

JOINT FOREST MANAGEMENT: CONSTITUTING NEW COMMONS

A case study from Maharashtra, India.

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The Indian Forest Policy of 1988 pointed towards a major shift in the State's management of forests for the first time, taking into cognizance the customary rights and privileges of the forest dwelling communities. Participatory management practices like Joint Forest Management (JFM) and Village Eco-development (VED) gradually evolved after this policy. The concept of JFM is an indication of a major change in the outlook towards the resource, although it is considered just another program supported by the World Bank by many forest officials. This shift from 'strict government ownership' to partnership could prove to be major step leading to common property regimes. JFM program represents the need to involve people in managing the resource. It reposes trust in people, and their capacity to manage the resource in their own, as well as in the larger interest. It can result in rebuilding people's institutions at local level, which have been eroded through the state regulated 'representative democracy' for a long period of time. In last five years many Forest Protection Committees (FPC) have been formed under the JFM program throughout India but few have succeeded in fulfilling the purpose. Present paper is an attempt to add a link in the chain of attempts, searching for the underlying factors that make peoples' institutions work, by presenting a case of JFM experiment undertaken by Forest Department.

Although JFM came to Buldhana accidentally, it spread fast to many villages because of successful demonstration of co-operation between forest department and local communities. Five factors that played an important role in wide acceptance of JFM in Buldhana are: taking up of activities generating income in the short term; freedom given to the locals to take decisions according to their priorities; co-ordination between various developmental agencies working in the area; devolution of authority with the forest department; and introducing the element of flexibility and continuous learning. All these resulted in some spectacular achievements. However, certain factors were neglected while designing JFM, both at national as well as local level. This poses a potential threat to endurance of the institutions that were formed during the experiment. The JFM arrangement does not accept any legal rights of the community on the land that is co-managed. Similarly, the Forest Protection Committees set up to protect forests are not recognized by any government department except the forest department. These factors are bound to pose serious problems of participation and distribution. Assuming the local communities as homogenous, united groups of people, capable of taking over the management of forests, and neglecting the social and economic hierarchies within the community that can lead to concentration of decision making and cornering of benefits, are the two aspects that have placed Buldhana JFM on shaky grounds.

- Rucha Ghate.

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In last decade India has experienced, as never before, dramatic changes in objectives and practices of forest management. Although the forest policy of 1988 prescribed the changeover from 'protect from the people' to 'protect through the people' at one go, the pace of change in the attitude of majority of forest managers is still lagging behind in the era of exclusive ownership. There are, however, scattered examples of few forest officers experimenting with the new participatory approach throughout the country. This paper presents one such experiment from the Buldhana forest division in the state of Maharashtra.

The forest policy of 1988 was strikingly different than the earlier approach of exclusion. It reflected the pro-people attitude clearly by declaring that 'customary rights and concessions are fully protected' and 'the domestic requirements of fuelwood, fodder, minor forest and construction timber should be the first charge on forest produce.' It limits the rights and concessions of the indigenous population to the carrying capacity of forests, but at the same time mentions the need for optimizing this capacity by increased investment, silvi-cultural research and development of the area.¹ The present Joint Forest Management (JFM) is a program that has its roots in this changed attitude. JFM was subsequently promoted by the Government of India (GOI) circular, making it applicable to all states and union territories. It provided guidelines for 'the involvement of village communities and voluntary agencies in the regeneration of degraded forests.'² This shifted the emphasis of the forest sector towards preservation and regeneration through co-management of forests, in which villagers cooperate to protect forests in exchange for a share in the usufruct and final harvest. The participatory approach is all the more significant because presently about 90 percent of India's 64 million ha. of forest is under state ownership; the rest are community and private forests. It is pertinent to note here that state ownership of forest land was not always the case. Until the end of the 19th century, at least 80 percent of India's natural resources were common property (Singh, 1986). The amount of forest area under state control has increased progressively since British times. Once again, through programs like JFM, India is returning to the concept of community management, though in the current arrangement the state retains ownership of those lands. Currently, 5.5 percent of India's forest area is under JFM, and the program is restricted to degraded areas alone. Although people's participation was conceptually accepted in 1988, JFM got a necessary boost due to the World Bank's forest sector lending to India, in 1992. Under the World Bank promoted Economic Development Program, a two-pronged approach is followed to involve communities: increasing the stake of the neighboring communities in the management and utilization of the forests, and creating alternative sources of employment to reduce the pressure on forests. These include work on plantation and regeneration activities as well as building sources of drinking water supply, approach roads, schools, check dams, and other facilities.³

¹ The National Forest Policy resolution, 1988.

² (No.6.21/89-FP), issued in June 1990.

³ Preliminary Report on alleviating Poverty through Participatory Forestry Development: An Evaluation of India's Forest Development and World Bank Assistance, January 7, 2000.

Presently in India, cases of successful participatory management of natural resources like forests and water are being documented and researched extensively. Most of these efforts are either initiated by the communities themselves, or are promoted by active non-government organizations (NGOs). Their major constraint is that these are informally created structures depending substantially on outside individuals, sympathetic officers, and dedicated village members with voluntary spirits. There does not exist any law flexible enough to accommodate these efforts into formal governance. In contrast, although JFM is an officially accepted and promoted program, the percentage of villages where co-management is practiced in true spirit, presents a dismal picture considering the huge number of officially selected villages for JFM. This is mainly because there are very few forest managers who have faith in people's capacity to manage forests, though they would not publicly acknowledge it. In the words of Jeffery et.al. (1998) "One of the main difficulties in understanding how forest departments respond to the new initiatives is that it is hard to find a forest official who is not in favor of the participatory rhetoric in public."

In this paper I present a case study from the Buldhana forest division in Maharashtra (India) where JFM was officially implemented only in eleven villages, but spread to many other villages. These villages voluntarily joined the program without receiving any financial incentive that is otherwise given under the JFM program. In this paper I first discuss the conflicts, constraints, and difficulties the program faces that have emerged from the studies of several scholars. Then I present the JFM experiment in Buldhana: how it began, why it grew, and why it has now stagnated. The striking aspects of JFM in Buldhana are: people's initiative in co-management; the positive approach of the forest department in integrating short-term and long-term requirements of the villagers; and devolution of authority within the department, resulting in more than targeted villages coming under the JFM umbrella. However, it now is on the verge of becoming another developmental program amongst a hundred such others. Lastly, I attempt to analyze the Buldhana experiment on the basis of design principles developed by Ostrom (1990 and 1998) to see if the elements necessary for institutions in sustaining common pool resources are present in the case under study. The limitations thus brought out from the analysis indicate a need to bring in changes at the policy level as well as in its implementation.

DECENTRALIZATION IN INDIA'S FORESTRY SECTOR

From the early days of planning in India, cooperatives have been perceived as the most important form of people's institution for the promotion of equity, social justice and economic development. The Eighth Five-Year plan specially identified people's initiative and participation as key element in the process of development, particularly in improving the effectiveness of development outlays which have been declining over the years. Accepting the role of decentralized institutions, the 'Approach Paper to Ninth Five Year Plan' clearly enumerates the essential ingredients of successful institutions as:

1. They are owned and managed by users/stakeholders, producers, or beneficiaries.
2. They are accountable to the community.
3. They have the capacity to become self-reliant over a period of time.

4. They have the capacity to diagnose the needs of areas, to interact with government agencies in order to draw need-based local level plans, and to implement these plans in close cooperation with the administration.
5. They tend to bring out the integration of various segments of society for the achievement of common development goals. The involvement of these institutions has contributed to better planning and implementation as programs are then identified, selected, and designed keeping in view the local conditions. Awareness generation among beneficiaries, which is critical to their participation in implementation, takes place automatically in this process of identification and selection of programs.

Along these lines, JFM is considered an attempt to forge a partnership between the forest department and the local community, based on joint management objectives in which communities are expected to share both responsibilities and benefits that would be generated. In a way, it is partially promoting common-property regimes as a means of restraining degraded forests and building up a community resource base. (McKean, 1999). The GOI provided the impetus for people's involvement in forest management by issuing a circular on June 1, 1990, issuing guidelines on the basis of which different state governments came out with their respective government regulations (G.R.). The State of Maharashtra issued a G.R. to this effect on March 16, 1992. However, the guidelines came into practice in the true sense only after the World Bank made 'people's participation' mandatory before extending financial support to the forestry project.

In Maharashtra, each forest division was asked to take up at least two villages for JFM, giving priority to villages with substantially degraded land. In each of the selected villages Forest Protection Committees (FPC), with all the households as members, were set up, and a memorandum of understanding (MOU) was signed by the villagers and the forest department regarding the sharing of responsibilities and benefits. This process is still going on as new villages are coming under the JFM arrangement. The major responsibilities of FPCs deal with protection of forest and plantations, establishing a working committee for developing a working plan, etc. Some of the provisions of the G.R. regarding benefits are:

1. Regarding dead and fallen twigs and, fruits (excluding cashew), the members of the FPC can collect flowers, seeds, and leaves (excluding 'tendu' used for making country cigarettes).
2. Members of the FPC have first rights over benefits from interim and final produce like timber, poles, and fuel wood, which are to be supplied by the Forest Department at the rates fixed by the Deputy Conservator of Forests, and the Collector. The rate is not to exceed 50 percent of the market rate.
3. Balance material is to be sold by the department, and after deducting sales tax, forest development tax, and income tax, 50 percent of the sale proceeds are to be distributed in cash to the FPC members.
4. In case the plantation is taken up on community land, 90 percent of the sale proceeds are to be given to the FPC.

The guidelines further include rigid details of harvesting and benefit-sharing from the uncertain income that may be generated in the uncertain future. But it has little to offer to the communities

that are facing day-to-day problems in making ends meet. The guidelines do not recognize the influence of local socioeconomic, political, cultural, and ecological variables in the targeted areas. “If these forces are not reckoned with then a ‘blueprint’ of participatory management of natural resources remains naïve and unrealistic and becomes unsustainable in the long run” (Mukherjee, 1997). Before discussing the Buldhana case study, it is appropriate to briefly review the general conflicts and constraints of JFM as a program.

CONFLICTS AND CONSTRAINTS

Discussing the advantages of a series of relatively autonomous, self-organized resource governance systems rather than a single authority for common pool resources, Ostrom (1999) has presented following:

1. Local knowledge gained over years due to proximity to the resource, and evolution of acceptable social norms.
2. Inclusion of trustworthy participants would ensure reciprocity to some extent and also reduce the cost of formal sanctions and paid guarding.
3. Reliance on disaggregated knowledge will grow due to constant feedback.
4. Greater likelihood of crafting better adapted rules.
5. Lower enforcement cost because the appropriators have to bear the cost of monitoring.
6. Redundancy: as multiple units will be experimenting simultaneously, the probability of failure for an entire region will go down.

Joint forest management strategy can prove to be advantageous from all these aspects if practiced in the right spirit. The experience with JFM, however, has been very different. Ostrom has also discussed the limits of polycentric governance systems: some appropriators will not organize; some self-organized efforts will fail; local tyrannies may prevail; stagnation may occur; access to scientific information may be limited; conflicts may arise; and appropriators may be unable to cope with larger-scale resources. Studies of various scholars and experiences of grassroot organizations have brought up several additional limitations specifically in case of JFM. Some are discussed here.

The very reasons for the government to shift from a centralized management system to decentralization in the form of participatory JFM has intrigued scholars ever since the inception of JFM. Thompson (1995) best summarizes the probable reasons:

1. Fiscal crisis, exacerbated by structural adjustment/economic liberalization policies;
2. Pressure from donor agencies for greater accountability and transparency;
3. The recognition of the failure of past approaches by state agencies; and
4. The demonstration effect of successful pilot efforts by non-governmental organizations or other government agencies in other sectors.

Environmental activists and the rural communities have been skeptical about the intentions of the government in sharing powers with the people especially in the forest sector as it is one of the revenue-generating sectors. Their apprehensions are based on past experience as well as the inherent limitations of the provisions of the JFM scheme.

It is a well-established fact that measures designed to conserve biodiversity must provide economic incentives to increase the net local benefits from conservation and sustainable resource use. Such measures should be targeted to link biodiversity conservation with improvement in human welfare (McNeely, 1988). Earlier, in all the government afforestation programs, participation of the rural poor was largely limited to wage employment. As users of forest products, the poor were seen as destroying forests through overuse and over grazing. The Forest-poverty relationship was defined negatively – if people continue to be poor they will destroy forests. JFM talks about the positive role that forests can play in poverty alleviation and the role that people can play in forest protection. The JFM strategy implies an increase in the collective ability of the communities adjacent to forests to manage, grow, and equitably share common resources. Yet there have been few efforts in involving people in the planning process or in establishing plan priorities. Rarely can the communities decide which species are to be taken up for plantation. There is no correlation between the amount of land that is brought under JFM and the amount of land required to meet the biotic requirements of people and livestock. The fact that village-level institutions might be better able to manage these commons though their management objectives may not coincide with those of the state (Ligon and Narain, 1999), is totally neglected. While the JFM agreement talks about sharing long-term benefits from timber, the harvesting non-timber forest produce and sharing its returns, etc. is not discussed. It thus remains hazy as to what the fate of the forests will be after they have been successfully regenerated (Arora & Khare, 1994). Another major limitation is that the important question of ‘tenure’ that includes clear, secure, and exclusive rights of access to the resource is kept ambiguous in the JFM scheme (Lele and Rao, 1996).

The much-advertised idea behind JFM is to transform the age-old authoritative and policing role of the state forest department into that of a facilitator for the local communities. The JFM resolution assumes a symmetrical relationship between the government and the local institutions. Yet, state governments and their forest departments still refrain from conceding legal status to forest protection committees (FPCs), retain their right to dissolve them, and appropriate a large share of forest produce (Pattnaik, 1997). Although JFM is a shift from centralized management to decentralization, from revenue orientation to resource orientation, and from unilateral decision making to participatory decision making, the final decision regarding site selection and regulation of harvest is vested in state authority. JFM remains an institutionally challenging strategy as ownership of forest lands remains with the state while the communities are involved in its protection and regeneration. It is strongly felt that only because the governments were finding it difficult to monitor and manage the village forest commons directly, and enforcement was becoming expensive, the state found it prudent to involve local communities in management (mainly protection). The participation envisaged in JFM is more in execution than in planning, ‘the structures more puppetish than autonomous’ (Lele, 1998a.). It is often mentioned that as long as the ultimate control on all these aspects including right on land is retained by the state, one can not expect the community to attain the level of local responsibility needed for self-reliant, cost-effective, and sustainable conservation management (Wily, 1999).

As has been mentioned earlier, impoverishment due to deforestation has encouraged many rural communities to start managing state-owned forests on their own. These self-initiated efforts have

proved quite effective at regenerating forests. Due to serious limitations regarding technical skills and finance, often these local initiatives can be sustained only if supported by external institutions (Krishnaswamy, 1995), yet there is no conscious effort to give them the necessary backing through JFM. Although there is a new and joint 'construction of needs' within the limited degree of choice the JFM allows, the basic agenda of the program is pre-determined and can not be considered very participatory in nature (Sundar, 2000).

It is also observed that the need to design formal institutions that are complementary to existing informal institutions (Kant, and Cooke 1998) is grossly neglected. The common experience is that sociopolitical overlap between new induced institutions and the existing forms of local government, such as the village panchayat, are proving to be counterproductive (Andersen, 1995). The most successful FPCs charge fees for collection of forest produce, although this practice is strictly contrary to the Forest Act. Although the state governments recommend the formation of FPCs, the committees have no legal or statutory basis. FPCs are recognized only by the FD; all other government departments recognize panchayats, making them more powerful than FPCs. The relationship between FPCs and the village panchayats is not well defined. The lack of legal authority may affect the power of the FPCs to check free-riding and may make it difficult for them to manage resources in long-term. Often, in the case of group-panchayats, the sarpanch (one who heads panchayat) is not interested in the FPC of a particular village. This is very much resented by the villagers who would prefer one amongst them to head their FPC (Ghate, 2000a). The legal positions of FPCs need to be defined to make them strong grassroot organizations.

The different demarcation of boundaries by two different governmental departments (in this case revenue and forests) is also creating some internal conflicts. Communities joining the JFM program are unsure of their area of operation from which access can be denied to outsiders. This territorial conflict is reflected at the management level as well. The confusion can be appreciated by the fact that, at present, as many as 52 rural development schemes are operational through several state units, and often more than one state department will bring in the same schemes in a single village, incurring huge duplication costs in the process.

Another important aspect that is criticized as being neglected is the lack of acknowledgement of women's special values, knowledge and uses of forest produce (Locke, 1999). Gender relations are neither understood nor are there any special provisions to accommodate women's specific knowledge, needs, and capacities in the JFM program. Similarly, the strong historical sense of place and (particularly tribal) identity which can prove to be effective in mobilizing interest in and concern for local resource management and protection, and the influence of charismatic leaders in overcoming intra-village tensions are issues that have not been at all considered in the JFM program (Jewitt, 1995).

The World Bank-funded forestry project, which gave a major boost to JFM, was to end by March 2000. (At the time of submission of this paper it was not clear if the project was to be extended, as expected by the forest managers.) It is feared that the initial enthusiasm amongst villagers as much as amongst forest managers that came along with funds will end as soon as funding is stopped. Will that mean the end of a long process of developing people's participation? Many

fear it to be so for two reasons: firstly, forest department staff at large is still not convinced about the necessity and feasibility of involving people in managing the scarce, precious green resource. World Bank conditionality was the main reason for accepting co-management. Secondly, the villages that joined the program for the initial fiscal incentive would soon withdraw. Many fear that the lack of coordination between various government departments will force JFM to end up with a huge stock of rural development schemes that already exist in books alone.

Lastly, the joining of hands envisaged in JFM is two-fold -- between the individual villagers into a community of forest users, and between this community and the forest department as a representative of the state. It will be wrong to assume that there exists a well-defined 'community' as a cohesive unit waiting to retake control over uncultivated lands, the control that the communities had supposedly exerted in pre-British times (Lele, 1998b.). It would be equally naïve to assume that all the rural communities are well-knit, homogeneous, and ready to adopt joint forest management. Indian villages are economically and socially divided in several factions. Caste hierarchy is still very strong in rural India, which means equal (?) participation and equal sharing of benefits is likely to be interpreted by the standards determined by a few people in the village. Therefore, carefully designing the institutions in a manner that will ensure fairness in the face of these ground-realities is required. The uniform imposition of the JFM program, irrespective of geographical variations, social and economic inequalities, and differing cultural perceptions amongst communities is like fitting one and all into one pre-structured model that may lead to practical difficulties.

BULDHANA EXPERIMENT

(a) *The genesis*

Buldhana district is in the north-central part of Maharashtra State, sharing a state border with Madhya Pradesh. Being a small district, the Buldhana Forest Division comprises almost all the area in the district. It has a large area under reserved forest, most of which is declared as 'degraded'. Apart from the usual problem of large-scale, illicit felling which has occurred for decades, the major threat to its forests came from illicit grazing by the migrating Kathiawadi cowherds (from Gujrat State) and the large herds of sheep owned by local professional shepherds known as mendhpal.

JFM came to Buldhana accidentally. The local communities located in and around the forest were suffering from scarcity of fuel and fodder, although Buldhana is known for its good quality of grass. It all began a couple of decades ago when the migrating Kathiawadies started coming to Buldhana with their large herds of cattle and camped in the forest for three to four months every year. The forest department either turned a blind eye or was hand-in-glove with them. Also, a local politician (once a Member of Parliament) owned a large number of sheep and goats that grazed ill-legally in this forest, brought further damage. Little was done to stop the menace causing huge damage to forests and thus accentuating scarcity of forest produce for the locals. The Kathiawadi 'Gir' variety of cows are famous for their high yield of milk and also for their capacity to consume grass. To the utter surprise of the locals, the cows consumed even the leaves of teak, which the local cattle would not touch. The donkeys owned by the same group would eat away the protective outer layer of the trunk of trees, thus severely affecting their

longevity. To make their presence legal, the modus operandi of this migrating tribe was to buy a piece of land (around five to six hectares) in any one of the villages surrounded by forests. Others would then come with their herds of around 10,000 cow-heads for four to five months each year and illegally graze them in the surrounding forest area. Obviously, this was not possible without the silent backing of the local politicians and forest officials from top to bottom. Reportedly, in this process thousands of rupees changed hands, while the Kathiawadies earned in multiples of what they offered as bribes to earn the support. Kathiawadies at times settled within the forest areas in small colonies known as 'haities.' The arrangement for transporting milk everyday to the nearby market was also systematized. Never were there instances of breakdowns of transporting vehicles or lack of effective demand in the market.

Grazing by the large number of Gir cows created various problems for the locals. It substantially reduced the availability of fodder for their cattle. The locally known 'Anjan' (*Hardwickia binata*) trees, whose leaves are a good source of nutritious fodder, were mercilessly chopped off by the Kathiawadies to feed their cattle. The competition to secure larger shares of the resource led to tensions, and enmity between the locals and the migrants. But every time the intruders won due to their strong political and official backing. Gradually, a situation of threat and fear was created for the locals who did not dare to enter the forest alone. It not only affected the milk yield of their own cattle to a large extent, but also their own dependence on forests for small timber and fuel wood. Kathiawadies, being strict vegetarians themselves, threatened the local villagers against fishing and hunting of small game. Similar was the situation with the 'Mendhpal' (shepherds). Owning a large number of sheep and goats, the shepherds not only harmed forests to a great extent, but also aided the timber theft and poaching. Living in the nearby villages, the shepherds entered the forest area at the crack of dawn and would leave in the evening. Their encounters with the local villagers were possible only when the villagers entered the forest for their own bonafide (or otherwise) use. While the shepherds made money by freely grazing their animals, the fodder availability for the local villagers' cattle suffered tremendously. The villagers thus suffering had approached concerned forest officials several times in the past decade but their grievances were ignored each time. They continued to live in a situation of scarcity of forest produce, helplessly watching the deteriorating quality of the green resource, which was once had been 'pride of the place.' The theft of timber, overgrazing etc. continued unabated until 1996. Soon, the collective efforts of the suffering local villagers, to stop the menace, turned the tables for the flourishing Kathiawadies as well as the Mendhpals.

For a dozen villages in Buldhana, the summer of 1996 brought a long-awaited change in the form of new Deputy Conservator of Forest (Dy.C.F.) who was convinced of the fact that forests could no longer be regenerated and protected without people's participation. He aroused new hope in the villagers of Dongar Khandala, who went to see him with the complaint of illicit grazing by the Kathiawadies and the shepherds. The villagers planned to confine the Kathiawadies and their cattle herd on the land owned by them, thus restricting their movement in the forest. For this, they expected the presence of a couple of uniformed forest personnel on the spot. And this is what they did for two days and two nights, with the active help of neighboring villagers and the womenfolk. Unable to sustain themselves without fodder and water for two days at a stretch, the Kathiawadies moved away. During this period the Kathiawadies made several attempts not only to pressurize the concerned forest officials, but also to break the unity

of the villagers by tempting away a group by offering big promises. Fortunately, and for the first time all such attempts failed miserably. This one instance did more than drive away the intruders. It boosted the morale of the villagers, restored their faith in forest department, and also increased the strength of unity. Similar action was taken by other surrounding villages against Kathiawadies and the shepherds in their area (Ghate, 1998).

(b) *Collective action*

With this encouraging beginning of joint action, the cause was furthered by the forest department officials with the help of simple strategy of frequently visiting these villages, talking to people, and restoring their faith in themselves as well as in the department. Discussions were frequently held on various issues related to the deteriorating status of forests. The villagers were once again made to believe that the forest resource surrounding their villages was to be inherited by them. They were the real owners and therefore ought to be the protectors of the green wealth. Soon 12 villages agreed to formally join JFM arrangement (Appendix-1). Forest Protection Committees in all 12 villages started working on several fronts simultaneously, though specific activities differed from village to village, according to priority. Encouraged by the remarkable success of these 12 villages, many more villages expressed their willingness to join JFM. The department showed its helplessness in providing the initial amount of Rs. 50,000 that was offered to the other villages under formal JFM agreement. This did not deter the villagers and soon 31 villages from adjoining areas adopted the JFM strategy. Within a year, 69 more villages were added to this list of self-initiated, co-managed groups that spread across the Buldhana division. I will, however, elaborate on this point a little later.

(c) *Significant aspects*

It is often argued that JFM cannot work in highly degraded areas, nor in well stocked areas, for two very different sets of reasons. In the case of degraded areas, immediate dependence of the people on the resource is minimal, and they can not foresee regeneration of forest stock providing a sound resource base in near future. On the other hand, where forest cover is substantial, catering to all the needs of the people depending on it, the people do not find it worthwhile to invest their time and resources in its protection. The Buldhana experiment has proved both these arguments wrong. Although most of the area in this division is highly degraded, there are some areas bordering Madhya Pradesh which have good forest cover. Villages from these areas also decided to join the JFM fold voluntarily. After visiting the area several times and studying this experiment from close quarters, I found that the following five factors seem to have played a very important role:

1. **Income generation:** A major drawback of the JFM scheme is that it has little to offer to people in the short run. This problem is successfully being dealt with in Buldhana by providing avenues for immediate income generation. It is done in three ways. Firstly, forest department takes up forestry work like plantation, transporting dead wood from inside of forests, and undertaking activities of coppicing, singling, and dressing of tree stumps in the forest area adjoining these villages. This generates wage income and also increases movement of villagers in forest, which is good for vigilance. Normally, the department considers movement of villagers

to have a negative impact in the working areas. But in this case, because the community has a sense of belonging and responsibility, the survival rate of plantation is reportedly unprecedented.

Secondly, collection and marketing of Anjan (good fodder) leaves is taken up by FPCs on a large scale. According to the estimates of the forest department, the annual demand for fodder is 600 quintals, while only 300 quintals is presently available. The situation had worsened due to large-scale illicit grazing by the migrating Kathiawadies and the neighboring Mendhpals, who chop off branches of these trees to feed their cattle. The surrounding forest has plenty of these trees, which are a rich source of fodder and have good demand in the Buldhana and Khamgaon markets. The FPCs in the JFM villages allow their members to climb these trees to pluck leaves, as the committee prohibits use of axe. The plucked leaves are arranged in heaps that are collected by a contractor at a price determined by the market demand. The persons involved in collection are given fixed wages (Rs. 60 per day), while the profits are deposited in the committee's account. This activity fetches immediate income for the households. The amount that goes to the committee's account, is used for executing several developmental schemes.

Thirdly, self-employment, small business ventures, and co-operative dairy development are encouraged through the PR activity, which continued after setting up of FPCs. To reduce the dependence on outside agencies, the committees are now seeking loans from co-operative banks for buying their own trucks for transporting the forest produce to market. Some have bought cattle and are going into dairy business privately, some committees have planned for setting up cooperative dairies with their own funds, and they are extending their activity to collection of other minor forest products like gum, and char (a kind of minor forest produce).

2. Freedom to decide priorities: The second general criticism against JFM is that communities are involved only at the implementation level and not in decision making. In Buldhana, a conscious attempt was made to involve people in all aspects of planning. As a first step towards planning, village maps were drawn as a PRA (Participatory Rural Appraisal) activity. This also clearly defined the area of operation. Then a list of activities to be taken on a priority basis was made. New rules and regulations were defined, responsibilities were fixed, and 'social fencing' as a regulatory tool was accepted for internal law-breakers. All these decisions were made by the communities and were not imposed by the department staff, though suggestions were made and guidance was provided. Funds provided under the World Bank aided JFM were utilized according to communities' decisions. Some villages decided on construction of a community hall; some used the money for building small check dams on water streams, some constructed water storage tanks for their village; and others chose to build temples. It is important to note here that the amount available was barely enough to buy construction material, and all the labor was provided voluntarily. In the case of plantation, work undertaken by the forest department created wage employment; species to be planted on community land were decided by the locals; and methods of protection of saplings (from wildlife as well as from cattle grazing) were determined by the locals. It is heartening to note that wherever communities made the choice of species for plantation, they selected fruit trees which gave quick returns and the produce could be used for direct consumption, as against the teak and eucalyptus – the forest department's favorite species – promising hefty but uncertain returns in the distant future.

3. **Co-ordination with other developmental agencies:** While micro-plans were being developed for the villages participating in JFM, the forest department simultaneously took initiative in approaching other government agencies involved in rural development. As has been mentioned earlier, as many as 52 rural development schemes have been implemented by various state departments. There is a committee known as the District Rural Development Committee (DRDC), which is expected to coordinate all these developmental activities. The Buldhana forest division reportedly approached other departments through DRDC and channeled funds for activities like construction of village roads, houses for the poor and destitute, septic toilets, and nalabunding as a watershed management measure. This went a long way in restoring the faith of the people in the intentions of the 'state.' The forest department officials also encouraged agents from co-operative banks and public sector commercial banks to visit these villages and forward loans to the committees as well as individuals for self-employment.
4. **Devolution of authority within the department:** though there is lot of discussion on decentralization and devolution of decision making authority, it usually refers to shift of power from the state to the people. Concentration of decision-making authority within the implementer of this change, i.e. the bureaucracy, however, remains the same. This creates limitations in decentralization in a true sense, and also creates situations that are neither intended nor demanded (Ghate, 2000 b). In Buldhana devolution of authority to the ground staff was attempted. Initially, the staff was not ready to accept new responsibilities, nor were they convinced of its success. The whole attempt to involve people in forest management and making 'foresters' and 'forest guards' (the ground level staff) important messengers of change was considered as the boss's 'fantasy' and 'romanticism.' However, once it became clear that the boss meant business, the staff worked with enthusiasm and responsibility. The initial inhibition, shirking, and suspicions about intentions turned into pride in doing something important - something that matters and brings positive, constructive, visual change. After establishing FPCs in twelve villages in the first phase, Assistant Forest Officers (ACFs) and Range Forest Officers (RFOs) were encouraged to approach other villages and spread the message of cooperation in managing forests. The success of the next two phases wherein 31 and then 70 villages joined JFM, is attributed to the efforts of this group of forest staff (Appendix-1).
5. **Elements of continuous learning:** empowerment without capacity building can bring failure to a well-intended project. In Buldhana there is an effort towards human-resource building by introducing an element of continuous learning. Members of FPCs are encouraged to meet each other on regular basis by arranging meetings; achievements of FPCs are given publicity through press; one information center is setup in the village of Botha that has easy access for all the nearby villages. Visits of FPC members to other successful JFM villages in the state are arranged, similarly visits to the JFM villages in Buldhana from members of other FPCs as well as non-governmental organizations are encouraged. This exposure and sharing of experiences can help the FPCs to learn and improve. A proposal for establishing a federation of FPCs was under consideration at the time of my last visit in June 1999.

(d) Achievements

Some very indicative achievements are presented here to reiterate the fact that it is possible for local communities to manage their common-pool resources, if given a chance. Not all the achievements are quantifiable, nevertheless it is beyond doubt that they have played an important role in convincing policy makers that JFM is feasible. Similarly, this experience has established the fact that if the bureaucracy approaches the communities with due respect, and tries to build faith amongst people by taking one step towards cooperation, communities could reciprocate by coming forward enthusiastically. Buldhana JFM has re-established Bates's view that trust and establishing a sense of community are mechanisms for solving the problem of supplying new institutions (Bates, 1988). I consider the following, important achievements of the Buldhana experiment:

1. The village of Botha has been awarded with state honors for remarkable achievement in JFM. When asked about the reason for this achievement, one senior villager from Botha said, "we did everything to regenerate our forests because for the first time we are made to believe that these are 'our' forests. We have been given our lost pride". They do not legally own the forest land, and villagers have no private or common property rights on the forest land. That is clear. Yet, the sense of belonging that came with acceptance of usufruct rights as well as by associating the locals by making them invest through their labor, is remarkable.
2. According to the forest staff, in case of forest fire, the department staff had in the past requested help from the locals. After introducing JFM in the area, there were instances where the locals informed the forest department of fire in forest, and tried to extinguish it of their own, before department personnel could reach.
3. The Dy.C.F. one night received a message from the village of Gerumatargao, "we have detained a truck carrying illicit timber, please come and book it." This is unprecedented.
4. While in many other forest divisions, the forest department staff had difficulty convincing villagers of all the advantages the JFM scheme carries and to make them join it. In the case of Buldhana, many villages came forward on their own to join hands with the department without any financial incentive.
5. For the first twelve villages that decided to stop the menace of Kathiawadi and the shepherds, it was not smooth sailing. There were repeated assaults on the FPC members and attempts to bribe some influential members, as well as to segregate the poorer villagers. FPCs did not yield to any of these pressure tactics, and picked up the expenses for medical care of those assaulted and transport cost for the frequent visits to police station.
6. In the village of Isai, located on the border of an adjoining state, all the inmates have come as migrants a few years back. The village is known for mass encroachment on forest-land. The encroachments were neglected all these years for several reasons, one being difficult access to the village. All the villagers from Isai approached the department to join JFM and agreed to give up the encroached land voluntarily.
7. Because of the good quality of grass in this area, many villagers from surrounding areas would bring their cattle to the villages in the Buldhana division. It was common practice to keep these cattle for a couple of months during summer when fodder is in short supply. The

villages (now the JFM villages) used to charge small fees in exchange for this service. This illegal activity caused great damage to the adjoining forests. After joining JFM, this practice was given up by most of the villages.

8. For the forest staff this change of role from 'policing' to 'facilitating' meant direct loss of cash income that resulted from turning a blind eye towards illicit grazing and poaching. Peoples' empowerment brought in many embarrassing moments for the staff who had formerly taken for granted the assured respect that came with coercive authority. This attitude changed to a great extent because of two reasons. Locals got direct access to higher officers to whom they could now approach with their demands and grievances, and exposure to knowledge of their rights enabled them to rightly place the authority of ground-level forest staff. Secondly, training in PRA methods, associating them with formation of FPCs, and recognition and appreciation for their good work from higher authorities, were the factors that helped in changing the attitudes of the ground staff.
9. Last year, some areas in the Buldhana division were demarcated and converted into a wildlife sanctuary, known as Gyanganga Sanctuary. Three of the villages that have already joined JFM are located within this new sanctuary area. Because the seeds of co-management are already sown in these villages, villagers insisted on being a part of management of this protected area. For the first time in the state the concept of 'joint forest management in protected areas,' also known as PAJFM, is being considered by the government.
10. One important achievement of successful JFM experiments, in Buldhana as well as in other parts of India, is that forest officials have now started exploring the possibility of extending co-management in other areas without the World Bank funding. This is undoubtedly an important achievement.

(e) *Limitations*

Although the achievements in Buldhana are remarkable, the pace of change was not maintained, nor was all achieved that was visualized. Some constraints came from limitations in the state policy, while some were due to the design defects of the JFM program itself. There are some equally important problems with the implementation as well. Some important limitations are as follows:

1. As was mentioned in the beginning of this paper, FPCs have no legal authority and are not even recognized by government departments except the forest department. This places a severe limit on the operations of the FPCs. They cannot legally deny outsiders access to the resource if challenged. Many FPCs in Buldhana helped the forest department in confining illicit grazing and collecting large amounts of money through fines, but could not claim any share in return for their joint effort.
2. The fact that communities do not have formal ownership of the resource, is bound to discourage them from bearing the heavy cost of protecting the resource. Creating wage employment in forestry can serve only a limited purpose. Self-employment activities and other income-generating activities undertaken by FPCs based on available natural resources will remain on shaky grounds as long as the appropriators do not have clear property rights. JFM is still considered a program, not an accepted approach and still depends on the conviction of the concerned officer.

3. Because the concept of peoples' participation has not percolated in the forest department thoroughly, communities actively engaged in protection activities at the present time, are very skeptical about what would happen once there is change of guard. Even the ground-level staff of the department is unsure of their role. They know that they will have to change their approach if the new officer has different convictions. So, there is no continuity of approach.
4. A major limitation in Buldhana has been that the social hierarchies within communities and internal dynamics of the villages were not considered while evolving co-management. This can potentially result in monopolization of decision-making authority and of benefits thereby, by a group belonging to higher caste, or higher economic status.
5. While designing co-management in forestry, the village as a community has been considered homogeneous. In reality, people from differing economic strata rely on forests for different requirements. This is not reflected in the micro-plans and is bound to create dissensions in the near future. As can be seen from the table in the appendix, the majority of the households in these villages are either landless or small land-holders. It is obvious that without making special provisions for them their interest in protection activities cannot be sustained for long.
6. Neglecting the illegal stakeholders, such as the shepherds or timber poachers, in planning the resource-use is unrealistic and will always remain a potential threat in sabotaging the effort completely. Unless very strong and broad support groups are created to back these villages, the shepherds and Kathiawadies with strong financial resources and political power are bound to strike back in a big way.
7. From a broader perspective, it is naïve to simply write off the claims of the migratory kathiawadies or those of the mendhpals. They are very much a part of the society and their demands are to be catered to. If they are evicted from one place they are bound to find some other forest to graze their cattle. State- level policy needs to address this issue to avoid huge inherent costs by making it protect one segment of the society from the other.
8. At the time of my last visit to the 'study area', it was observed that the process of a few members generating profits from community activities had already begun. There was no provision made to avoid this in the plan. There was no progress made towards the formation of federation. In the case of marketing, FPCs faced problems with transporting forest produce, fetching the right price, and avoiding huge losses due to lack of coordination between two FPCs who simultaneously flooded the market, bringing down prices drastically.
9. Peoples' involvement in planning in Buldhana was a big jump from the condition of total exclusion. Development of micro-plans was undertaken without any baseline studies, nor was there any provision for evaluation from independent observers. This is a major limitation in adaptive learning and improvement.
10. In the wake of unclear property rights (common property rights or private rights), as well as lack of legal status of FPCs, there is no accountability for the activities undertaken by FPCs. This is a potential threat to ensuring the principles of equity and social justice, the very foundations of co-management.

ASSESSING THE BULDHANA EXPERIMENT

The achievements in Buldhana are laudable from the 'short term' point of view, despite the above mentioned limitations. Yet, it is very difficult to pass a clear judgement regarding whether

these forest protection committees will succeed in the long run or not. But, with the help of ‘design principles’ developed by Ostrom (1990, 99) in her seminal work on commons, I have tried to assess if the elements that help account for the success of institutions in sustaining the common pool resource, are present in the forest protection committees of Buldhana.

Design Principle 1 – having rules that clearly define who has rights to use a resource and the boundaries of that resource—ensures that appropriators can clearly identify anyone who does not have rights and take action against them.

The village boundaries are well defined and well known to villagers in Buldhana. However, the boundary defined by two different departments of government does not coincide. The revenue department’s definition of village area is different from the forest department’s area of operation. While the villagers can at the most stop the stakeholders from outside to use the resource, the stakeholders on area owned by forest department are numerous (though legally there may not be any stakeholders at all) on which villagers may have no control. The instances of conflict between members of some FPCs and the sheep breeders as enumerated earlier prove this point.

Design Principle 2 - involves two parts – congruence between the rules that assign benefits and the rules that assign costs; and rules be well-matched to local conditions such as soils, slope, number of diversions, crops being grown, etc.

The major limitation in case of all the FPCs in Buldhana is that it has no legal backing and only the forest department accepts these committees. Therefore it is very easy for any villagers to break the rule and not be accountable for in court of law. The size and nature of these villages is such that this may not happen very often, but there is a potential threat of defiance specially by strong (socially i.e. belonging to higher caste, politically and financially) insiders, and all the stakeholders from adjoining villages who are denied easy and cheap access to the resource. Due to long experience, however, there is every likelihood of rules evolving that are conducive to local conditions, and will be adhered to by the inmates.

Design Principle 3 – collective-choice arrangements used to modify the operational rules of regular operation of the resource.

Although the FPCs are supposed to be representative bodies, and currently most of the members of the executive body are consensus candidates, there has been no conscious effort to give representation to members from different social and economic strata. Therefore there is a likelihood of formulation of rules more suitable to particular class within a community. This is different from some self-initiated institutions that necessarily take decisions regarding rules and regulations only if there is absolute unanimity. This arrangement proves to be costly, but it is just and adherence to rules is total (Ghate, 2000 a.)

Design Principle 4 – Monitoring of rule conformance without which few systems are able to survive for long.

At present this problem is more severe for monitoring the activities of outsiders, rather than the insiders. Because of scarcity of resource, long history of easy and inexpensive access to the resource for outsiders, the stakes of outsiders like the Kathiawadies and Mendhpal – the shepherds are high. While these outsiders are backed by political and money power, the local villagers lack both. To add to their woes nor do they have any legal authority to monitor. This is a very important limitation that may go against the present (initial) enthusiasm.

Design Principle 5 – Graduated sanctions to make rule breaking an unattractive proposition.

Design Principle 6- quick and low cost conflict-resolving mechanism.

As in case of most of the traditional rural communities, the rules provide for graduated sanctions that are more of social than financial nature. Present FPCs in Buldhana have tried to keep the spirit of those traditional method but have added certain monetary penalties as well. But, as mentioned earlier, they have no control on the people from outside the villages, who are the main destroyers of the resource. In strict legal terms, the FPCs cannot compel even their members to adhere to sanctions.

Design Principle 7 – Minimal recognition of rights to organize. This principle is closely related to ‘autonomy’. It is essential that national and regional governments recognize these institutions and their rule making authority.

As has been narrated earlier, the FPCs do not enjoy any such recognition, which is a major limitation in their effective working. It is, however, seen in case of some self-initiated institutions, that the authority to manage their own resource is taken up by the communities themselves, even in defiance with the state enactment. For all practical purposes this can be effective, though at a high implementation cost (Ghate, 2000 a.).

Design Principle 8 – Appropriation, provisioning, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.

Forest department is presently recognizing FPCs for very limited purpose and for very limited area of operation. There is no coordination between the various administrative departments even at parallel level. But in case of Buldhana in particular, there has been a conscious effort to bring in this coordination between different agencies working for rural development including public sector banks that have funds earmarked for rural sector lending. There is also a very important step towards establishing a continuous dialogue between FPCs of different villages. Formation of a federation of FPCs is also being considered. This would give a chance to all the FPCs to come together regularly, share and learn from each other’s experiences, and better coordinate income generating activities. This will go a long way in confidence building, better negotiating capacity in market for better prices, and for earning larger profits as well. This can eventually improve their political clout and better say in future policy decisions.

CONCLUSIONS

Two functions of India's forests are particularly sensitive to deforestation: their environmental functions, and their subsistence function as fuelwood, food, fodder, and source of income for 100 million forest dwellers, half of whom are tribal people (Alagh, 1999). JFM can be a right step towards making these 100 million people self-sufficient, only if some major policy changes for accepting common property rights, are made. As rightly noted by Gadgil (1998), "Roots of ongoing tragedy of the Indian environment lie in the inverse relationship between economic and biological wealth. Per capita incomes are amongst the lowest in the biologically rich districts of Chhota Nagpur plateau, and highest among Punjab and Haryana states that support the lowest levels of natural as well as husbanded biological diversity". This can change and forests can become source of development if right conditions are created for the people to own and develop this resource. Yet, a sudden change in policy with half-hearted implementation will only give confusing signals, as has happened in case of JFM. 'Degraded forests to green cover through peoples' participation' was a big jump, difficult to digest – for both, the forest department personnel as well as communities in villages. Peoples' participation can not be injected like artificially, nor can it be assimilated in the social stream instantaneously. One can not forget that while examples of successful JFM are growing in numbers, that of failure are way more. Existing village conditions – economic and social inequalities, caste hierarchies, erosion of traditional institutions, failures of existing cooperatives, limitations due to lack of exposure – all these need to be taken into consideration for developing a realistic approach. The faith that institutions need to be built, need to be and can be nurtured, can be improved upon, and is the essential foundation on which polycentric governance can be advocated.

People's participation is a process-oriented activity. A great deal of experimentation, research, follow up and more than anything, patience is needed for the process to evolve. If it is undertaken as any other government program, with time bound and pre-set targets, it will hinder the process of involving people meaningfully. It would also not work out eventually. People based management calls for area-specific planning and flexible approach. The plans will essentially vary according to the requirements of each site and community, with the scale of operation within manageable limits. There are questions relating to project design, relevance and adequacy of finance, and the need of integration and coordination among the participating organizations or situations. Ultimately, people's participation has to be viewed as a movement towards greater humanization and democratization in the post-colonial developing world, trying to attain equity and sustainability. This is particularly relevant in the management and sustainable development of forests. Even if belatedly, the process in this direction has begun with a promise in recent years in the form of JFM. The time to nurture it with care and caution, and build on it, is now. Without trust, confidence and mutual respect between rural people and the government functionaries, JFM has no chance of success. In India, there are already too many agencies and too many developmental schemes in rural areas. These are very uncoordinated, short sighted and fragmented. JFM can easily become another development program implemented by forest department. If it is not integrated with other departmental efforts it will soon be dumped in the heap of development schemes that exist only on paper. Careful and step by step local initiative generation and involvement in capacity building will play a key role.

Experiences in various countries so far provide indications of conditions under which people's participation becomes feasible. The emergence of a large framework of people's participation in the management of forests requires fulfillment of certain preconditions like serious political commitment, clear cut policy objectives as well as policy guidelines, realistic institutional arrangements for collective tenure, and security of usage rights. In Indian context adversarial relationship between the forest department and the people reflecting historical realities of past centuries call for reorientation and attitudinal changes not only in the forest departments but also in the communities (Singh and Khare, 1993). JFM efforts in Buldhana have amply proved that people's participation in forest management is possible, yet, its survival depends on cohesive approach of the state as well as more formal recognition of rights of the appropriators.

Institutions need to be developed, the existing institutions need to be nurtured on the desired line to make decentralized management meaningful. Employing agents of change and building institutions at the grass root/local level, are both necessary for organizing and sustaining community participation. Right attitude of the agents of change towards locals, and acceptance of their natural, first right over the resource would play a crucial role in mobilizing the communities. In Buldhana, change in the attitude of the agent of change, in this case forest department, did play a positive role in introducing people's participation. Yet, due to lack of clear cut tenure rights, and slackness in recognizing and providing for social as well as economic reality, the future of joint participation in Buldhana can not be called ensured.

REFERENCES

Alagh, Y.K. 1999. "Macro Economic and Sectoral Policies and Forestry Sector in India – Role of the World Bank", draft.

Andersen, KE. 1995. "Institutional flaws of collective forest management." *Ambio* 1995, Vol 24, Iss 6, pp 349-353.

Arora, H. and Khare, A. 1994. "Experience with the Recent Joint Forest Management Approach", paper prepared for the IN workshop on India's Forest Management and Ecological Revival, N.Delhi, February 1994.

Bandyopadhyay, D. 1997. "People's participation in planning – Kerala experiment". *Economic and Political Weekly* 1997, Vol 32, Iss 39, pp 2450-2454.

Bates, R. H. 1988. "Contra contractarianism: Some reflections on the new Institutionalism." *Politics and Society* 16:387-401.

Duraiappah A.K. 1998. "Poverty and Environmental Degradation ; A review and Analysis of the Nexus." *World Development*, Vol.26, No.12, p. 2169-2170, 1998.

Gadgil, M. 1998. "Conservation: Where are the People?." *The Hindu survey of the Environment*, 1998, Chennai, India.

Ghate R. 1992. *Forest policy and Tribal Development*, Concept Publishing Company, N.Delhi, India.

Ghate, R. 1998. "A modern Sacred Grove." *Wastelands News*, Feb.-April, 1998.

Ghate R. 2000(a). "The role of autonomy in self-organizing process: a case study of local forest management in India." Working Paper, Workshop in Political Theory and Policy Analysis, Indiana University, Bloomington, US.

Ghate R. 2000(b). "Global gains at local costs: Imposing protected areas A case study form Inida." Working Paper, Workshop in Political Theory and Policy Analysis, Indiana University, Bloomington, US.

Haeuber, Richard. 1993. "Development and Deforestation: Indian Forestry and Perspective". *The Journal of Developing Areas*, 27 485-514.

Jeffery, R., N. Sunder and Khanna P. 1998. "Joint forest management: A silent revolution amongst Forest Department staff?". Workshop on Participatory Natural Resource Management, Mansfield College, University of Oxford, U.K.

Jewitt, S. 1995. "Voluntary and 'official' forest protection committees in Bihar: Solutions to India's deforestation?" *Journal of Biogeography* 1995, Vol 22, Iss 6, pp 1003-1021.

Krishnaswamy, A. 1995. "Sustainable development and community forest management in Bihar." *Society and Natural resources* 1995, Vol 8, Iss 4, pp 339-350.

Lakshmi, UV; Dutt, CBS. 1998. "Micro-level planning and sustainable forestry through GIS." *Current Science* 1998, Vol 75, Iss 3, pp 245-255.

Leach M., Mearns R., Scooners I. 1999. "Environmental Entitlements : Dynamics and Institutions in Community-Based Natural Resource Management." *World Development*, Vol. 27, No. 2, p 225-247.

Lele, S. and Rao, RJ. 1996. "Whose co-operatives and whose produce? The case of LAMPS in Karnataka." Paper presented at National Seminar on 'Rediscovering Co-operation', Nov. 19-21, 1996, Institute of Rural Management, Anand.

Lele, S. 1998(a). "Godsend, Sleight of Hand, or Just Muddling Through: Joint Forest Management in India." Presented at "Crossing Boundaries," the seventh annual conference of the International Association for the Study of Common Property, Vancouver, British Columbia, Canada.

Lele, S. 1998(b). "Why, who, and how of jointness in joint forest management: Theoretical considerations and empirical insights from the Western Ghats of Karnataka." Presented at "Crossing Boundaries," the seventh annual conference of the International Association for the Study of Common Property, Vancouver, British Columbia, Canada.

Ligon, E; Narain, U. 1999. "Government management of village commons: Comparing two forest policies." *Journal of Environmental Economics and Management* 1999, Vol 37, Iss 3, pp 272-289.

Locke, C. 1999. "Constructing a gender policy for joint forest management in India". *Development and Change* 1999, Vol 30, Iss 2, pp 265-285.

McGinnis, M (1999) ed. 'Polycentric Governance and Development', Ann Arbor The University of Michigan Press, USA.

McNeely, J A, Miller, K R , Reid, R W, Mittermeier, R A, and Werner, T B. 1988. "Economics and biological diversity: developing and using economic incentives to conserve biological resources", IUCN, Gland, Switzerland.

Mukharjee Neela. 1997. "Why Joint Forest Management (JFM) Failed to Deliver? A Case Study of Arjuni Mouza, Midnapore (West Bengal, India)." *Indian Forester*, June 1997.

- Ostrom E.1990. *Governing the Commons*, Cambridge University Press, Cambridge, 1990.
- Ostrom, E. 1999. "Coping with tragedies of the commons." *Annual Review of Political Science* 1999, 2:493-535.
- Ostrom, E. 1999. (forthcoming). "Reformulating the commons." In 'The Commons Revisited: An American Perspective', ed. Joanna Burger, Richard Norgaard, Elinor Ostrom, David Plicansky, and Bernard Goldstein, Washington, D.C.: Island Press.
- Pattanaik, BK; Dutta, S. 1997. "JFM in south-west bengal – A study in participatory development." *Economic and Political Weekly* 1997, Vol 32, Iss 50, pp 3225-3232.
- Poffenberger, M and Sarin, M. 1995. "Fiber grass from forest land." *Society and Natural Resources* 1995, Vol 8, Iss 3, pp 219-230.
- Ravindranath M.H., Sudha P., Indu K.M. 1998. "Participatory Forestry Indian Experience in Community Forestry and JFM." Center for Ecological Sciences, Indian Institute of Science, Bangalore, 1998.
- Richards, M. 1997. "Common Property Resources Institutions and Forest Management in Latin America." *Development and Change* 28(1) 95-117.
- Sarin, M. 1995 a. "Regenerating India Forests-reconciling gender equity with Joint Forest Management." *IDS Bulletin-Institute of Development Studies* 1995, Vol 26, Iss 1, pp 83-91.
- Sarin, M. 1995. "Joint forest Management in India : Achievements and Unaddressed Challenges." *Unasylva* 180 46(10:30-36).
- Shashi Kant and Roshan Cooke. 1998. "Complementarity of Institutions for the Success of Joint Forest Management:A comparativeCase of Four Villages from India." paper presented at International Workshop on Community-Based Natural Resource Management, Washington, D.C. May 10-14, 1998.
- Singh, C. 1986. *Common Property and Common Poverty. India's Forests, Forest Dwellers and the Law*. Oxford University Press, Delhi.
- Singh, S. and Khare, A. 1993. "People's participation in forest management", *Wastelands News*, May-July, 1993.
- Sudha P., Rekha P.V., Gunga V.S., Patagar S., Naik M.B., Indu K.M., Ravindranath M.H. 1998. "Community Forest Management and JFM:An Ecological, Economic, and Institutional Assessment in Western Ghats, India." Center for Ecological Sciences, Indian Institute of Science, Bangalore, 1998.

Sundar, N. 2000. "Unpacking the 'joint' in Joint Forest Management". *Development and Change*, Vol 31, Iss 1, pp 255-279.

Thompson, J. 1995. "Participatory approaches in government bureaucracies: Facilitating the process of institutional change." *World Development*, 23: 1521-34.

Varalakshmi, V; Hegde, R; Singh, TP. 1999. "Trends in grass root institutional evolution – a case from Joint Forest Management Programme, Haryana, India". *International journal of Sustainable Development and World Ecology* 1999, Vol 6, Iss 3, pp 185-195.

Wily, L. 1999. "Moving forward in African community forestry: trading power, not use right." *Society and Natural Resources* 1999, Vol 12, Iss 1, pp 49-61.

Wunsch James S. 1999. "Institutional Analysis and Decentralization : Developing an Analytical Framework for Effective Third World Administrative Reforms". in *Polycentric Governance and Development*, Edited by Michael D. McGinnis, Readings from the Workshop in Political Theory and Policy Analysis, 1999.

Appendix-1		VILLAGES WITH FOREST PROTECTION COMMITTEES							
			Buldhana Forest Division						
PHASE ONE: The Initial Villages									
Sr. no.	Name of the village	No. of households	Population	Male	Female	Schedule Caste	Schedule tribe	No. of landles	Marginal families
1	Dongarkhandala	970	3120	1615	1505	450	92	98	112
2	Takarkheda	421	1651	990	660	325	72	95	351
3	Botha	63	270	70	69			33	30
4	Mandani	94	416	123	110	416		40	26
5	Warwand	600	3570	1930	1640	1071	714	95	505
6	Karwand	586	2130	1278	852	532	203	77	509
7	Srikrishna nagar	137	685	346	274	137	411	47	90
8	Gerumatargao	229	1130	120	123	113		39	75
9	Dewhari	105	878	527	351	700	44	52	123
10	Madhi	56	169	88	81	7	41	7	155
11	Kawadgaon	81	466	104	121	71	23	51	81
12	Khairkhed	70	635	72	75	15	34	15	27
PHASE TWO: Villages that followed after the initial success									
13	Nimkhedi	42	112	47	65		112	42	
14	Umapur	144	410	205	205		410	104	40
15	Hanwatkhed	125	601	299	302	49	302	40	85
16	Malsemba	400	1150	577	573			80	320
17	Mandwa	125	525	275	250	75	450	15	42
18	Girda	150	775	465	310	155	159	100	50
19	Padli	250	1367	824	550	412	69	50	200
20	Borkhed	250	1175	705	470	352	59	60	230
21	Jununa B	90	505	303	202	151	126	54	30

22	Deopur	188	799	401	398	199	69	67	45
23	Khor	125	577	346	231	75	58	30	95
24	Giroli	159	827	165	161		155	182	100
25	Bhandari	247	1493	251	248	57	615	165	110
26	Pimpalgaonath	119	553	121	120	94		142	77
27	Hiwra	115	608	118	116	117	225	135	87
28	Mohegaon	137	739	175	197	24	3	25	51
29	Khamkhed	112	570	137	153		24	22	45
30	Rhera	99	544	140	142	45	55	27	19
31	Isoli	468	4083	2260	1823	82	38	58	
32	Islampur	41	91	41	50		91	30	11
33	Chalthana	118	538	303	235		538	63	55
34	Kuardeo	49	241	136	105		241	30	19
35	Isai	46	184	91	93		184	46	
36	Pingali	90	211	113	98		211		148
37	Warna	320	1581	630	625	725		89	130
38	Shridharnagar	102	517	120	123	95	6	9	25
39	Zhodga	105	410	206	204	28		69	19
40	Gharod	244	2069	990	850	249		65	79
41	Nandri	80	350	180	170	60		39	20
42	Harni	185	1105	195	189	150		23	39
43	Kalegaon	225	1125	201	199	150		47	43
PHASE THREE: After delegating initiative to ACFs and RFOs									
44	Nagzhiri	85	723	363	307	80	207	29	23
45	Jununa K	338	1700	900	801	145	20	61	89
46	Garodgaon	450	1150	938	912	560		210	70
47	Nirod	244	2069	990	850	249		65	79
48	Haralkhed	128	619	359	260	41		12	
49	Januna GH	150	856	422	434	171	685	20	100
50	Chinchala	105	750	350	400		750	20	85

51	Rajgar	115	850	494	356	255	595		43
52	Wadi	100	500	260	240		500	27	73
53	Waghdeo	150	475	231	244		475		150
54	Ratnapur	130	500	310	190	110	390		150
55	Naiknagar	74	323	74	75			20	54
56	Bamkhed	91	548	125	140	102		3	55
57	Bhosa	155	716	375	341	200	6	15	95
58	Ugala	97	553	145	157	100		5	46
59	Giroli KH	271	1327	271	150	550		71	55
60	Doifodwadi	81	413	105	125	89	18	22	32
61	Jaulkhed	181	899	181	177	110		45	56
62	Waigaon	181	1061	329	230	20		40	36
63	Wasantnagar	150	665	142	150		70	25	30
64	Borkhedibawra	162	793	154	189	351		35	53
65	Khadki	130	671	169	171		6	18	63
66	Dhasalwadi	51	304	182	122	75	46	20	31
67	Raipur	44	266	132	134		266	13	31
68	Nagarti	19	34	17	17	5	29	7	12
69	Hanwatkhed JJ	45	111	55	56		111	25	20
70	Rajura KH	24	48	24	24		48		28
71	Garpet	26	73	37	36		73	33	32
72	Bhingara	43	311	206	105		311	4	206
73	Goumal	84	180	87	93		180	84	
74	Bhanadapipal	25	49	24	25		49		26
75	Wadpani	51	122	70	52		122	36	15
76	Sonbardi	53	251	124	127		251	41	12
77	Siwani	74	147	73	74		147	20	54
78	Salwan	50	112	57	55		112	10	40
79	Tiwadi	183	367	176	191		367	13	170
80	Pimparikhandare	259	935	498	437	13	30	10	120
81	Dhad	195	704	366	338	89	2	67	188
82	Sawargaonmundhe	445	1815	944	871	61		134	386

	Buldhana.								
		Note: Blank columns mean data is not available.							