

Institutional and policy issues of participatory forestry: Indian experience

K.S. MURALI¹, R. JAGANNATHA RAO² & N.H. RAVINDRANATH²

¹*French Institute, P.O. Box 33, No. 11, St. Louis Street, Pondicherry 605001*

²*Ecological and Economics Research Network, Centre for Ecological Sciences, Indian Institute of Science, Bangalore 560012*

Abstract: Growth and development of Joint Forest Management (JFM), as a concept and its implementation, is assessed in this article to understand the impact of such an exercise on the development of participatory forestry in India. The article delves with some of the institutional and policy issues that are being practised. It describes the acceptance of JFM as a forest management tool and the problems associated with it. The effort has witnessed smoothing of relation between the Forest Department officials and the community at large, apart from increased area under forest cover. One of the major concerns of JFM is the lack of transparency in financial transactions of the forest department and the unilateral powers the forest department has in deciding the membership to the general body. Though in the recent amendments, changes were suggested, by and large, the implementing of such suggestions is far from complete. It suggests some of the policy and structural changes that need to be brought out in view of the wider acceptability of the JFM.

Resumen: En este artículo se evalúa el crecimiento y el desarrollo del Manejo Forestal Conjunto (JFM) como concepto y su instrumentación, con el fin de comprender el impacto de tal ejercicio sobre el desarrollo de una forestería participativa en la India. El artículo ahonda en algunos de los aspectos institucionales y de políticas que están siendo llevados a la práctica. Describe la aceptación del JFM como herramienta de manejo forestal y los problemas asociados a éste. El esfuerzo ha atestiguado un suavizamiento en la relación entre los oficiales del Departamento Forestal y la comunidad en general, además de un incremento en el área bajo cobertura forestal. Una de las mayores preocupaciones del JFM es la transparencia en las transacciones financieras del Departamento Forestal y los poderes unilaterales que tiene el Departamento Forestal en las decisiones sobre la membresía en el cuerpo general. Si bien en las enmiendas recientes se sugirieron varios cambios, en general todavía falta mucho para concluir la instrumentación de dichas sugerencias. Se hacen algunas sugerencias de cambios estructurales y de políticas que sería necesario incorporar en virtud de la amplia aceptabilidad del JFM.

Resumo: O crescimento e desenvolvimento da JFM, como conceito, e a sua implementação, são avaliados neste artigo para se perceber o impacto de tal exercício no desenvolvimento da silvicultura participativa na Índia. Este artigo explora algumas das questões institucionais e políticas que vêm sendo praticadas. Descreve-se a aceitação da JFM como uma ferramenta de gestão florestal e os problemas que lhe estão associados. O esforço testemunhou uma melhoria das relações entre o pessoal do Departamento de Florestas e a comunidade em geral, à parte um acréscimo de área florestal coberta. Uma das maiores preocupações da JFM é a transparência nas transações financeiras do departamento de florestas e do poder unilateral que o departamento de florestas tem na decisão de aceitação dos membros no conselho geral. Embora tenham sido introduzidas alterações recentes, pode dizer-se que, de uma forma geral, a implemen-

¹*Corresponding Author:* K.S. Murali, E-mail: murali.ks@ifpindia.org or murali_kallur@hotmail.com

tação dessas sugestões está longe de estar completa. Isto sugere que algumas das políticas e mudanças estruturais devem ser postas em prática para uma maior aceitação da JFM.

Key words: Institutional issues, Joint Forest Management, participatory forestry, policy issues.

Introduction

The management of forest has taken a turn around, since medieval times, giving the rights back to people to manage forests. The rationale behind such an approach, now popularly known as Joint Forest Management (JFM), stems from the assumption that a willing and active partnership between the State and local communities can promote conservation through managing forest resources sustainably. In India, as elsewhere, forests were largely managed, till recently, by the Forest Department, with the prime objective of managing for timber. In the process, the forest dependent communities' rights were marginalised and more often, large forest areas were converted for plantation purposes. It is increasingly recognized that involvement of people in forest management not only contributes to regeneration of degraded forest, but also helps in effective conservation of the forest, apart from meeting the community's subsistence needs. Efforts at involving local people in management of forest resources has produced encouraging results with respect to forest conservation and regeneration in states like West Bengal, Haryana, Madhya Pradesh and Gujarat.

Forest policy formulated in 1988, based on these experiences, gave priority to the needs of the forest dependent local communities. In 1990, the Government of India issued an order facilitating participatory approach involving the Forest Department and the local community to manage forests. Subsequent to this order, 27 states, till now, have issued orders on JFM and over 63,000 Forest Protection Committees (FPCs) have been initiated, (different states have different names such as Village Forest Committees or VFCs or Village Forest Protection Committees or VFPCs. Here we have used the term FPC as this was first to be coined in West Bengal) to protect and regenerate over 15 Mha of forest. The JFM provisions are expected to promote peoples' involvement in collective deci-

sion-making, social fencing, empowerment of the village community and sustained harvest of usufructs.

JFM programme is decade-old now. There is a need to review the progress made and goals achieved under it. Implementation of the programme is at various stages in different states and it would serve us to learn from the experiences so far. Changing environment in the forestry sector has placed new challenges and demands on JFM approach. A review could generate information to assess the impact of JFM policies, issues that need to be addressed, and new challenges arose. An attempt is made here to understand the factors that have contributed to the spread of JFM, performance of JFM institutions and issues involved in implementing and sustaining the programme. Based on the analyses, some policy implications are drawn, to promote the goals of participatory forestry.

Evolution of participatory forestry in India

The first, and major, forest policy in India was formulated in 1894 resulted in demarcation, survey and mapping of forest areas in the country. This policy resulted in taking over of forests by the State leaving only 5% of the forests by the community and 2% were privately owned (Rao 1961). Apart from the domestic and industrial demand, the two World Wars also put great pressure on the Indian forests degrading 114 Mha of forest area (Gadgil & Guha 1992). There were four forest policy pronouncements in India since Independence the Forest Policy of 1952, Forest Conservation Act of 1980 and the Forest Policy of 1988. In the initial years the State continued to carry on with the policy of colonial period. More and more area was brought under state control. During 1950-51 the net area under the control of the Forest Department had increased to 68 Mha, largely through

Table 1. Forest area in post-independent India, (in Mha); Source: Lal 1990.

Ownership	1946-47	1950-51
State control	26.16 (65%)	53.82 (79%)
Community and private	13.78 (35%)	14.20 (21%)
Total	39.94	68.02

transfer of community-owned and private forestland, to the state. Between 1946 and 1951 the area under state control more than doubled from 26 Mha to 54 Mha (Table 1). Due to the fear that all the forests were being nationalised, massive felling took place in the privately owned forests during the 1950s and 1960s. In these initial years after Independence, the intensity of commercial exploitation increased, partly due to the abolition of the small rulers and landlords (also called zamindars). As a result, over 20 Mha of forests were logged or converted to agricultural land throughout India (Lal 1990).

The Forest Policy of 1952 was initiated to allow exclusive state control over forest management. The policy aimed to increase government control over forest resources and develop forests to meet the timber needs of industry and defence. It declared that village communities should not be permitted to exercise their traditional rights over the forests at the expense of national interest. The Wildlife Protection Act 1972 was initiated to establish sanctuaries and national parks for protection of wildlife. By 1996, 80 national parks and 441 sanctuaries were constituted, accounting for 4.3 % of the geographical area and 20% of the forest area in the country. This act prohibited communities to enter forests. Even today, local communities including tribal people are being relocated from having their settlements in the forests.

The report submitted by National Commission on Agriculture (NCA) during 1976 noted that forests occupied 23% of India's land, but their contribution to the National Product was less than one percent. It concluded that mixed plantations had no commercial value. During this phase there was a shift from conservation forestry to production forestry. The NCA suggested the setting up of a corporation to manage forests and to attract monetary assistance from various government and non-government sources. As a result, autonomous forest corporations were started and large-scale plantation activities began. The NCA report also sug-

gested starting Social Forestry (SF) programme on non-forestry lands such as village commons, government wastelands and farmlands to reduce pressure on forests. The consequent degradation of vegetation on village lands led to increased pressure on the forests from the people affected by these activities. Though the programme was largely aimed at meeting the needs of the community, the involvement of the local community was marginal or absent. Noting the lapses in the social forestry programme, the national forest policy of 1988 departs significantly from previous policies because it mandates that the local people must be actively involved in programmes of protection, conservation and management of forests. For the first time, local people living in and around the forests were given a chance to participate in the management of forests. They were considered partners, not only in protection and regeneration of forests but to share the usufructs and profits as well. The focus of forest management shifted from commercialisation, to conservation of soil, the environment and the rights of the local populace.

The forest policies hitherto emphasised the importance of protecting forests, which are places of high faunal and floral diversity and national heritage sites alienating people from meeting their requirement from the forest. But the introduction of the 1972 Wildlife Protection Act and the Forest Policy of 1980 achieved no enhancement in area under forests. The change in direction in forest policy of 1988 is primarily because of the success of several experiments in West Bengal and Haryana on participatory forestry encouraged the government to include local people in forest management (Poffenberger & Singh 1996; Ravindranath *et al.* 1997; Saxena 1997).

JFM resolution of 1990 – The first step towards participatory approach

One of the major criticisms of the social forestry programme was that it did not meet its objectives such as meeting diverse biomass needs and participation of local communities and lack of involvement of local community in choice of species. Therefore, only exotic species such as *Eucalyptus* and *Acacia* were planted in large stretches of lands. The programme was helpful to the farmers who were market oriented (such as Gujarat, Punjab and Haryana) but less helpful to meet the

subsistence biomass needs such as firewood, fodder and NTFP of rural poor and tribal communities. Therefore, the natural forests continued to get degraded.

During the 1980s, while the administration was preoccupied with large-scale plantation oriented social forestry projects, self-initiated community forest protection groups began emerging. These initiatives got little or no support from the state Forest Departments, with the exception of West Bengal, where a few progressive foresters actively supported and facilitated the initiation of Forest Protection Committees (FPCs). The spread of these initiatives is apparent in states such as Bihar, West Bengal, Orissa, Karnataka and Haryana. Over 13,000 systems were available in the country in different states (Murali *et al.* 2000). Though these systems are in existence over a century and throughout India but are poorly understood and documented, but they appear to be gaining momentum and receiving support at the village, state and national levels. However, the central and state governments began to perceive its significance and acknowledged the need to recognise and legitimise community efforts. In 1988 and 1989 the governments of Orissa and West Bengal passed resolutions recognising the validity of community forest protection. Subsequently, on June 1, 1990, the Government of India passed guidelines launching the JFM programme. It recommended the participation of village communities in the regeneration of degraded forest and notified that villages that are effectively protecting the forest would have exclusive rights to that forest's produce. The 1990 circular of the Government of India, paved the way for most states (23) to adopt participatory forest management strategies by passing JFM orders.

The policy aims at recognition of rights of organised communities over a clearly defined degraded patch of the forest. Communities are eligible to receive benefits for the responsibility of protection and conservation of specific forest patches. State level resolutions have legitimised JFM activities at all levels - from the state Forest Departments to the village communities. It also strongly encourages Forest Departments to enlist the expertise of local Non-governmental organisations (NGOs) to serve as catalysts between the government departments and the village community. The order allows sharing of benefits accrued

from the programme such as timber, establishes rights over the non-wood forest products.

Guidelines on JFM 2000

After almost 10 years of experimenting with JFM in different states, on 21st February 2000, the Government of India circulated guidelines for various JFM activities, in response to many issues concerning the FPCs, NGOs and the Forest Departments. The guidelines provide legal status to JFM committees, enhances participation of women in participatory forestry, allows JFM in good forests, recognise self-initiated forest protection groups, allocates forest department's share of 25% to forest protection and allows forest working plan to consider micro-plans of VFCs.

In the last 13 years, forest policies (Forest Policy of 1988, JFM Resolution in 1990 to Guidelines in 2000) have increasingly advocated a decentralised approach towards natural resources management. The Forest Policy of 1988 and subsequent orders and guidelines have responded to the people's aspirations and expectations, thus indicating the government's faith in people oriented, decentralised forest management systems. This is an interesting and encouraging development.

Joint forest management - A national perspective

The process of initiation of the programme, issue of government order in the form of a resolution, implementation of the programme in the field and the process of evolution to suit local ethno-socio-economic and ecological variations took time. Thus the age, maturity and spread of the programme in different states show significant variation. The FPCs formed so far under JFM cover nearly 61% of the open forest (Table 2).

Haryana was the first state to issue orders on JFM on 13th June 1990. However, West Bengal had passed a similar order during 1989 prior to Government of India order 1990 and later amended it. Other pioneering states which were implementing JFM Policies were Andhra Pradesh, Karnataka, Orissa, West Bengal and Bihar. States such as West Bengal and Haryana are in the process of addressing the issues arising out of sharing benefits after harvesting, while many other states are still engaged in the initial stage of resolving

Table 2. Area covered under Joint Forest Management in India; Source: Anonymous 2000; Murali *et al.* 2002.

State/ Union territory	Forest Area (km ²)		Area under JFM (km ²)		Number of VFCs
	Total	Open	Area	% of open forest	
Andhra Pradesh	44,229	19,642	16,791	85.485	7,606
Arunachal Pradesh	68,847	11,091	58.1	0.524	13
Assam	23,688	9,171	69.7	0.760	245
Bihar	4,830	2,607	17.04	0.129	296
Chattisgarh	56,693	17,136	33,913	197.9	6,412
Goa	1251	251	130	51.793	26
Gujarat	13,082	3,962	1,380	34.834	1,237
Himachal pradesh	12,521	2,961	1112.5	37.572	914
Haryana ¹	964	515	658.52	127.86	471
Jammu & Kashmir	20,441	9,422	795.5	8.443	1,895
Jarkhand	21,644	10,593	4,304.63	40.63	1,379
Karnataka	32,467	7,632	1850	24.240	2,620
Kerala	10,323	1,894	49.95	2.637	32
Madhya pradesh	75,137	33,075	41258.37	82.170	9,203
Maharashtra	46,672	19,951	6866.88	34.419	2,153
Manipur	17,384	11,448	105	0.917	58
Mizoram	18,338	14,552	127.4	0.875	129
Nagaland	14,164	9,027	1500	16.617	55
Orissa	47,033	20,745	7834.67	37.767	12,317
Punjab	1,412	895	979.13	109.400	188
Rajasthan	13,871	9,562	3093.36	32.351	3,042
Sikkim	3,118	755	6.00	0.795	158
Tamil Nadu	17,078	8,398	2993.89	35.650	799
Tripura	5,745	3,517	234.77	6.675	160
Uttar Pradesh	10,756	5,703	450.25	4.051	502
Uttaranchal	23,260	5,411	6,066.08	112.10	7,435
West Bengal ¹	8,362	2,672	4880.95	182.670	3,545
India – Total	637,293	255,064	155,874	61.11	62,890

¹In Haryana and West Bengal, other than open forest category has also been brought under JFM Total does not add to what values that are given here as many states are not indicated here.

issues that arise from conflicts such as membership, committee formation, micro-plan etc. JFM federations formed in some states have worked towards fulfilling various objectives such as mutual protection, conflict resolution, increasing bargaining power, legitimacy of disadvantaged groups, planning for collective action, information generation, sharing and exchange and increasing efficiency of resource use. The area covered under JFM is (Table 2) more in Madhya Pradesh (4.1 Mha), Andhra Pradesh (1.6 Mha), Orissa (0.7 Mha) and Chatisgarh (0.33 Mha). The relative cov-

erage of JFM with respect to the total forest in the state, in West Bengal is 58% followed by Andhra Pradesh (38%) and Madhya Pradesh (31.4%).

Challenges and opportunities of JFM

JFM is a collaborative process, in which many factors and stakeholders are playing a crucial role in contributing to the positive shift in forest management. The JFM concept offers many challenges that need to be addressed and opportunities that ought to be understood. We shall discuss some of these here.

Some challenges before JFM are discussed in this section. The issues have been broadly classified under policy, institutional and ecological. Policy issues pertain to the legal status of the FPCs, land brought under JFM plantation, etc. Institutional issues relate to JFM orders in different states, composition of FPC, Executive Committee, powers of the FPC and benefits/ usufructs sharing etc. Ecological issues include forest types, vegetation cover and area brought under JFM.

Policy issues

Forest Act of 1927 is still the legal framework of Indian forestry. After the JFM order was passed, many states have changed and amended the government resolution, to redefine various provisions. However, much of the efforts of the existing forest protection institutions would lose their vigour if JFM is not given legal backing by its inclusion in the Forest Act, 1927 (Saxena 1997). In 1994, the Government of India proposed a revised Forest Act, called Conservation of Forest and Natural Ecosystem Bill, which was unsympathetic to the present JFM system. However, the state of Uttar Pradesh has issued a recent order, in keeping with the provisions of Section 28 (village forests) of the 1927 Forest Act. The rules regulating JFM through this order are similar to that of the 1976 Van Panchayat Act.

Legal status of FPCs

It is necessary to bring JFM within the legal framework, particularly because FPCs are not legal bodies as they are not recognised or registered by any government agency, other than the Forest Department. In many states Forest Departments have unilateral powers to dissolve the FPCs, besides which, there are no mechanisms to ensure that the Forest Department fulfils its commitments under the JFM agreement (Khare *et al.* 2000). In 12 out of the 23 states that have implemented JFM, the Forest Department has unilateral power to dissolve the FPCs (Murali *et al.* 2000). FPC have Memorandum of Understanding (MoU) only with the Forest Department, though in a few states, there is provision for FPCs to be registered under the Societies Act or Cooperatives Act. The formation of VFC may also a clash with rights and privileges of legal bodies such as Gram Panchayats. The Government should also look into

the possibilities of making VFC a part of Gram Panchayat.

Legal possession of land

The Forest Department still holds legal right of possession over all the land under JFM. In a few cases, land is leased to the village communities who have access to the usufructs. In some states, afforestation activities are undertaken by the FPCs on wasteland belonging to the Revenue Department. Where the FPCs do not possess any legal status, it may be a problem for the government to lease out such land. The JFM resolution, itself, is reversible, thus making the tenure rights of the protecting groups uncertain. There is a need to strengthen the legal legitimacy of JFM by issuing the orders as rules under Section 28, pertaining to Village Forests, of the Indian Forest Act 1927. Tenurial security over the protected forest is likely to create long-term interest and motivation among the people towards protection and sustainable extraction of the forest produce. Unless legal status is given to the FPCs, there is uncertainty and insecurity regarding sustainability of the JFM concept. It is opined from a study on community managed lands that tenurial security may enhance success of JFM.

Institutional issues of JFM

Initiation of JFM in the states led to the formation of new and dynamic village institutions, whose degree of effective functioning varies from state to state. The various issues that are affecting the effective functioning of FPCs are discussed below:

The management of the selected forest patches under JFM programme rest with village level forest committee, which consists of the General Body and the Executive Committee. The General Body consists of eligible members in the village. Eligibility criteria vary from state to state. The Executive Committee is elected by the General Body and has representatives from the NGOs, Forest Department and Development Departments such as Agriculture and Rural Development. In most of the states, all the village adults adjoining the forests, willing to be members of the committee, can become members by paying a nominal fee. In Gujarat, however, FPCs can be formed only if at least 60% of the village families are willing to join. In

Kerala, any 2 adult members from each family can join the General Body. In Tripura, membership is open. In Madhya Pradesh, a man and a woman from each household within a radius of 5 km of the degraded forest areas and fringe villages can become members. In West Bengal, FPCs are to be formed only by economically backward people. Uttar Pradesh has not laid down any particular rules for membership of the FPCs. In Nagaland, only the land owning families can become a member of the committee, as they own approximately 80% of the forest. There is no specific rule whether all the village households or all adult members are the general body of the FPC. A rationale should be introduced in order for FPCs to indicate criteria for membership. A recent study in Uttara Kannada district, Karnataka, indicate that nearly 20% of the people are not members of the General Body. Within the village, if there are non-members, what will be the criteria for sharing benefits?

Executive committee

The Executive Committee consists of approximately 9-15 elected members from the General Body and is responsible for decision-making, planning and implementation of JFM. As mentioned already, it consists of people's representatives along with representatives from the Forest Department and other ex-officio members who include local NGOs, Village Administrative Offices, the Village Development Officer and a school teacher. Usually the ex-officio member from the Forest Department is the Secretary of the committee, who convenes meetings and undertakes financial transactions on behalf of the FPC. The Secretaries and other ex-officio members from the government departments, being outsiders, are unlikely to have any long-term interest in forest regeneration or sustainable flow of benefits. Most states practicing JFM have one or more ex-officio representatives in their Executive Committee. NGOs have been participating and facilitating the process of JFM initiation and implementation to a commendable extent in Andhra Pradesh, Bihar, Gujarat, Karnataka, West Bengal and Orissa.

The tenure of the Executive Committee is for two years in most of the states except in Arunachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Tripura and West Bengal. In these states the Executive Committee is re-elected every year. However, election of members for Executive

Committee occurs after a period of five years in Karnataka, Nagaland and Tamil Nadu. Executive Committees with shorter tenure periods provide more opportunities for all community members to participate in various JFM planning and implementation activities.

The states of Bihar, Himachal Pradesh, Karnataka, Jammu & Kashmir, Kerala, Madhya Pradesh and Punjab are keen to give representation for the underprivileged communities and women, in the Executive Committees. They have now allocated a certain minimum number of seats for the poorer and backward communities in the Executive Committee so that their voices about JFM implementation can be heard and their ideas are given adequate importance. Andhra Pradesh has stressed the need for compulsory 30% representation for women in the Executive Committee, though it has not categorized the class or community of women who should constitute the Executive Committee. Himachal Pradesh, Karnataka, Jammu & Kashmir, Kerala, Madhya Pradesh, Nagaland and Punjab have given adequate representation to SC/ST, marginal and landless farmers and the forest dependent communities, including women.

Role of women

In a participatory programme such as JFM, women have an important role, and therefore, there is a need to set right gender disparities and to address constraints that prevent women from participating actively in JFM activities. Women, particularly, from the poor households, do not own land and are more dependent on common pool resources for meeting survival needs. Independent access and entitlement to forest resources through JFM, therefore, has particular significance for them. Though the 1988 Forest Policy specifically emphasises the involvement of women, the 1990 resolution does not give any specific instructions on gender involvement. Unequal gender relations cut across the broader issue of inequality due to class, caste and ethnicity divisions. The man-woman divide is common to the more powerful as well as the marginalised subgroups within and between the communities (Sarin 1996). The recent Guidelines 2000 has set rules for promoting gender equity and giving women representation in the Executive Committee.

Rural women and poorer sections are most dependent on forests and common property resources. The planners, donors and even NGOs often assume that the advantages and benefits will trickle down to women, once the community or even the individual households benefit through JFM. However, in actuality, there is a large gap between the promises generated by JFM and ground reality (Sarin 1996).

The JFM Policy's emphasis on providing the local community a share in the sale of timber goes against the National Forest Policy of 1988, which shows more concern for meeting the needs of the local people first. Profits from timber sale are not likely to be a priority for women and the weaker sections of society, whose need is for a system of management, which focuses on firewood, NTFPs and grasses, which provide them immediate income. The timber-oriented policy discriminates in favour of richer sections of men/women who can afford to forego current consumption in favour of future gains. Some individual state resolutions do make a token acknowledgement of women's needs and concerns by insisting on the dual membership pattern in the General Body and women's representation in the Executive Committee. A resolution that there must be two women representatives in the Executive Committee of Gujarat, Jammu & Kashmir, Karnataka and Madhya Pradesh states exist. Further, in these states, both husband and wife of a household have membership in the General Body. Women's representation in the Executive Committee is an initiative towards increasing gender participation in JFM, but it may not be adequate. For instance, the West Bengal government has made provision for the automatic membership of wife if her husband becomes a member. But in practice, this does not happen, as demonstrated in Midnapore West forest division. In 72 FPCs, only 2% female membership was recorded (Das *et al.* 2000). Even in states where membership of one man and one woman from each household or joint membership is provided, it may not necessarily result in equal participation.

A field study in Sirsi (western ghats area, Karnataka) shows that a recent amendment to the JFM resolution makes provision for one man and one woman from each family to become members of the committee (Bhat *et al.* 2000). This arrangement has been agreed upon in West Bengal also. Apart from the above said states, Andhra Pradesh,

Himachal Pradesh and Tamil Nadu also issued revised orders to provide for membership of both men and women, in the general body. However, provisions made under these revised orders are yet to be implemented seriously in the field.

Some of the general powers of FPCs in different states are - framing of rules, apprehending the offenders, punishing or recommending punishments for culprits, distribution of benefits to its members and cancellation of membership. One of the criticisms in JFM is inequity in distribution of power between the two partners. There are some powers held exclusively by Forest Department. For example, the Forest Department in many states has special powers to dissolve the FPCs. In Himachal Pradesh, the Forest Department can cancel the membership of the FPC only in consultation with the General Body. Andhra Pradesh, Bihar, Haryana and Uttar Pradesh are among the few states in the country where the FPC, and not the Forest Department, has the power to cancel the membership of an individual from the committee.

FPCs can also frame rules regarding forest protection and management in states such as Andhra, Arunachal Pradesh, Gujarat, Himachal Pradesh, Karnataka, Maharashtra, Orissa and Uttar Pradesh. In Jammu & Kashmir, however, the FPC can frame rules only in consultation with the Forest Department officers. A comparison of powers of the partners in JFM shows that the Forest Department has more powers than the FPC. Thus, the partnership is neither participatory nor equal in the real sense.

Benefit sharing mechanism

There are diverse systems of benefit sharing followed in India. The community members in Andhra Pradesh can have free access to all NTFPs except a few, for which the Girijan Credit Cooperative (GCC) holds monopoly rights. Most of the common NTFPs available in different forest areas of the country like firewood, dry fallen twigs and branches, leaves, fruits, grasses (except bhabbar grass in Harayana that is leased to the HRMS instead of private contractors) are collected free of cost by the community. For nationalised NTFPs, such as bamboo in Madhya Pradesh and Rajasthan, honey wax, cashew, sal seeds and tendu leaves in Orissa, the Government has higher stake while the villagers have collection rights only. There are no guidelines or norms to ensure equity

in benefit sharing among the community members. This holds equally true for different percentages of benefit sharing between the Forest Department and FPCs across different states. Andhra Pradesh gives 100% of the net profit from its timber sales to the committee; this, perhaps, is one of the strongest reasons for JFM's wide acceptance and success in the state. On the other extreme, Kerala gives only 10% of the net profit from timber sales to the committee. Most of the other states like Arunachal Pradesh, Gujarat, Karnataka, Orissa and Tripura share their revenue from timber sales equally between the Forest Department and the FPCs. The FPC's share is again divided into two equal parts, one portion for village development purpose and the other portion for distribution among the FPC members, which is once again not equitable. Thus, the actual benefits flowing directly to households is effectively 25%, which has to be distributed among all the members of the FPC. It is interesting to note that only community have to share 50% of their burden in maintaining the ecological well being, while the Forest Department need not contribute to the well being of the forests. It is not clear at this stage, how this percent share is determined and that varies between states. In any partnership concern, the share of profit is contingent upon the share of responsibility the partner holds. Thus the rational of that partnership should also implemented here.

One of the major factors believed to be a success of JFM, is meeting of local subsistence needs and economic gains from protection. Conservation efforts of the community may increase with an increase in the frequency of returns and the magnitude of benefits. However, some initial analysis indicate that in West Bengal and Karnataka, the returns from protection are meager amounting to nearly a day or two wage labour over several years of protection. However, there are instances, apart from benefits, in the form of forest products or cash, there are instances where overall improvement of the environment has persuaded people to undertake protection. In some instances, people took pride in protection of forests. Prevailing traditions or rituals have also helped to make the JFM programme a success in some areas.

An opportunity

In view of failure of social forestry programme

and expensive afforestation programmes mooted by forest department JFM offers an opportunity to conserve forest, reclaim degraded lands and grow biomass to meet the growing demands in a participatory and cost-effective way. Even though the programme is nearly a decade old, the rate of spread is limited, the extent of its performance not yet fathomed and the impact, not yet visible. This lacuna in the dissemination of knowledge regarding the effect of JFM is due to a number of policy, institutional, technological and institutional barriers.

The sustainability of the programme is still doubted and its implementation hinges on a number of preconditions. Various social, economic and cultural factors affect the progress of JFM. Some of the problems identified are; need to change the attitude and ethos of the forest bureaucracy, lack of understanding of the locals' socio-economic and cultural value system, not giving priority to gender issues, inter and intra village conflicts, lack of statutory authority to local institutions, inadequacy of meaningful involvement of the people, coverage of degraded forests only under JFM, donor driven, rather than need driven programme, target oriented rather than people oriented and failure to address issues of sustainability.

JFM is an opportunity for the community to show their commitment in conservation of natural resources and for the forest department to show that their efforts are for the benefit of the community. It is for the community and the forest department to demonstrate their willingness to work together for a cause of global concern. It is often aired that JFM is cost-effective, but it is not clear from various analyses how cost effective the JFM programme has been. But to achieve better results both parties should work together. It is also an opportunity because of the attention it has received locally and globally, and the support received from various national and international agencies. Thus using the support and the commitment the parties must rise up to expectations to meet the challenge.

Financial assistance

Social forestry and JFM are the two major forestry programmes, which have received large external funding from various bilateral and multilateral funding agencies. Social Forestry programme received over Rs. 9,940 million from World Bank, ODA, DANIDA, USAID, SIDA and

CIDA (Saxena 1995). Similarly, JFM also received substantial funding of Rs. 17,241 million from World Bank, DFID (ODA), OECF-Japan and EU (Table 3). JFM received almost double the funding during ten years compared to Social Forestry. Most of the JFM programmes are being implemented with external funding.

Eight states out of 27, which have implemented JFM, have received external funding. Maharashtra received the highest funding - Rs. 4,310 million from World Bank, followed by Rajasthan - Rs. 4,130 million under three different projects from OECF-Japan. The proportion of funds spent for participatory component in different states varies - from 3% in Andhra Pradesh to 100% in Haryana. The sustainability of this programme is not clear. Even the states' financial support to individual FPCs to perform various activities was not assured in most of the states, unlike in Maharashtra, whose support plan for JFM is described (Murali *et al.* 2000).

There is a large difference in the rate of spread of JFM between states that received external assistance for JFM and those which did not. As per the data available, in states that received assistance such as Karnataka, Maharashtra, Madhya Pradesh, Rajasthan, Haryana, Himachal Pradesh, Andhra Pradesh and West Bengal, nearly 48% of the open forests have been afforested under JFM. In states that did not receive assistance, only 16% of the open forests have been brought under JFM. The area afforested accounted for 17% of the total forest area in states that sought assistance, while only 7% of the total forest area were afforested in states that did not receive assistance. The number of FPCs formed is higher in states with external assistance, where the density of FPC is 0.17 km⁻², while in states with no assistance the density is 0.03 km⁻² of open forest.

Problem solving approach

One of the important features of JFM is that it looks at overall development of the village and the development is linked to solving problems of the community, specific to the village. Thus, the approach is to develop natural resources of the village and other infrastructural facilities. Further, the approach of JFM is to bring in local administration, where people prepare their own developmental plans, such as micro-plans. JFM gives more opportunities for people to get involved in

developing their village in a manner that they desire. There are ideas to improve drinking water facilities, construct roads and build schools through self-help (locally called 'Shramadhana') in many micro-plans under the JFM programme in Karnataka. The JFM programme should also be extended to include training of villagers in various skills to make them less reliant on the forests. Further, there are provisions in JFM programmes to adopt energy saving devices and other fuel efficient implements, or alternate energy sources, to make them self-sufficient with respect to firewood. In order to alleviate people from debt traps, several self-help groups have been initiated to encourage the community to save money and realise the economic advantage of circulating the money thus saved among the group members seeking a loan.

Sustainability of JFM

The effectiveness of JFM depends mainly on the stability and continuity of the collaboration between the Forest Department and the local community. Irrespective of the support from the Forest Department or the NGO, there is a varying degree of response to the JFM efforts by the community. At one extreme, there is zero involvement of the community, with the FPCs being defunct or operated by the Forest Department representative. On the other side, there are path-breaking FPCs that operate on their own, with little or no help from the Forest Department.

Sustainable Forest Management recognises that forests must be managed as complete ecosystems to supply a wide range of goods and services to meet the social, economic and ecological needs of the current and future generations. Such sustainably managed forests support the livelihoods of hundreds of millions of people, including those who are excluded from the market economy. They meet the needs of the people, supplying materialistic forestry goods and social, economic and environmental services. Management institutions should maintain and enhance forest quality, and look beyond the stand in their charge, to encompass the much larger landscape, so that biodiversity and ecological processes are maintained. Sustaining forests require the active and meaningful participation of all stakeholders, especially local communities and the Forest Department.

Sustainable forest management was practised earlier among many communities and is now evident in some small commercial forest enterprises. Such practices need to be expanded in scale. One strategy of maintaining and restoring natural forests is to expand the protected area network to ensure adequate ecological representation of all forest types. Protected areas today serve a much broader array of social and ecological functions than being mere scenic beauty parks as in the past. Rehabilitating and restoring forests will become increasingly important as nations seek to regain the social and environmental benefits that forests provided. Improving management techniques will have limited success unless the excessive levels of waste during harvesting and processing are lowered and over consumption and waste by consumers is reduced.

The system of JFM is found to benefit tribal people and many resource poor communities living in the remotest forest areas, apart from regularizing their forest use behavior and resolving conflicts. This system enables people to share the responsibility of forest management, while enjoying the benefits of their protection. Several attempts have been made by government and non-government agencies to understand the problems faced in collective management of common property resources and find out a system that is agreeable to various shareholders of these resources. Here, a discussion has been initiated on some of the key issues that need to be addressed in the interest of ensuring the sustainability of JFM.

Financial and operational sustainability

Financial stability is an important prerequisite for sustaining the JFM system. Thus, it is important to understand the mechanisms that have been put in place to make a FPC economically viable and self-sustainable. An important part of the institutional structure is the profit sharing mechanism. Benefit sharing between the Forest Department and the community, in most of the states, is on 50:50 basis. The community, further, keeps apart 50% of its share for the development of the village and related activities. This is, itself, a step towards reaching financial stability as the resource pool is expected to grow with time and take care of small, but crucial, expenses such as the guard's pay and the secretary's honorarium. There are several other major expenses like pit digging,

trench making, nursery raising, transplanting seedlings in the pits and lopping. The Forest Department is now meeting these expenses. With the community fund pool, the village community could undertake forestry or other village development activities.

It is important to discuss the basis of determining the sharing arrangement of 50% of net profit with the community. Almost all states deduct the expenses incurred for the implementation of the project. The community should be given a better or rational share in the benefits accrued due to JFM activities. In order to be fair to the community we need to assess the opportunity cost of sacrificing the grazing and extraction and the cost of labour for protection and other activities. Financial equity or dividends are distributed based on the proportion of investment made under partnership concerns. Here also such a measure needs to be taken after studying the opportunity cost, cost of land, products and labour. Various costs incurred and benefit accrued need to be taken into account before deciding on the proportion of share in the income. Opportunity costs for village community in protecting the forest, additional distance to be travelled for firewood and NTFP collection in the initial years or sometimes loss of revenue due to protection, hardships encountered such as loss of labour and costs of conflicts need to be assessed. Therefore, it may not be rational to decide a-priori on the share of profit on the part of Government or the Forest Department. The cost of afforestation is often deducted from the gross returns in estimating the quantum to be shared. Given the high cost afforestation (Rs. 15,000 to 20,000 per ha) by Forest Department, the FPCs are unlikely to get any significant financial returns. Forest Department approach is not the least cost approach to afforestation. Thus, either the cost is not deduced or community should be involved in all decisions on practices to be adopted, hiring labour, protection etc.

Why should the Government claim a share in the benefits accrued out of the JFM programme especially when many of these programmes are financially supported by the donor agencies? While implementing these projects the Forest Department would have claimed all the overhead costs. Apart from the direct costs such as salaries for the employees and infrastructure development the governmental agencies must also have developed the human resources in terms of skill. Thus, Forest

Department may have to rationalise the profit sharing mechanisms. One of the incentives could be to permit all the profit accrued through JFM to be shared by the community. It not only doubles the incentives for the village community but also boosts the morale of the village community attempting to undertake better conservation practices. Such a pattern of benefit sharing could potentially make the FPCs economically sustainable thereby making the programme a viable proposition. Further, it is important to reduce the cost of afforestation as practised by the Forest Department. Participatory approach, in principle, is a cost-effective mode of afforestation. Thus if the community is involved in all decisions particularly related to financial allocation and monitoring, the cost is likely to reduce.

Conclusions

The JFM approach to forest protection and regeneration through community participation has been accepted in India and has spread to a large number of states. Since 1990, nearly 16% of the total forest has been brought under JFM. The approach and attitude of the Forest Department has begun to change towards involving local people and other stakeholders in protection and management of the forests. Governments, both at the centre and the states, have responded positively to this programme and the donor agencies have also provided financial support. However, the programme has many shortcomings. This preliminary assessment has shown that several issues related to policies, institutions, vegetation regeneration, social aspects and lack of incentives are likely to have affected the spread and performance of JFM.

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