulpwood and industrial wood, as these fetch better prices, but the same species are grown on lands controlled by the Forest Department, causing the risk of a glut. This fear has greatly reduced the popularity of growing eucalyptus as a cash crop in north India after 1989 (Saxena 1994).

The main compulsion of farmers in the green revolution areas which pushed them away from agriculture was the desire to maximise profits and minimise labour and supervision costs through planting of eucalyptus. One could argue that the State should not encourage diversion of area from annual crops to perennial crops, which demand less labour, in a labour-surplus economy. Para 3.1 of the new Forest Policy states that, "diversion of good and productive agricultural lands to forestry should be discouraged in view of the need for increased food production". However, this intention has not yet been converted into law, and thus land use in India continues to be decided by the farmers. Moreover, law by itself does not create compliance; changing the behaviour of millions of farmers is feasible only through safeguarding their economic interests.

There may be better social returns in promoting agroforestry in the rain-fed or semi-arid regions, which contain most of India's wastelands. However, barring some exceptions such as a few districts of West Bengal and Karnataka, farm forestry did not succeed in these regions.

Reasons for poor response to farm forestry

Subsistence regions do not accept cash crops easily, and when these are introduced indiscriminately poor farmers may be harmed rather than helped. For instance, in Rajasthan, where there is no paper mill or other large buyer of eucalyptus and poles are generally imported from Haryana, small farmers found that there were no buyers, and hence they suffered losses from planting eucalyptus, whereas the large farmers with 10,000 or more trees to sell had to locate buyers from other states through newspaper advertisements (USAID 1991). Cases of distress sales by the poor peasants to contractors at a throw away price a few years before the crop matures are also reported from other states. In West Bengal the poor farmers sold their trees to a village school teacher at about 30 to 50 per cent of the price which the school teacher later obtained. A case study (Shah 1990) of district Midnapur, West Bengal, described how two middlemen of the village cheated the tree growers and offered them very low prices. Even farm inputs, irrigation water, crop loan and other services by the village council were given to those who sold their trees to these two middlemen. It may be assumed that such cases would be more common in regions where credit and output markets are inter-locked.

In addition to marketing problems, tree growing has been constrained in the mono-cropped millet-growing peninsular India by a number of technical, economic and social factors. First, much of peninsular India is semi-arid, characterised by intense competition for moisture between crops and trees. Unlike khejri (*Prosopis cineraria*) in Rajasthan's arid zone, suitable species which may have strong complementary effects between crops and trees are still to be identified for the region. Second, young trees require protection from cattle, especially in the fallow season, when the village livestock is let loose to browse agricultural residues and stubble. During these months in a mono-cropped village, cattle are generally not accompanied by a herder. In semi-arid regions villages are spread over a large area in which individual fields may be far away from village huts, making protection more difficult. On the other hand, in irrigated villages a tradition is slowly emerging of herding cattle during the cropping seasons. Unless profits from growing and selling trees out-

weigh the costs and risks involved, investment in paid protection and a change in herding practices in mono-cropped areas is unlikely. Despite ecological necessity and the easy availability of marginal and degraded lands, protection of young seedlings is difficult in these villages compared with irrigated villages. Thus, unlike annual crops in which crop decisions are autonomous of similar decisions by other families, a farmer's judgement to plant trees has to take into account herding practices of the village, availability of irrigation for double cropping, distance of the fields from his hut, and the cropping pattern of other farmers. Conditions prevailing outside the farm become as important as simple costs and benefits from the preferred land-use options.

Third, the absence of large urban areas or industries which present substantial markets for poles and timber force farmers in backward regions to plant fewer trees on bunds and primarily for subsistence (Arnold 1991). Fourth, most of India's forests are also located in areas of backward agriculture. Villages in this region of low productivity often have vast, though degraded, open-access lands. Unlike annual crops which are grown on private lands, trees also occur on Forest and other public lands. Open access to public lands may vastly reduce the cost of obtaining tree goods for a gatherer, which may work to the disadvantage of a grower. Thus, the concept of trees as a free good to be obtained from public lands inhibits investment of personal labour, land and capital in tree planting.

Proximity to Forest lands affects private tree growing in other ways too. The State often restricts farmers' rights to freely harvest the trees on private land in the interest either of conservation or of checking theft from forest lands (Saxena 1991). These create rigidities in the free flow of products, and thus depress the price which farmers receive for their output. The uncertainties associated with enforcement of restrictions increase differences in the prices obtained by different farmers for a similar product. This, combined with differences in yield from farm to farm, may make planning of likely incomes from trees extremely difficult for a farmer. Lastly, if similar products are raised on forest lands, which are marketed through the State machinery, farmers may find it difficult to compete and get a remunerative price, particularly because the traders may be less interested in buying from dispersed producers, and may prefer to deal with the centralised

bureaucracy. Evaluation of the Orissa Social Forestry Project noted that raising eucalyptus on Forest lands was one of the reasons why farmers did not feel attracted to grow commercial trees on their plots.

The above factors have limited the spread of market-oriented farm forestry to the subsistence regions. A different approach is required which would be in harmony with the ecological characteristics of these regions.

Farm forestry in West Bengal and its linkages with JFM

A favourable condition for tree planting by farmers in backward regions is where people own degraded land, or have such land allotted to them which is unsuitable for crops, but suitable for trees. Benefits from trees are then additional to their other sources of income, which may allow them to wait while the trees mature.

These conditions are illustrated by the experience of the Group Farm Forestry Programme in West Bengal (Chambers *et al.* 1989). Land in excess of the legal ceiling was allotted to the landless or near landless, but it produced little except grass to which all had access. Then, under a new scheme, the allottees were persuaded to plant these degraded lands with eucalyptus, which belonged to the allottees. In one complex at Nepura village in Midnapurr District the area planted with trees had increased from 13 acres in 1981 to 510 acres in 1986 (Shah 1989). Ninety per cent of the area planted consisted of allotted land. For the poor families of these villages, who continue to depend upon farm and forest labour even after the assignment of land leases to them, tree cultivation on allotted land has proved to be a major source of additional income. Over 70 families in Nepura complex who harvested their 1981 farm forest plantations in 1985 and 1986 earned an average of Rs 5,900 each. Amongst these, many Santhal (name of the tribe) families, and other poor, who were entirely dependent on labour for their livelihoods, promptly invested their revenue from the sale of trees to buy small plots of paddy land which was then used to take three crops with purchased irrigation water. A few other families dug shallow tubewells themselves and many used the money to cover contingencies, pay off old debts, repair or build houses and to marry their daughters. The main lesson, however, is that for most of these families, trees had become a major instrument

for capital accumulation and, for those who deployed this capital judiciously, livelihoods would be more secure for the rest of their lives.

Two important factors at the heart of the success of this West Bengal Group Farm Forestry Programme are:

- effective implementation of a land distribution programme through participation of grass-root level institutions; this ensured that the title as well as possession of the land actively went to the intended beneficiary family; a 99-year lease also enabled the holder to enjoy virtual ownership rights; and
- early and effective initiatives by the FD to give technical advice and assure the lease holders that their right to do whatever they wished with their trees would not be infringed or curtailed at any stage.

These factors do not exist in most other states.

The task of people's protection of degraded forest lands in West Bengal became easier because the farm forestry programme in that area had been highly successful, increasing fuelwood supplies and incomes even for the poor. Guhathakurta and Bhatia (1995) showed that in the village of Paljhari about 50 per cent of the energy for domestic cooking was being met from eucalyptus plantations and this had largely relieved women of the hardship of travelling 4-5 kilometres and spending 4-5 hours in a day collecting fuelwood from bushes and trees from public lands. The level of poor farmers' participation in farm forestry has been greatest in this area of all the regions in India. By 1990, 129,554 hectares of land had been covered with trees, predominantly eucalyptus and *Acacia auriculiformis*. Moreover, as most of the land planted with trees is poor-quality land, the planting of trees has not reduced agricultural production of the region. Thus chances of the success of JFM improve by linking JFM with other tree-growing programmes.

Policy measures for subsistence regions

Even in subsistence regions a part of wood production is marketed, and hence sustenance to the farmers can be provided to some extent

by removing market constraints. First, a great source of market imperfections in wood markets is the legal and procedural framework which makes cutting and selling privately owned trees difficult, irksome and complicated, besides non-remunerative. Therefore these restrictive laws could be abolished. Secondly, government could stop subsidies on government supply of wood to industries, thereby forcing industry to buy from the farmers at a profitable price. It could also initiate schemes to link farmers with industries, in ways similar to the linking of poplar-growing farmers with a Swedish match factory in north India (Saxena 1994). Further, improvement in extension could result in production of thicker logs suitable for sawing. New uses of wood could be promoted, such as using wood for power generation through gasifiers. Lastly, research is needed to identify other short-rotation, high-value species besides eucalyptus which suit farmers' requirements for planting on marginal lands and bunds.

Before promoting indigenous agro-forestry models in rice- and millet-growing regions a great deal of research is needed to identify species which complement agricultural production, as farmers' primary land use continues to be crop production. Thus the objective should change from "how can farmers be persuaded to grow trees in place of crops" to "in what manner can technology help in increasing overall production from marginal lands by meeting farmers' priorities"? Ultimately the programme must improve the productivity of degraded private lands, if it is to be sustained over a long period. There are some known indigenous practices, that use trees to improve land productivity, which could be promoted extensively in these regions. For instance, the most common tree in the arid districts of western Rajasthan is *Prosopis cineraria*, which is a multi-purpose tree, providing fodder, mulch and even food (its leaves are eaten). Every part of this tree is used by the farmers. It is planted both on field boundaries and in the fields. Apart from improving soil fertility, the tree also binds the soil, decreases the velocity of hot summer winds and provides shade to livestock and birds in the summer months.

In Thanjavur and Tiruchirapalli districts of Tamil Nadu, *Acacia nilotica* is cultivated on the rice bunds. This tree grows rapidly, as it is water tolerant, and benefits from the fertiliser and irrigation applied to the field crops. In the summer months farmers pay a nominal sum

to herd owners to pen their animals in their fields. The goats eat tender shoots of *Acacia nilotica* and crop stubble. In return, the farmers' fields are manured by the animals. Thus the traditional system involves sufficient ecological and economic interaction between the tree, crop and animal components.

It is difficult to rehabilitate degraded lands without introducing moisture-conservation and water-harvesting measures. Such measures are needed for all rain-fed areas used for biomass production. The soil-conservation technology in India has so far focused primarily on structural works for controlling and disposing of run-off rather than capturing the maximum amount of moisture in the soil and retaining it for as long as possible to support crop growth. It is better to adopt *in situ* moisture conservation practices through planting of suitable grasses and trees which may also provide significant protection against erosion.

Equally important are institutional constraints in watershed management programmes. Studies of similar programmes show that planning, organisation and management have been issues of major concern in all projects. In particular, the impact of watershed treatments has been impaired by poor co-ordination between line agencies, and there has been a marked absence of land user participation in treatment planning and implementation.

Unfortunately, the watershed approach and agroforestry research for different agro-ecological regions have remained neglected disciplines. Due to a tradition of competition for land between the Agriculture and Forest Departments of the government, both have viewed agroforestry with suspicion. The Forest Department has even gone to the extent of banning agroforestry on Forest lands by law!³

Growing trees on private wastelands (as opposed to on good-quality land, which can support more labour-intensive annual crops) is both socially and economically desirable. This could substantially enhance the incomes of farmers, in addition to producing the much needed biomass and providing a cover for barren lands. Therefore the emphasis in government policy should change from production of

³ The Forest Conservation Act does not permit growing of crops on forest lands unless permission of the Government of India is given.

wood on good quality lands to rehabilitation of degraded lands. This would require a great thrust in research, as species complementary to crop production for each fringe area region are yet to be discovered. The attention of government and donor agencies on farm forestry to date has not been region specific. It should now shift to wasteland development and complementary agroforestry in millet-growing, rain-fed regions of India, where most forests are located.

Social forestry on degraded village lands

The conceptual and implementation problems in the Social Forestry programme undertaken during the last two decades have been discussed in Chapter One. Unfortunately, there is not much support for this programme today, although its complementarity to JFM is obvious. As already described, the first attempts by the Forest Department were without any participation of the local communities and the species grown were also commercial, like eucalyptus and casuarina. This meant actually depriving the locals of their CPRs, and it generated a lot of protest movements, particularly in Karnataka (Nadkarni *et al.* 1994). It must be said to the credit of the FD, however, that it has been responsive to this criticism and has shown a willingness to learn from past mistakes and to correct them. This has been in two main ways. First, the FD started actually consulting people and wherever possible even trying to organise local village committees for the management of social forestry projects. Where such committees could not function on their own, the FD convened meetings of local people, and consulted them about the type of species to be planted. This led to the second correction, namely the adoption of a model of mixed species instead of a mono-culture commercial species. A variety of trees for fruit, fodder, fuelwood and small timber bamboo were planted in project areas. People's co-operation was sought and more easily obtained in stopping free grazing of cattle in lands taken up for afforestation. The term "social forestry" thus acquired greater legitimacy, although still controlled and managed by the FD.

These social forestry projects began mostly in cultivable waste and other such uncultivated lands under government ownership other than the RF. Considering the great need for fodder, a balance between fodder and wood species is necessary. More nutritious and palatable

varieties of grass have to be introduced so that they are more worthwhile to produce. In most of the social forestry projects under the FD, raising grass is not given much importance probably due to its low economic return, and also because of the risk of the quick spread of fire. These problems have to be solved in consultation with local people, and the obsession with timber species needs to be modified.

Another obstacle in the operation of social forestry projects under the FD is that there is as yet no clarity about how the timber is to be shared with the local people, if and when the trees are cut. The local people do not feel that the trees are theirs. If the FD and its watch and ward are withdrawn, the village panchayats have no confidence that the trees would be maintained by people and not cut stealthily. The community organisations have not yet so developed in these projects that they can take over the task of distribution of timber or its sale proceeds to the satisfaction of all. It could also be said that they have not grown because such responsibility has not been entrusted to them in social forestry projects under the FD. However, where there is more clarity about the sharing of forest produce, including timber, by the local communities the level of community participation and management is much higher even under the auspices of the FD.

Recommendations for future action on community lands

Continued involvement of the Forest Department discourages local bodies from taking over, and encourages them to opt for extending FD management. Hand-over arrangements commonly empower Forest Departments to exercise a considerable degree of control and involvement, and to retain a share of the revenue. As this is often allied with pressures on Forest Departments to meet very ambitious Social Forestry planting targets, they are frequently reluctant to hand over effective control. Had village organisations been able to control and spend funds from the beginning of community forestry projects, there would have been a better chance of them taking an active part in decision making and management. Therefore the present practice of “taking over” common lands by the Forest Department should be stopped, or drastically reduced to experimental projects. Even in the latter cases, people’s wishes should be the guiding principle in species selection. There is a good case for non-rotational “low” mar-

ket-value trees and grasses in community plantations to reduce problems of distribution.

Model afforestation schemes should be prepared for implementation by the village councils. These should be widely circulated, and village councils should be encouraged to apply for funds. Village councils that are capable of looking after plantations should be given funds in the first instance. Their example and good work should then be publicised as encouragement to others to take advantage of the schemes.

Funds for afforestation should be transferred to the village community at the start of the scheme. The role of the Forest Department would be mainly extension and technical support. Generally only a small area is available in the village. If afforestation is left to the village councils, it would take up only a small portion, and thus plenty of area would be left to be used by the poor for grazing. Often more degraded lands are available in larger chunks, but these are not planted as the cost of reclamation would be higher. However, in the long run, it is better to afforest these, as they have better demonstration effect, satisfy local demand and offer better management possibilities. As production of grass increases through afforestation on public lands, greater attention should be paid to its storage, so that fodder is available in lean months.

Appropriate legal models for benefit sharing and usufruct rights should be worked out with the communities. They have been verbally assured in some places, but there is no legal document to guarantee benefit sharing. Hence the people are not really involved (USAID 1988). Where councils represent several villages, single village organisations should be created.

Finally, distribution of produce is better done on the basis of one household, one share. There are views, valid enough, that excluding certain socio-economic categories and confining access to benefits to those directly dependent on forests would provide greater coherence of common interest but alienated sections could generate counter pressures. It is better that every household is given an option to participate in management.

Once the authority to plant and protect trees is given to the village bodies, much of the confusion about who should initiate action against encroachments will be removed. Local management will

ensure that the village body will be responsible for all action to safeguard the interest of village plantations. A review of revenue and other laws pertaining to village lands is recommended, as these were framed when fuelwood and fodder were not important problems for the village community. For instance, many village communities fear that once these lands have tree cover they would be entered as forests in the revenue record, and thus attract the stringent provisions of the Forest Conservation Act of the Government of India. To overcome this problem and to preserve the control of the village communities over their lands, it may be advisable to create another category in the nine-fold land-use classification and call these lands by some name other than forests, such as groves or agro-trees.

Ultimately, the test of the success of NGOs or government officials acting as catalytic agents lies in whether they enable the people to be self-reliant through their own organisation and efforts, so that when the agent leaves, the programme can go on unaffected. In independently managing the commons equitably and sustainably, the people will find a satisfaction, self-respect and feeling of strength that cannot come from any top-down approach and constitutes a noble path to democracy at the grass roots level. The empowerment of the people which comes about in the process and the inculcation of the spirit of co-operation and sharing instead of competition, would be in the wider interests of the environment and peace.

Fringe area development

Fringe area development, meaning economic development of villages close to Forest lands, is different from social forestry in two respects. First, it is implemented in fringe areas, whereas social forestry is generally in areas remote from Forest lands. Secondly, unlike social forestry which means tree planting on village public lands, fringe area development programmes relate to non-forestry activities, mainly infrastructural and improving productivity of private lands through irrigation. However, the two share a common assumption – if resources outside Forest lands become more productive, people will give up gathering from Forests.

Fringe area development is based on the belief that if foresters support village development in the broadest way – resources, cattle,

veterinary inputs, schools, health, water, roads, etc. – then the people will appreciate the role of Forests and help in its protection. This is reminiscent of the older social forestry philosophy that creation of fuelwood reserves outside forest lands will make people give up gathering from forest lands. This assumption too may prove to be rather naive in the future. There are some success stories, Nauradehi to name one, but these are mostly pilot experiments, and their large-scale replication is still to be tried. Empirical evidence linking prosperity with reduction in gathering is not very conclusive.

Besides, there may be other problems if fringe area development is made the main strategy for forest regeneration, such as:

- *overall cost per hectare* of fringe area development may turn out to be very expensive.
- *appropriateness* of the Forest Department for carrying out some schemes, for which they are not trained, and for which other administrative departments are better suited. However when other departments carry out such rural development activities there are problems of co-ordination. Often the FD raises false expectations about meeting development needs of the people without getting the necessary co-operation from other departments.
- *viability of schemes* depends on targeting the right people. As the landless and poor farmers depend more on forest resources than other categories of people, for fringe area development to be effective, the economic programmes must be targeted to improve the incomes of this class of people. The experience of the last twenty years of rural development schemes (starting with Marginal Farmers and Agricultural Labourers Programme of the late 1960s) shows that it is very difficult to conceive of programmes on a large scale for this target group. Besides, there is no evidence that the Forest Department is aware of the past mistakes made by the development blocks in implementing these schemes. In the absence of this knowledge, the Forest Department may be “re-inventing the wheel” and repeating the same mistakes made by other development departments.

- ensuring *sustainability* of benefits. The richer groups (landowners) may gain most from the long-term benefits of asset creation since structures like check dams provide irrigation to landowners. In some cases, there are no arrangements for repairs and maintenance of the asset (e.g., biogas plants) and this limits the duration of any benefit.
- However, the main danger in linking these schemes to JFM is that they contribute to “*a culture of dependency*” which is counter to the spirit of JFM.

As already stated, there is considerable naivete in the belief that because villagers are getting the possible benefits from government-led schemes they will be more positive to forest conservation, and to production of timber. By itself, poverty alleviation does not reduce the use of open-access resources. However it may help, if combined with other measures, like Joint Forest Management. Here too, Joint Forest Management should not mean just giving a share from forest produce to the people. Only when people are given greater security of access to the forest products that they currently depend on, and a sense of partnership in forest management, will they have a greater motivation to ensure that the forest resource is not degraded. They themselves will then assist or undertake the protection of the resource through regular patrolling and regulation of use. Thus fringe area development should not be seen as a substitute for giving secure rights to the people in Forests. On the other hand along with security of access the long-term sustainability of protection will be strengthened if combined with programmes which improve the productivity of private lands.

Other administrative issues in fringe area development

An enormous range of activities is to be addressed simultaneously in the initial years. Activities may cover social inputs such as improved health, drinking water, school facilities, street lights and electricity, and better access roads. There should be great stress on useful biomass increases through plantations on degraded land and the development of fodder resources. There are cattle and veterinary issues

including fodder, veterinary medicine, improved breeds and water development. There is emphasis on improved agriculture through horticulture, soil and moisture conservation activity, improved fields, better crop varieties, etc. There are alternative energy schemes with improved stoves, solar cookers and gobar biogas plants. There would be alternative income and employment opportunities through schemes ranging from weed eradication to training inputs for cottage industries.

The scale of activity contemplated under fringe area development raises the question of the practicalities of management and implementation. Who will do it? Does the present staffing level and infrastructure have the capability to implement a scheme which in some cases will double annual budgets and so presumably workloads? There are several parts to an answer for this question.

Firstly, to what level will the Forest Department sub-contract implementation to other agencies and departments (will they need further resources in vehicles and staffing) and how much will the Forest Department do itself?

Secondly, where there is greater emphasis on forestry activity, then to what degree will JFM reduce the workload? Note that in the JFM experience there is already the feeling that staffing levels are inadequate, especially at guard level, and that a lack of vehicles is seen as a major constraint. JFM, setting up the institutions, agreements, persuasion, monitoring, etc., all require greater inputs and cannot be entirely left to village communities.

Thirdly, to what extent are different sections of forest bureaucracy already overloaded? Some like Social Forestry and FDC (Forest Development Corporations) staff may be under-worked but Territorial wings may be overworked. Fourthly, what speed, level of detail, etc., are we envisaging for the creation of fringe area development and Joint Forest Management activities and inputs?

One suggestion could be that social forestry and production divisions (wherever they exist, such as in Madhya Pradesh) may be merged, and called afforestation and exploitation divisions. They may be given the charge of fringe area development and Joint Forest Management, as regular territorial forestry staff cannot cope with this as well as protection and tendu leaf collection. It is difficult for them to be patrolling all day and then sit on village councils in the evening!

It is important to involve other rural development agencies in the implementation of highly specialised activities. However so far there is absolutely no evidence of any prior discussion by the Forest Department with such agencies or their willingness to co-operate. There may be a need for a co-ordination committee at District level under the auspices of the Collector.

Management of forests remote from villages

Active management of forests remote from villages may not be very practical for the villagers. But such forests are still used by the people for incomes and meeting their subsistence needs, because of poverty and over-population. These forests have been traditionally looked upon as a source of revenue and not for meeting the genuine needs of the people. That is why the entire thrust of forestry has been towards the high forest system, which calls for clear felling and ruthless cutting back of all growth, except of the species chosen for dominance. This has the major defect of creating a bias in favour of coppice-origin plantations which, in the long run, are more amenable to biotic and climatic factors and, secondly, it results in the removal of all the material which could serve gathering needs. The high forest system has resulted in pure forests being created, but with gathering falling a casualty in the process. It is in this context that a major policy change is required.

While some distant Forests may continue to produce high-value timber as one but not the only output (provided these can be saved from smugglers), most FD lands should be used for mixed species and multiple use, with timber as a by-product. A start could be made by deciding that gathering is a legitimate and genuine expectation of the people and that if they are not allowed to gather, they will treat the forests with hostility. What is now termed as “biotic interference”, i.e., foraging for fuel and fodder, grazing, removal of bamboo and small timber, should be looked upon as an appropriate use of the forests. This calls for a modification of the existing silvicultural practices, not so much to achieve high forest as to restore to the forests an admixture in which a sensible balanced level of vegetation would be available to meet gathering needs.

Only over-mature, malformed, dead or dying trees should be removed, with no particular reservation by species. Ground flora and

the understorey should be largely left undisturbed, except for the improvement of hygiene of the forest flora through removal of noxious weeds (Buch 1992). Canopy manipulation, tending and thinning should be adjusted to optimise gatherable produce. The crop would be representative of all age groups because no attempt would be made to achieve an uniform crop in terms of variety or age. In those areas where teak and sal are the naturally dominant species, they would continue to predominate even without silvicultural intervention to achieve an uniform crop. However, because of age and species mix the forests would be able to maintain a continuous supply of miscellaneous small timber and fuelwood for use in gathering. One approach is to exploit forest architecture to maximise production of different canopy layers. Commercial working would taper off because clear felling by blocks would be totally abandoned, but there would be some production of timber from the over-mature trees felled.

From the people's point of view, crown-based trees are important for usufruct, but forests still remain largely stem-based. Norms for silvicultural practices were developed in times prior to the current scenario of high human and cattle pressures, and must now be adjusted accordingly. If the national objectives have changed to prioritise people's needs there must be an accompanying change in silvicultural practices and technology.

Some field officers concede that fringe areas should be developed for the people, while interior forest lands should continue to be developed for production and conventional timber-oriented forestry. But the new Forest Policy does not endorse this distinction in objectives of fringe and interior areas, and all forest lands are now to have a changed objective of environmental benefits, biodiversity and meeting local people's demands. Furthermore the concept of social forestry, based on the above model of distinguishing between fringe and interior areas and as discussed in Chapter One, did not achieve the desired results. One should not invoke a failed model under a new name. Another hesitation at the field level is concerned with using FD lands to produce grasses. If in many protected areas Forest lands can primarily be maintained as grass lands and technology accommodated to suit the requirements of wildlife, surely human beings can also expect higher production of grasses from Forest lands to benefit their cattle! While admitting that a silvi-pastoral system of management

which calls for open forest canopy would be detrimental to soil fertility and hydrological regime in a catchment area, it would be extremely suitable and beneficial in areas of high livestock density and poor irrigation.

One of the least understood but most useful concepts is the issue of complementarity between forests and agriculture. If it is strengthened, the local community develops a stake in the preservation of forests, which can deter individual attempts at encroachments or degradation. Traditional agroforestry patterns are a reflection of farmers' own perceptions of complementarity between trees and crops, but the issue of complementarity between forests and agriculture is broader than that between trees and crops. To enrich this complementarity, one of the main objectives of forest management should be a clear preservation of soil and moisture. Besides, forests should have more produce which is useful to farmers, such as trees producing fodder, green manure and wood for agricultural implements and fuel (Nadkarni *et al.* 1989; Nadkarni and Pasha 1991).

Thus, as the objectives of managing forest lands change, so should the technology, nature of species, spacing, etc. Keeping technology and silviculture the same as before 1988 will amount to sabotaging the changed objectives, as it is technology, as well as the power of organisation, which influences who will benefit and who will lose.

Regeneration vs planting on degraded lands

The success of JFM is generally seen as proving the superiority of natural regeneration over planting as a technique for improving productivity and biodiversity in forests. While this is no doubt true, there are several circumstances where planting cannot be avoided. Three such situations are creating a fuelwood reserve before beginning protection by the community; planting on lands incapable of regeneration; and thirdly where desired species do not come up as a result of protection. These are discussed below.

Mere protection of a not-so-degraded area may transfer human and cattle pressure to some other area, as people have to meet their daily requirement of fuelwood somehow. Therefore production of biomass through quick-growing shrubs, bushes and grasses must be

undertaken on degraded lands before the beginning of community protection, so that people's demands are met in a sustainable manner, while they protect forest lands in anticipation of more valuable NTFPs and forest products. The issue of how to meet the economic needs of the people for the first few years, during which they have to reduce their dependence on the protected land, must be faced. Although the success of many JFM experiments is generally attributed to leadership or people's efforts, it is seen that in almost all such cases there was an alternative source of fuel available to them. In south-west Bengal, the task of people's protection of degraded forest lands became easier because the farm forestry programme in that area had been highly successful, increasing fuelwood supplies and incomes even for the poor (see page 160). In Eklingpura, Udaipur, where community protection has been highly successful, plenty of prosopis shrubs in and around the village provide fuelwood to everyone at almost zero opportunity cost. On the other hand, in another village of the same district, Shyampura, which had no prosopis in its vicinity, a local NGO was struggling to promote protection, and was finding it difficult to prevent unauthorised removals from the area (Choudhury 1993). These examples illustrate the importance of creating a fuelwood reserve before expecting people to start protection.

The other situation warranting planting is where land is so degraded that regeneration is slow, or root stock is absent. There may be other barriers to natural recovery such as the presence of weeds, unfavourable soil and climatic factors, few fertile trees and a lack of symbiotic microbial associations necessary for seedling establishment (Perera *et al.* 1995). In extreme situations where soil erosion has reached conditions characterised by gullies and ravines with little or no vegetation, natural regeneration alone may have very little or no impact on improving vegetative cover. In such a situation, there may not be sufficient incentive for the people to give their time and labour for protection in lieu of the intermediate and final products, which may be available after an inordinate delay. Intensive soil working is required in such cases. Natural regeneration can also be enhanced or accelerated by soil and water conservation measures like contour trenching, vegetative bunding and small check dams. In denuded areas where severe over-exploitation has reduced possibilities for rapid natural regeneration, nurseries and plantations will be needed to

provide employment, and so produce fodder and fuelwood in the quickest possible time. The aim is to ensure a continuous flow of forest products to the communities.

The third situation where planting may be necessary is where species which appear after protection do not coppice well. As people's demands cannot be curbed for a long period, some amount of harvesting becomes unavoidable after a few years of patient waiting. If the species do not coppice well, harvesting leads to a non-sustainable situation, and land may become denuded again. A similar situation will be when the root stock is already quite degraded, and species likely to come up are not valuable in the perception of the people, who therefore may be reluctant to contribute their labour for protection. The strategy of natural regeneration alone may not be enough to enforce the necessary discipline. If planting of species desired by the people is undertaken, the perception of the tract's value may increase, and everyone may co-operate. Enrichment planting could also increase the supply of raw materials for the local craft or artisan-based activity. An active strategy of forest restoration through management is likely to be more successful than simply abandoning lands and hoping that the regenerating forest will survive the numerous threats to it. Such a strategy would include accelerating simple silvicultural methods, such as trenching, ploughing, weeding and thinning. However planting should be done in such a way that existing root stocks or advanced regeneration is encouraged to grow as part of the mixed stand.

Choice of species

Having thus established the need for artificial planting in many situations, the question arises which species should be given priority. Species have been so far based on convenience of staff rather than needs of the people. People have not been asked what trees they prefer, least of all the poor. Socially useful species producing fruit, fodder and other NTFPs have had little place. Felling for timber may produce income to governments but village consumption of tree products is barely increased. Technology for subsistence goods has to be different from large-scale plantings for markets.

Therefore even on degraded forest lands, if planting is required, one should change from commercially oriented species to usufruct-

based trees. These should be supplemented with grasses, legumes, shrubs and bushes to yield fuelwood and fodder in the shortest possible time. An immediate identification of quick-growing shrubs with high calorific value, with their retention in the forest to serve fuel requirements, the development of pastures and massive fuelwood plantations around centres of high consumption, and encouragement of silviculturally sensible exploitation of fuelwood species would also be important components of the new policy. This would strengthen tribals' access to forests, and therefore benefits would be directly appropriated by them.

Foresters and foreign experts who advise the GOI and the donor agencies, because of their training and experience, have looked upon trees as timber to be obtained after felling. Therefore, even in the social forestry programmes market-oriented species were planted. The traditional Indian perception of trees is, however, different. As opposed to trees for timber, Indian villagers for centuries have depended on trees for their sustenance. There has been little felling. Instead, trees have been valued for the intermediate products they provide, which sustain and secure the livelihoods of the people.

The difference can be understood by comparing how fuelwood species are viewed from the two perspectives. The conventional forestry view is that fuelwood is obtained by felling trees having a high calorific value, or as a by-product from lops and tops of timber trees. Casuarina and eucalyptus therefore seem perfectly justified on public lands. But the poor tribals obtain fuelwood from twigs and branches of living trees, and not by felling trees, and often get little from the felling of so-called fuelwood trees. Casuarina and eucalyptus may be justified on farm lands if they improve farm incomes on a sustainable basis. But these hardly serve the poor when raised on public lands.

Given the inefficiency of administration and the "soft" character of the political system, one could generalise that out of a tree on public lands the stem goes to the rich and the towns, whereas branches, leaves and twigs belong to the poor. Therefore the strategy should be to opt for species which have high proportions of branches and twigs relative to stem wood.

This requires a complete reversal of the recommendations of the National Commission on Agriculture (1976) which favoured com-

mercial plantings on forest land, and trees for consumption and subsistence on private land (Saxena 1990). “Scientific” forestry should therefore mean that wild fruits, nuts, NTFPs, grasses, leaves and twigs become the main intended products from forest lands and timber a by-product from large trees like mahua and sal. The reverse has been the policy for the last 100 years. Although after the advent of the new Forest Policy in 1988 there has been some effort to involve forest communities in management, no thought has been given to making the technology more suitable to the changed objectives. The proposed changes are explained briefly in the following table.

Table 6.1. Technical options

	Traditional	Suggested options
objective	reduce people’s dependence on forest lands	increase supply of goods desired by people
production goal	high stem biomass	high crown biomass
client	market & industry	forest dwellers & local people
timber	main product	by-product
silviculture	conversion to uniform	selective felling and protection
species	exotics & commercial	grasses, bushes, shrubs & NTFPs
production through	planting	mainly natural regeneration ⁴
usage through	harvesting	gathering

⁴ Favouring natural regeneration does not mean rejecting planting, it simply means that the focus shifts to assisting existing plants and emphasising local diversity (Rathore and Campbell 1995).

Summing up

It has been argued in this Chapter that JFM should not be seen as a panacea for forest degradation. In addition to government policy discussed in Chapter Five, its success will depend upon policy shifts and afforestation programmes on other categories of land – farm lands, village lands and FD lands remote from village habitation. The distinguishing features of these programmes are described in Table 6.2.

Table 6.2. Recommended features of afforestation programmes on different categories of lands

	Farm lands and homesteads	Village lands	FD lands close to village	FD lands distant from village
Who protects?	farmer	village group	FPC via JFM	FD
Who Manages?	farmer	village group	FPC and FD	FD
Purpose	enhanced production and profits	village subsistence and village incomes	subsistence and income needs of the village, esp. the poorest	production of gatherable biomass and NTFPs
Technology	plantation and agro-forestry	plantation	natural regeneration mainly	mostly natural regeneration

Simultaneous development of all categories of land in the same region will also provide short-term benefits to the most needy. Not all social groups are affected equally by the decision to protect and keep livestock out of the proposed area to be protected in JFM. For low-income rural families to participate, it is important that benefits start flowing as early as possible, either in the form of gatherable biomass or new opportunities for employment.

One practical implication of including programmes on different types of land in the same project is that these would have to be implemented in the same range or group of villages, rather than being implemented, as happens currently, in different ranges which loses complementarity.

One of the banes of planning in India has been that at a particular time there is one fashionable idea and it is sought to be imposed over the entire state/country ignoring agro-ecological diversities and location specificity. Thus the earliest forestry projects emphasised fuelwood and fodder, and it was believed that these were the real priorities everywhere of the rural poor, although later research showed that the problem was more complex, and required a varied approach. Some years later farm forestry became the name of the game, and every district was given ambitious targets for seedling distribution, ignoring constraints imposed by the specificity of farming systems. This resulted in the reporting of bogus figures to meet unrealisable targets. Now Joint Forest Management rules the roost. Perhaps after five years it will be realised that structural conditions do not suit the JFM approach everywhere in the country, unless radical changes are introduced in the pattern of Forest Settlement, an issue discussed in Chapter Five. The disadvantages of this kind of uniformity in policy prescription are many and well-known. Even today there would be areas where the social forestry concept is relevant or where the cheapest way of producing wood is through farm forestry. However, these programmes get a low priority by way of international funding when compared to Joint Forest Management for which high targets are set in all the villages ignoring both the capacity of the Forest Department to build up and respond to local institutions, and the need to simultaneously introduce several other tenurial and silvicultural reforms so essential for the success of the JFM approach.

Seven

PROPERTY REGIMES AND JFM IN INDIA

Two issues are discussed in this concluding Chapter. An attempt is made to embed the conclusions drawn so far in the wider theory of property regimes. Then the impact of increasing the value of protected resources on people's access is evaluated. This is an important issue for the future of JFM in India for two reasons. With the liberalisation and opening up of the Indian economy there is renewed pressure on the State to allow its Forests for high-value timber production, as opposed to the emphasis on NTFPs proposed in this book. Secondly, in most cases the protected Forests have not reached the harvesting stage for timber. Whether the people will be able to retain their hold on the resource or lose it to outside forces will be of interest in the future.

Sustainable extraction and government control

Barely a century ago over 40 per cent of the land area of British India was covered by forests. Of this only one-quarter was under government control, the rest was left to meet the requirements of the local population. Whereas forest cover has now declined to just 12 per cent of the total geographical area of the country, the area officially under the control of the Forest Department has increased to 23 per cent of the total. Thus half of the FD lands are degraded with crown cover much below the desirable levels.

Most forests in India are today under the legal possession of government, but the Forest Department's control and domain over them is highly fragmented, turning them almost into open-access property. Given the ease of access to forests, indiscipline and socio-political culture it has been impossible, in practical terms, for the Forest Department to enforce its property rights.

The case for public management of forests is based on a number of factors (Commander 1986: 9). Firstly, forest management is associated with a wide range of externalities, as these provide benefits to the rest of the ecosystem. Secondly, FD operatives have often argued that management of forests requires a level of professional training and scientific competence that lies outside the capacities of peasants and forest users (Shyam Sundar and Parameswarappa 1987a, 1987b). Thirdly, the time horizons for forest management favour public ownership and public investment. Lastly, public management will allow for major economies of scale and a longer-term planning framework.

The strong case for exclusive government management becomes diluted because government is not in a position today to enforce its property rights. Forests are subject to intense pressure from humans, livestock and urban markets. Over-exploitation by the people has increased in the last three decades, caused by several factors. Increasing marginalisation of small land owners has also forced people to seek new avenues for income, like headloading. As village commons deteriorated, villagers turned to government Forests for succour. Government policies of leasing to industries and raising commercial plantations further alienated the people from the resource. More than the official revenues which such policies brought to the government exchequer, it nurtured a new culture of rent seeking by those in power. The indiscriminate tree felling by the contractor-official-politician nexus has had a corrupting influence on the forest dwellers. These weaknesses in the enforcement of access to government property have led to Forest areas being exploited as an open-access resource by those who have no stake in its health, where all basic decisions are guided in terms of current income flows rather than capturing delayed returns arising from protection and long-term management.

There is enough evidence from around the world that sustainable production demands extraction only by those with secure and long-term tenure, both *de facto* and *de jure*. This argument is equally applicable to industries who lease forests (despite legal restrictions imposed by the Government of India on leasing, most bamboo forests in Central India are under the management of paper industries) for a limited period. Often, in order to maximise their collection, industries

use methods which are destructive to the plants. Where users have independent rights to the use of the forest resource, no user can control the activities of other users, and there is no organisation to enforce discipline, unrestricted exploitation is bound to result in degradation of the resource. This will be particularly true when demand increases because of high prices in the terminal markets.

Creation of private tenure – should leasing be encouraged?

If state control over forests is inefficient, it could be argued that a radically different approach to the system of property rights itself is needed. The conventional wisdom in much of economics favours the establishment of well-defined private property rights in resources. Such rights are clearly specified, exclusive and secure (McKean and Ostrom 1995) and therefore reduce uncertainty in interactions and induce individuals to internalise externalities. Although, as discussed in Chapter Four, given good extension and proper technology, leasing of Forest lands can lead to successful tree planting in some cases, such schemes on a large scale, even in favour of the poor, have several other implications. A great deal of private land, often with the poor, is already uncultivated in India, but may be suitable for trees. In semi-arid regions a substantial proportion of private land is either lying fallow or yields very low output.¹ In addition, more than 5 to 6 million hectares of land have been leased to the poor in the last two decades. The total area of degraded private land is estimated at 35 million hectares, which is comparable with the area of degraded Forest lands (Chambers *et al.* 1989). Clearly the first priority should be to address impediments to reforesting this land. Hence there is no case for further privatisation, unless suitable technological and institutional arrangements are put into operation to bring this huge chunk of degraded private land under trees or agroforestry.

¹ For instance, it has been estimated (Gupta 1993) that about 100,000 hectares of privately owned wasteland was available in district Nasik (Maharashtra) and the distribution of such lands was not biased in favour of large farmers. More than 48 per cent of such wasteland was in units less than two hectares in size. There are 508 districts in India.

Privatisation may encourage the poor to plant short-term exotics, or use land for agriculture. Both forms of land use for degraded lands are environmentally less desirable. The limited market demand is another constraint, amply demonstrated by the phenomenon of a eucalyptus glut in north and west India (Saxena 1994). What is appropriate is to put degraded public lands under grasses, shrubs, bushes or slow-growing multi-purpose trees which, although yielding only low-value output, are environmentally more sustainable. This option, however, does not bring good returns commensurate with the individual effort expended, hence the poor are unlikely to use leased lands for shrubs and bushes only.

The number of the poor families is very large, and privatising in favour of some, while ignoring others, is likely to result in social tensions. Villagers have rights of collection on most degraded forest lands, and privatisation would be against the existing settlement laws, and thus be opposed by other villages having usufructory rights in the forest land. Forest management has considerable potential for economies of scale and, given the ecology of most Indian forests, the area required for satisfactory functioning is relatively large (Commander 1986).

The agricultural economy of the uplands is heavily dependent on the forests for its energy supplies in the form of fuelwood, fodder for livestock and, ultimately, soil fertility in the form of leaf litter and animal manure. Each hectare of cultivated land requires sufficient uncultivated vegetative area for these needs. In Sukhomajri (described in Chapter Four) programmes of afforestation, soil conservation, irrigation water from the community tanks, etc., could be sustained because these improved the productivity of private assets, land and cattle (Chopra *et al.* 1989). Privatisation of public lands may not be conducive to fulfilling the complementary role between PPR and CPR, so essential in upland economies. Several watershed areas are a part of such lands which require comprehensive integrated land-use planning. Creating private rights may delay the implementation of such a plan, as securing willingness of landowners is time consuming.

The Tree Patta Scheme, as formulated by the Government of India, distinguishes between tree tenure and land tenure; that is, the beneficiaries have no rights on land, their rights are confined to the usufruct of trees. Such a distinction, which exists in some African

countries, is totally alien to the Indian culture. People are not used to this concept as, according to the land systems in India, trees are considered as “fixtures”, permanently attached to land and hence belong to the owner of the land. The new concept therefore acts as a psychological barrier and inhibits people’s participation on Patta lands.

The experience of some of the NGOs like Sewa Mandir in Rajasthan shows that they were more successful when they undertook afforestation of public lands, rather than of private lands. This is because the constraints in semi-arid mono-cropped areas are such that an individual approach is less likely to succeed than working with groups. It increases costs of protection for two reasons; first, mono-cropped areas have long fallow periods and therefore an individual’s decision to plant perennial crops would entail higher protection efforts and, secondly, degraded lands are far from habitation which are difficult to protect without group consensus (see also Chapter Six).

A similar observation has been made by Ostrom (1990) for rangelands as she argues that privatising rangeland will require each herder to invest in fences and their maintenance, as well as in monitoring and sanctioning activities to enforce their division of the grazing area. If productivity of land varies a great deal from point to point or if rainfall occurs erratically, herders will not be self-sufficient, they will have to approach markets or seek insurance. Both increase costs which could have been avoided if the resource was managed jointly. Joint management therefore exists because it is more efficient than division, fencing and protection.²

Finally, most Forest lands are in tribal areas, where market penetration is weak, and the population per village is not high. Hence working with groups does not raise the kind of problems encountered in the handing over of social forestry plantations on non-forest public lands to the panchayats, where penetration of markets and large village populations have eroded the cohesive nature of village society.

² The problems of dividing non-stationary resources like fisheries or water are even more complex.

Limitations of community control

Ciriacy-Wantrup and Bishop (1975) distinguished between four basic regimes: State property, common property (CPR), private property (PPR) and open access (OPR). This classification unfortunately creates the erroneous impression that common property does not share in the desirable attributes of private property, such as rights being clearly specified, exclusive and secure (McKean and Ostrom 1995). As the distinction shown in Table 7.1³ demonstrates, common property has many attributes to share with private property.

Table 7.1. Some distinguishing characteristics of PPR, CPR and OPR

Characteristic	PPR	CPR	OPR
Property rights are well defined	Yes	Yes	No
Users are identifiable	Yes	Yes	No
Resource is used by a large number of people	No	Yes	Yes
Rules, regulations and conventions governing the resource use exist	Yes	Yes	No
Exclusion of outsider/free rider is possible	Yes	Yes	No
Application of technology /inputs	High	Low	zero

Source: Katar Singh (1994)

³ Under ideal conditions of enforcement of rights government ownership would have the same characteristics as private ownership. If such rights are not enforced this form of ownership degenerates into open access; but this is not discussed separately in the Table.

Privatisation of commons has distributional and efficiency problems; nationalisation is even worse, as management by a distant bureaucracy leads to insufficient use of local information and initiative. It is over-exploited by influential interest groups and an object of predation by even formerly responsible, now dispossessed local users.

If both exclusive government management and privatisation of Forests are not going to work, there are also limitations to Forests being managed exclusively by village communities, as discussed in Chapter Three. In Forests distant from the villages there has been no tradition of being under village management even in the past. These were always seen as the property of first the zamindar then the government. The traditional village bodies are perceived as dominated by local elite acting in self-interest rather than pursuing group interest. Co-operation works best in small groups with similar needs and clear boundaries, and shared norms and patterns of reciprocity. Swallow and Bromley (1994) suggest that a group agreement is more likely to collapse where there are more than 30-40 members, whereas the average size of villages in India is about 100 to 200 households. Village societies are no longer cohesive. Market forces have commercialised the previously subsistence economies integrating them into urban and national economies. Possibilities for migration and mobility tend to work against co-operation. Intra-group heterogeneity in pay-offs may thus adversely affect the sustainability of co-operative agreements. Participatory politics erodes the traditional authority structures, and modernisation improves the options of both exit and voice for the common people. As old authority structure crumbles, appeals to the government for conflict resolution and arbitration become more common, and dependence on the government for local resource management increases. Many rural communities in developing countries are now in this difficult transition period, with traditional institutions on the decline, while new self-governing structures are yet to develop.

The overall result has often been to hinder local action. The pattern of Forest Settlement is such that the villages cannot independently solve inter-village problems, discussed in the previous Chapters. Rather than seeking only one form of ideal property regime it may be more useful to remember that there could be a continuum of options depending upon the particular conditions and context of the resource. Runge (1986) argues:

Rather than invoking the general superiority of one type of property institution, ... different institutions are responses to differing local environments in which institutional innovation takes place. Such innovations are likely to range along a continuum of property rights, from pure rights of exclusion to pure rights of inclusion, depending on the nature of the resource management problems. There are no universal prescriptions for efficient and equitable resource management.

The concept of JFM represents a hybrid property-rights regime; it is a combination of State property and common property with the objective that it does not degenerate into open access. While members have a right to exclude people from other villages and to a share of forest produce and its benefits, the government reserves the right of ownership and retains the authority to exclude certain land uses like cultivation, and to control the disposal of certain products like timber. The bundle of property rights belongs exclusively neither to the government nor to members, but is distributed between the two. JFM differs from other rural development schemes in two ways; first it transfers rights and responsibilities and not assets, and secondly it recognises community as the unit in place of individuals. It is an interesting experiment in social engineering, and the relative advantages and weaknesses of this hybrid regime compared to pure State ownership and people's collective management is of interest (Nadkarni 1995). Of the 67 million hectares of FD lands, one estimate is that 15 million hectares are well suited for JFM, which is almost ten times the area under community protection at the moment.

As the area under JFM increases, problems discussed in Chapter Five will arise. Only when these are satisfactorily resolved will it be possible to further increase the area under JFM. Until then a major part of Forests will have to be managed by the government, albeit with changed objectives as discussed in Chapter 6. Thus there is a variety of institutional arrangements that could be selected according to the particular context. These vary from government management with welfare objectives to partnerships with government to complete local control (Ostrom 1994). Further expansion of local control will depend on how government policies adapt to the local needs, and to what extent these policies empower the local people and strengthen their control over the resources in the long run.

Empowerment and long-term gains to the people

Has the adoption of JFM resolutions by the government made any major change in the prevailing position of relations between the State and people on FD lands? Or does the new policy herald the beginning of a new era of people's power? A short answer is "No, at least not in the near future", as the state governments look upon JFM as a cost-effective method of forest protection by making protection an economically rewarding activity for the people. As has been argued, the emphasis in state government orders is neither on empowerment nor on making these committees autonomous.

A glance at the JFM resolutions of various states suggests that their main feature is the sharing of economic "gains" with the people. While this undoubtedly strengthens the role of the poor and marginalised who suffered under the earlier system of State control, the extent, nature and limits of power so obtained by the people are worth noting. The powers given to these committees under the agreements are generally very small. These committees, for instance, are expected to "assist" the FD in preventing trespasses, encroachment, grazing, fire, poaching, theft or damage, but seldom enjoy the power to "punish" or to decide the nature of punishment for those caught indulging in any of these prohibited activities. These committees are expected to assist the FD in the "timely execution of all forestry work" and in some cases also "selection of species to be planted in their area" and "distribution of proceeds", but they do not enjoy the "right" to decide these (Arora 1994). Nor do they set rules for their own functioning (except in Haryana and Bihar) or exercise any power in respect of cancellation of membership (except in Bihar and Jammu and Kashmir). In many states the FD has been authorised to even dissolve these protection committees or to cancel the membership of a particular individual without having to account for its actions. People are thus made dependent on the State even for their right to organise the protection committees or to remain as members, not to mention of the limits on their rights in decision making or to challenge the decisions of the FD.

Similarly the JFM does not increase the scope for the autonomy of people by reducing the scope for outside interference. Despite the claims that the JFM resolutions intend to increase people's participa-

tion, there is little by way of ensuring the autonomy of such participatory activities. Quite to the contrary, the resolutions themselves create grounds for reducing such autonomy, as in Orissa (see Chapter Five). The FD has the power to supervise and monitor such participation and to permit or restrict the rights of people to participate and acquire certain benefits.

Despite these weaknesses in the JFM resolutions, hopefully continuing involvement of the village communities, in protection of FD lands to begin with and management later, will reinforce their sense of belonging with the area and will eventually fortify the communities.

Technology, commercialisation and tenure

At several places in this book it has been suggested that in place of commercial timber species on Forest lands, technological practices should favour relatively low-value non-rotational trees for recurrent products. This needs justification. Simply, the issue is, will the poor not be better off if they have 5 per cent share of 100 dollars rather than 50 per cent share of one dollar? Why should one not try to maximise economic value from Forest lands and thus increase the size of the cake? We will argue that as responsible extraction is a function of tenure, the people may not be able to retain control if forests are to be felled for more-valuable timber rather than being used for low value gatherable biomass.

Firstly, increasing commercial value may change *de facto* ownership from forest dwellers to government or their nominees (Dove 1992). In India, as long as the value of a particular wood product was low, it was left to be used and freely marketed by the forest dwellers, but as the use of that product in industry increased its market price, the product was nationalised. High market value opens the doors to corruption and governmental pressures, which the unorganised forest dwellers may not be able to handle. Unlike commercial timber species, using FD lands for low value NTFPs would not so much attract the attention of rich actors and contractors, and thus may fortify the access of the local people to FD lands. Access to a resource is after all a political issue (Dove 1992).

Secondly, people's preference for NTFP-based trees is not only because their availability is on a renewable basis and the gestation

period is often lower than for timber, but because NTFPs require more labour for gathering and collection, as opposed to labour in clear-felling trees. The people therefore see a greater role for themselves as they think that the benefit from timber-based trees, which will be auctioned or felled, may only go to the government, contractors and forest staff. They are much more likely to collaborate in protection of trees from which they, much more than others, are in a position to benefit. Chances of JFM succeeding in sal-based forests in eastern India are greater as sal and its associated vegetation types provide many NTFPs, which sustain the interest of the poor villagers in protection. In West Bengal, the traditional technologies and treatment models were modified to facilitate the regular flow of these products. Elsewhere, a share in the final produce itself may not be sufficient to attract the attention of the community. Giving a share in final produce is thus not enough to attract people to make sacrifices. It is the increase in their incomes through enhanced supplies of NTFPs, which may induce people to give up grazing in forest lands, or invest their labour in its protection.

A high market value changes the way the resource is used. The activity now calls for greater entrepreneurial inputs. As risk increases due to fluctuation in market prices, the necessity to take quick decisions becomes paramount. Communal land tenure, however desirable it may be from an equity point of view, is not the best form of ownership to deal with valuable commodities which are subject to market uncertainty. Examples of successful cases of Joint Forest Management from India show that communal tenure works best where rules are simple and unchanging over a long period of time, and the labour requirement from individual members is not very high. Protecting a watershed or a degraded patch requires compliance of a simple rule, "do not send your cattle (and wife!) to the regenerating area". The overall requirement of management by the villagers is passive, they merely restrain themselves from illicit and non-sustainable removals for a certain period. These pre-conditions may not be met when new markets are discovered for forest products.

An interesting example of the effect of markets and technology on tenure comes from Haryana, already discussed in Chapter Four. Here, the villages follow different systems for managing the two resources under their control. The cheaper fodder grass, which is a

subsistence item required by all, is protected by all households and distributed equally. The rights to protect the more valuable bhabbar grass, on the other hand, are auctioned, and a contractor gets the right of its disposal after making a certain payment to the FPC. Thus the more valuable resource has been privatised by the community in the interest of higher productivity. It is not that the FPCs are mis-managing resources or have become greedy, but technology of production determines which resource is suitable for communal management and which needs to be privatised.

Agrarian structure and commercialisation

It may be noted that Haryana farmers are quite vocal and organised, with low levels of poverty and long experience of marketing food grains. Farming systems and production conditions vary a great deal from region to region in India, and so does the level of information among the peasantry, their political influence and the infrastructure for marketing. Markets in eastern and central regions, which are subsistence oriented and where most forests are located, are relatively under-developed compared to markets in the commercialised wheat or cash crop-growing regions (Kahlon and Tyagi 1983). Increasing the value of the resource may not help the gatherers in this region, unless concomitant changes are made in the way markets function.

Various debates which are now agitating environmentalists in the field of natural resource management, have already been raised and answered for crop management in the 1950s and 1960s. The issue whether commercialisation benefits small producers or leaves them worse off was at the centre of controversies in agriculture three decades ago, as there was evidence to support contradictory positions.

Markets, in general, perform two functions, allocative and exploitative (Harriss 1989). To the extent markets facilitate commodity production, and integrate producing regions with consuming regions, they help farmers to choose the most profitable use of factors of production. Farmers allocate their resources in commodity production on the basis of signals they receive from markets. But markets may also play a retrogressive role by coercing producers to sell at a low price through monopsony, credit and withholding of information. In such a case commercialisation may take place either without an

increase in production, or without an increase in consumption by producers. Thus markets could behave in two different directions; these could be exploitative through monopoly, interlocked contracts, fraud and chicanery, and at some other place markets may be competitive, sensitive to the laws of supply and demand, and giving undistorted stimuli to farmers and consumers.

The development of markets is therefore a double-edged weapon. Its very success may open up avenues for other, less well-intentioned marketeers. High profits and high market value will induce industries to secure leases from government and take advantage of a huge market. They may again indulge in non-sustainable harvesting (which is cheaper from their point of view).

Does it mean that the hypothesis, “Increasing the economic worth of resources increases the extent to which people conserve forests” stands rejected? We maintain that too many variables, such as agrarian structure and awareness of the local people, can determine the outcome. What can be said with greater certainty (and one should learn from the vast literature on this subject in agriculture) is that:

- A high level of tenure security increases resource conservation.
- Much of the profits in the trade of NTFPs will go to those who do value addition through processing, storage, transport, etc., and primary gatherers will have to assume these functions if they wish to obtain a higher share of profits.
- Market distortions are caused by not only government subsidies for the paper industry and restrictions for wood producers (discussed in Chapter Five), but by also a lack of awareness and information about the prevailing marketing environment.
- Expanded markets help locals only when their organisations are strong, working towards improving their bargaining position. It is a weak economy and poverty that makes them totally dependent on loggers, middlemen, money lenders and Foresters. These actors are too strong to be eliminated from the scene in one stroke. One needs countervailing forces on the side of the poor before taking on battles with those who are both politically and materially well entrenched.

Thus the relationship between conservation and commercialisation cannot be understood without referring to the third variable of tenure, and how it will be affected by the way the resource is used.

Promotion vs consolidation

Despite the problems documented in this book, exciting beginnings have been made in JFM in a number of states. Local FPCs are proliferating, some spontaneously and others with the encouragement and assistance of Forest Department field staff and NGOs. Old attitudes are changing. NGOs and Forest Departments, once distrustful of one another, are now working co-operatively in a number of regions. Badly abused Forests are making a come-back, new stems are sprouting out of ancient stumps. Villagers who have depended on Forests for generations are now participating legally in their protection and management, in partnership with their old adversary, the Forest Department. The potential returns from such efforts are immense because natural regeneration is a low-cost option when compared with that of longer gestation plantations. Collecting NTFPs generates a lot of self-employment and potentially reduces conflicts between the Forest Department and rural communities. Much however is still to be learnt before it is known that the emerging patterns are more generally applicable.

A development concept faces very different constraints and opportunities when it is new, unproven and unaccepted, compared with when it is long-established and widely accepted – and the role of those who are in charge of its promotion must vary accordingly (Dove 1993). For example, much of the effort of the advocates and “sympathisers” of JFM to date has concentrated on promoting the principles of JFM to the government, NGOs and local communities. Such promotion may be valuable in the early phases of a programme, but there are potential problems in sustaining it for too long. The nature of promotion results in too much emphasis on positive aspects of the programme and too little critical analysis. At the outset it is important to be able to persuade key actors of the merits of JFM, but it eventually becomes important to temper this with critical appraisal, long-term strategies and the building of capacity to implement such policies.

It is also good to remember that the success of JFM in one area is no guarantee for its replication elsewhere. Even in Nepal, government is uncomfortable in implementing participatory policy in the Tarai. The conditions prevailing in the hills such as the predominance of a subsistence economy, traditional and well-established rights of communities over forests, and economic and physical inaccessibility do not exist in the Tarai.

One problem with over-promotion of JFM is that it can lead to massive donor interest and funding support, which may exceed the capacity of the forestry bureaucracy to absorb. JFM may indeed have been promoted beyond the capacity to implement it. Apart from the lack of institutional capacity, the technical skills to develop different silvicultural systems (to fulfil the varied objectives of management) also are insufficient.

Care will need to be taken to ensure that JFM does not just become the next development bandwagon. JFM is process oriented and does not lend itself to becoming a target and product-oriented programme. In India, there may be a need to consolidate experience with JFM to date. Along with rapid expansion of JFM, the capacity of institutions to support it as well as complementary programmes should also be critically evaluated and improved.

GLOSSARY

agroforestry	cultivation of trees in combination with annual crops on farmed lands
achar	<i>Buchanania lanzan Spreng</i>
amla	<i>Emblica officinalis</i> , yields fruit, tannin and fodder
arjun	<i>Terminalia arjuna</i> ; host for tasar silk-worm, an excellent shade tree, bark used in native medicine
babul	<i>Acacia nilotica</i> ; a small evergreen tree, can stand periodical flooding, hence ideal for tank foreshore afforestation
bamboo	<i>Bambusa arundinacea</i> and <i>Dendrocalamus strictus</i> are the two most common species; wanted by both paper industry and the poor
brahmin	priestly caste, has dominated in administration and white collar jobs
ber	<i>Ziziphus mauritiana</i> ; a fruit yielding tree which both cultivated and found wild
bhabbar	<i>Eulaliopsis binata</i> , grass which can be used for pulp and also ropes
bidi	local cigarette which uses leaves in place of paper
cashew	<i>Anacardium occidentale</i>
casuarina	<i>Casuarina equisetifolia</i> ; widely grown in coastal areas for poles and fuelwood
chamar	a low labouring caste, declared as scheduled caste, traditional occupation is leather work, constitutes about 9 per cent of UP's population
chiranjji	<i>Buchanania latifolia</i>
chula	small open stoves which use wood, dung cakes or charcoal for cooking
coconut	<i>Cocos nucifera</i> ; widely grown on private lands in coastal India. Every part of the tree is used
community forestry	growing and protecting of trees on non-private and often non-forest lands, which are known as revenue lands

coppice	re-sprouting of trees after felling
crore	10,000,000
crown cover	area covered by leaves and living branches of a tree
culturable wastes	land suitable for cultivation, but not taken up for cultivation at least in the last five years
doab	land between the two rivers, Ganges and Jamuna
desi	local or indigenous
fallows	land suitable for cultivation, but out of cultivation for a period not exceeding five years
farm forestry	practice of growing trees by farmers on private lands
Forests/Forest Land	forest area under the management of the Forest Department
forests	besides the area under FD this would also include village forests as well
forest dwellers	living inside or in the close vicinity of forests
forest villages	villages set up by the Forest Department inside forests to ensure timely supply of labour for forest operations
gaon sabha	all adult members of the village council
groves	land, generally private, used for growing fruit trees
gujjar	a nomadic tribe subsisting on cattle rearing, have now taken to farming in Haryana and north-west UP
harijan	the untouchable caste
jack	<i>Artocarpus integrifolia</i> ; a large evergreen tree with dense crown, yields large fruit weighing 5-15 kg
jamun	<i>Syzygium cumini</i> ; a large evergreen fruit-yielding tree; bark and seeds are used medicinally
jat	a farming caste of Haryana and western UP, known for its industriousness and hard work
karanj	<i>Pongamia pinnata</i> ; a multi-purpose tree used for fuel, fodder and medicines. Seed contains high percentage of oil

khair	<i>Acacia catechu</i> ; its wood yields commercial catechu which is used for dyeing and tanning
kharif	the summer south-west monsoon season with onset of rain mainly in May and June, and withdrawal of rain mainly in September
kuth	produced from the heartwood of khair (<i>Acacia catechu</i>) trees, used in betel-leaf
kusum	<i>Schleichera trijuga</i> ; used as a host for the lac insect, seeds yield medicinal and hair oil
lakh	100,000
mahalwari	a system of revenue settlement in which village was the unit for assessment. Mostly prevalent in Punjab and Haryana
mahua	<i>Madhuca indica</i> ; occurs most commonly near tribal habitations in Central India, flowers and seeds are rich in oil, and are eaten
malguzari	land revenue levied by the state on cropped lands
mixed forests	forests raised for preserving biological diversity and ecological stability which provide a variety of livelihood goods to the gatherers
moonj	coarse grass used for thatching, and weaving baskets and cots; controls sand dunes
mulberry	<i>Morus alba</i> ; leaves are used as food for silkworms, fruit is eaten, and its wood is used for sporting goods
non-rotational	trees which are used for recurrent benefits of trees fruits, leaves, etc. There is no organised felling of such trees. This type of management is also known as physical rotation
neem	<i>Azadirachta indica</i> considered a sacred and health-giving tree because of its insecticidal and medicinal properties
oak	<i>Quercus</i> spp., multiple use trees, used for fodder and making agricultural implements
palmyrah	<i>Borassus flabellifer</i> , used mainly for extraction of toddy. Leaves are used for thatching and for carrying water

panchayat	village council, lowest form of local government, consists of elected members headed by a chairman
panchayat lands	non-private lands under the control of village councils
pastures	open access lands meant for grazing; often highly degraded
patta	literal meaning is contract, refers to leasing of government land on specific terms, also means title deed to land
poles	wood of diameter less than 20-25 cm, which is generally used for scaffolding and as posts
poplar	an agroforestry tree, has grown well in Haryana, Punjab and western UP, timber used for match-wood, veneer and sporting goods
pradhan	village chief
production forestry	growing of trees of commercial value on forest lands
rabi	the winter cropping season
revenue lands	lands under the control of revenue department, these are non-forest and non-private lands, often highly degraded
rotation	time interval between regeneration of a tree and its felling
ryotwari	a system of land settlement in which cultivators pay land revenue directly to government
sabai grass	<i>Eulaliopsis binata</i>
sal	<i>Shorea robusta</i> ; a common but slow-growing large tree in Indian forests. Yields both timber and important MFPs like seeds and leaves
saline ingress	intrusion of sea water into coastal aquifers
santhal	name of a tribe of south Bihar and West Bengal
sapota	<i>Parkia roxburgii</i> , gives fuel, fruit and medicines
sarpanch	chairman of Panchayat
sarpagandha	<i>Rauwolfia serpentina</i>
sheesham	<i>Dalbergia sissoo</i> ; a favourite road-side tree in north India, wood used for wheels, boats and furniture

sisal	<i>Agave</i> spp., yields fibre and binds soil
social forestry	programme of growing trees to satisfy rural needs of fuelwood, small timber and fodder
spontaneous groups	groups of water users formed and sustained by their own initiative
stylosanthes	a cultivated grass of high nutrition value
subabul	<i>Leucaena leucocephala</i> , a fast-growing nitrogen fixing tree yields both fodder leaves and fuelwood, despite efforts plantations have not been successful outside Maharashtra
tamarind	<i>Tamarindus indica</i> ; an evergreen multi-purpose tree, yields edible sour fruits, fodder and timber
tarai	foothills; the name given to the flat belt of country running along the foot of the southern most range of the Himalayan system
tasar	silk tasar, a product of insects which are cultivated on the leaves of arjun and sal trees
teak	<i>Tectona grandis</i> ; highly valued for quality timber used in furniture, house building and cabinets
tendu	<i>Diospyros melanoxylon</i> ; used as wrappers of tobacco to produce <i>bidi</i> , Indian cigarettes
timber	tree logs of more than 25 cm diameter, used for making sawn planks
tribals	indigenous people who until recently lived by hunting and gathering of forest products
unculturable wastelands	covers all barren and unculturable land like steep mountains, snows deserts, etc.
zamindari	system of land ownership by non-cultivators, has now been legally abolished

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SUMMARY

After about a hundred years of exclusive government control, forests in India are now being increasingly managed with peoples' participation. Almost all states in India have passed enabling resolutions to facilitate what is now popularly called the Joint Forest Management (JFM) programme. However, its implementation has so far been uneven. Field officers are often loath to share power and authority with the people, while expecting them to protect forests without wages. It is also not very well known under what conditions JFM does well, and whether these conditions are internal or more influenced by governmental policies.

Based on the author's repeated visits to JFM villages in several Indian states, this book provides a critique of the past and current forest policies, reviews the implementation of participatory forest management in five Indian states, explains why communal action is sustained over time and places its conclusions in the wider theory of property regimes.

The book attempts a synthesis of diverse experience in participation, and links hypotheses of collective action with empirical evidence. One of the first source books on Joint Forest Management, it will be of value to donor agencies, state governments, policy makers and researchers on participatory development programmes.

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