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## **Evaluation studies of Joint Forest Management in India: social and institutional implications**

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**Abstract:** A decade after initiating Joint Forest Management (JFM) in India, many states have conducted evaluations of the JFM program to address weaknesses, if any, during the process of implementation and to adopt strategies to implement the program effectively. The analysis indicates that evaluation was mostly donor driven and therefore only the donor concerns were highlighted in most reports. In this paper we highlight the major issues raised by the reports reviewed.

Tremendous progress has been made in terms of the number of Forest Protection Committees formed (nearly 62,900) since its inception. They cover an area of over 14 million ha. Apart from 53% open forests that can be brought under JFM, there is a lot of cultivable wasteland that could be potentially included under JFM. Though JFM has been implemented and FPC formed, their functioning is a cause for concern. Various reports indicate that the number of FPCs functioning is very low and if FPCs are to be effective, a lot of effort is needed. Lack of community participation, ineffective leadership, lack of statutory institutional support, and tenurial security are the major concerns that need to be addressed to make JFM effective. Awareness among the community about their roles and responsibilities, and capacity building is another issue that needs strengthening. A lack of proper planning, management of village resources and community involvement in the process of planning are other gaps in of the JFM program.

Inadequate participation of forest dependent communities in JFM, such as landless artisans and women is a drawback in the JFM. Adequate measures to improve their participation and the means to improve their livelihood would give them a reason to help in the cause. However, the implementation of JFM has not achieved these goals to a sufficient degree. On the other hand the women's credit cooperatives started as a part of JFM, to emancipate women from financial constraints have succeeded, indicating that given the right environment JFM still could succeed. The evaluation reports have shown a huge potential for generating employment in the JFM program which in turn will reduce seasonal migration of landless labour. However, the income generating activity in JFM has not improved to the expected level, perhaps due to the poor links between produce availability and market channels.

Ultimately JFM has a presence in the country and has spread throughout states at least in some pockets of India To spread the concept effectively, the Government may want to adopt a strategy that is more efficient and involves

less investment, as the external support is declining. Therefore, there is a need to undertake intensive analysis involving all stakeholders, NGOs and academics to develop an implementation strategy and create a proper environment for JFM to be implemented in a meaningful manner.

**Keywords:** Joint Forest Management; evaluation; criteria and indicators, decentralisation, India.

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## **1 Introduction**

Monitoring and evaluation are essential parts of any program in order to understand the progress made and shortfalls encountered in the program and to adopt future implementation effectively. Joint Forest Management (JFM) being a social program, aims to decentralise forest management, at the village level. Thus programs such as JFM should have periodic evaluation to take stock of the implementation process, to learn from experience and, if needed, to make changes. JFM is more than a decade old now and several evaluation reports are available to review various features, common problems and variations in findings across the country. In this paper we do not delve into the methodology, the sampling size and the statistical tools used for analysis as this has been reviewed earlier [1]. This paper focuses on the extent of spread of JFM in different states, its potential and issues addressed by the reports on various institutional and societal aspects.

## **2 Review method and approach**

We searched for reports on monitoring and evaluation of JFM throughout the country. Though 99 were reports available, only 11 reports were selected for detailed analysis in this paper due to their nature of providing detailed information on methodology and reporting of findings. In most reports, the functioning of Forest Protection Committees (FPC [2]) was reviewed. The functioning of a FPC means the performance, effectiveness, meetings (both general and management committee) conducted as stipulated by the Government order. Apart from these physical goals such as number of meetings and their performance, participation of the community in the JFM program in activities such as microplan preparation, patrolling of forests, formulation of rules and regulations followed by the community were also considered. Many reports addressed employment and income generation activity. Gender and equity were addressed in some reports. The issues not addressed include sustenance of JFM institutions and possible policy issues for their furtherance. Ecological issues were not adequately addressed in many reports. Apart from mentioning the area under plantation, information regarding performance and impact of such plantations on livelihoods are not adequately reported. Various other issues that are subsidiary to JFM were addressed and these include entry point activities, formation of self-help groups, marketing and processing of forest products etc.

## **3 Extent and spread of JFM in different states**

The formation of FPCs in some states has varying history due to the protection initiatives by the local community. In Orissa, though the initiation of FPCs started in the 1940s, recognition of such committees by the government took place only during 1985. Even today there are over 5000 committees in existence. In West Bengal, where the JFM experiment started during the 1970s, governmental approval was only given during 1987. In Uttaranchal (formerly a part of Uttar Pradesh), there are over 4000 'Van Panchayats' that were constituted following the Forest Act of 1927. In Haryana the Hill Resource Management Societies started during the 1970s for management of water for their

agriculture. All these indicate that the formation and spread of FPCs is not a recent phenomenon and therefore caution should be exercised while making statements regarding the spread, functioning and effectiveness of JFM.

There are nearly 63,000 FPCs in India (Table 1). Based on the data available, an average 226 ha of forests is available per FPC at the national level. The states that have a larger area per FPC than the national average are Nagaland (2727 ha), Chattisgarh (528 ha), Bihar (1704 ha) and Jarkhand (558 ha). The states that have a smaller area per FPC than the national average are Assam (28 ha), Karnataka (70 ha), and Sikkim (3.8 ha). In terms of absolute area brought under JFM, the states such as Madhya Pradesh (over 4 million ha) and Andhra Pradesh (over 1.6 million ha) stand out compared to other states. In Karnataka, the area per FPC is smaller primarily because the Forest Department has not handed over the land to FPCs for protection [3]. Further, the program was initiated in a district in Western Ghats with high forests and therefore the open forest area available for the program was smaller.

**Table 1** Area under JFM and the area per FPC in different states in India (as of June 2001)

<i>Sl. No.</i>	<i>State</i>	<i>Number of FPCs</i>	<i>Area under JFM (ha)</i>	<i>Area / FPC (ha)</i>
1	Andhra Pradesh	7,606	16,79,084	220.8
2	Arunachal Pradesh	13	5,810	446.9
3	Assam	245	6,970	28.5
4	Bihar	296	5,04,603	1704.7
5	Chattisgarh	6,412	33,91,305	528.9
6	Goa	26	13,000	500.0
7	Gujarat	1,237	1,38,015	111.6
8	Haryana	471	65,852	139.8
9	Himachal Pradesh	914	1,11,247	121.7
10	Jammu & Kashmir	1,895	79,546	42.0
11	Jharkhand	1,379	4,30,463	312.2
12	Karnataka	2,620	1,85,000	70.6
13	Kerala	32	4,995	156.1
14	Madhya Pradesh	9,203	41,25,837	448.3
15	Maharashtra	2,153	6,86,688	318.9
16	Manipur	58	10,500	181.0
17	Mizoram	129	12,740	98.8
18	Nagaland	55	1,50,000	2727.3
19	Orissa	12,317	7,83,467	63.6
20	Punjab	188	97,193	517.0
21	Rajasthan	3,042	3,09,336	101.7
22	Sikkim	158	600	3.8
23	Tamil Nadu	799	2,99,389	374.7
24	Tripura	160	23,477	146.7
25	Uttar Pradesh	502	45,025	89.7
26	Uttanchal	7,435	6,06,608	81.6
27	West Bengal	3,545	4,88,095	137.7
Total		62,890	1,42,54,846	(Average) 226.7

Source: Saigal [4]

JFM provisions allow primarily open forest category to be brought under the program. The Forest Survey of India [5] has also identified nearly 500,000 villages that have forests that can be potentially brought under JFM. However, one of the land categories available with various Governmental Departments and not yet explored is wastelands. According to the databank of the Ministry of Environment and Forests [6] nearly 750,000 km<sup>2</sup> of wasteland is available for JFM. Thus, on an optimistic note, even if 50% of these lands are recovered, a lot of biomass could be produced and would help to achieve the required forest cover (33% of the total land area) in the country. However we have no clear information at this stage as to whether JFM has been taken up in wasteland areas other than open forest. If true, Rajasthan has achieved this feat in bringing even the wastelands under JFM. Thus on an optimistic note, there still exists a chance for the forest policy makers to make sure that such lands are brought under the purview of JFM.

#### **4 Institutional issues**

One of the important aspects to understand is the number or proportion of FPCs that are in operation as opposed to those that have been formed. There are no national studies to indicate the number of functioning FPCs. Probably, this is the easiest way to indicate the performance of JFM. In this section, the issues discussed are the functioning of FPCs, the decision making process, transparency, employment and income generating potential, involvement of the community in the planning and protection of forests, and gender and equity issues.

Diversity exists among FPCs in the country with respect to the rules formed by different states, the number of meetings that need to be conducted per year, the registration process (registration under the societies or cooperative societies act or recognition by the Forest Department), membership norms etc. Sizes of FPCs also vary depending on the approach of the state. FPCs are formed at the cluster of revenue villages, as in Maharashtra where the entire watershed is identified as a FPC, and in Haryana the entire gram panchayat [7] is identified as FPC. FPCs are formed at the revenue village [8] level in Gujarat and Madhya Pradesh. In most places it is only the hamlets in a given revenue village that are recognised as a FPC. Any evaluation or assessment should also consider these aspects for future strategies and policy considerations.

##### *4.1 Functioning of FPCs*

The only comprehensive report available on the assessment of FPCs based on 'Criteria and Indicators' is from Andhra Pradesh [9]. The report used criteria such as the relationship between the forest department and the community, people's participation, control on encroachment, smuggling, forest fires, grazing, regeneration women's empowerment, transparency and stopping migration. These criteria were assessed in the following manner: those having significant improvement in the above criteria were given 8 points, marginal improvement was accorded 5 points, no improvement 0 points and those that had negative improvement were assigned -1.5 points. Based on these points the FPCs were classified into four categories. The FPCs that obtained 60 points or more were categorised as A, between 50-60 as B, 40-50 as C and below 40 as D. The forest

officers assessed 4478 FPCs and of them 50% of the FPCs (2259) were categorised as A, 32% (1447) were categorised as B, 10% (428) were categorised as C and the remaining 8% (344) as D.

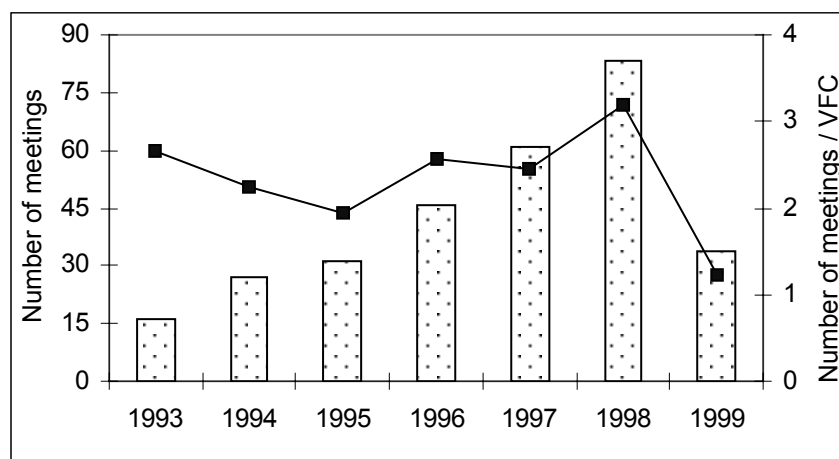
Though it appears from the above study that FPCs are functioning well in Andhra Pradesh, there are severe limitations regarding the criteria used. According to their submission, this is a qualitative assessment made by the forest officials, and therefore may be biased. Secondly, there was difficulty in understanding how points were accorded to FPCs for a given criterion. For example, what indicators were used to measure the relationship between the community and the Forest Department? What is the relationship between the Forest Department and the community? Is it considered satisfactory by default? What parameters were used to measure the people's participation? In the absence of such detailed parameters for each criterion, it becomes difficult to judge the validity of the ratings for a given FPC.

A report by the NGO committee [10] offers a different view to the Government report in Andhra Pradesh. The NGO committee worked extensively in four districts of Andhra Pradesh through 18 case studies. By 1996, though there were 1461 FPCs, only 40 FPCs (2.7%) were functioning. The report indicates that lack of transparency is one of the major concerns. Though a lot of effort has gone into the evaluation process the report lacks an analytical approach and therefore fails to make an impact scientifically.

Another report that systematically assesses FPCs, although on a small scale is from Karnataka, using a technique called 'Group progress indicators' [11]. There were several indicators used for three major criteria. The criteria 'FPC process and Systems' included 17 indicators such as sense of ownership, number of meetings, agenda for meetings, benefit sharing process and so on. Under the criteria 'Outputs and Results' there were 21 indicators including protection practices, grazing, fire control, utilisation and distribution of benefits. Under the criteria 'Impact and Sustainability' there were 8 indicators such as induction, private planting, linkages with other Government Departments etc. Using these criteria and indicators, FPCs were ranked to indicate their performance. The assessment of 13 FPCs using these indicators showed that only one FPC had above average performance. Among the three criteria assessed, 7 out of 13 FPCs were rated above average under 'Process and Systems', one FPC was above average under 'Output and Results' and none scored above average under 'Impact and Sustainability'. This low performance was attributed to the differential scoring pattern that was adopted for different indicators [11].

In Rajasthan, the Aravalli Afforestation project evaluation has recorded data on 28 FPCs on the frequency of meetings [12]. The pattern of meetings held between 1993-1999 indicates that up to 1998, meetings were held at an average of two to three per year (Figure 1), which is lower than stipulated (four per year) in the Rajasthan JFM order. During 1999, the total number of meetings conducted and the meetings per FPC decreased drastically. This drastic decrease may be because of the conclusion of the project by 1997. Of the 524 expected meetings from 28 FPCs, only 298 (56.87%) were held. The spread of meetings over the year is also not consistent. In some years there were more meetings, as many as ten, whilst other years experienced no meetings. Only Surjakheda FPC had the stipulated or more or more than the stipulated number of meetings every year. In nine FPCs the number of meetings held per year was as per the Government stipulations at least once.

Figure 1



Note: Graph showing the number of meetings conducted per year (indicated as bars) over all 28 FPCs and the number of meetings held per FPC per year (indicated as a line) in the Aravalli afforestation program in Rajasthan [12]

The committees may vary in performance from very responsive to active, indifferent or to totally defunct. Local leadership is one of the important factors that determines performance. The opinion leaders of the village who take centre stage to make the FPCs effective may render the institution ineffective or effective, depending on the approach they take towards forest conservation. From the reports studied, no report tries to assess the role of leaders in determining the performance of FPCs, though they pass opinions about the role of leadership in FPC performance. Effective leadership may help address equity concerns, conflict resolution, and enhance awareness among the community thereby enhancing participation.

JFM is more successful in villages with homogenous communities, where poor and illiterate tribes greatly dependent on forests [13]. This could be because homogeneous communities have a common understanding, cultural background and genetic relatedness. Many FPCs in tribal areas are supported by many other government schemes and are therefore active. Some FPCs may be successful because they enjoy a better relationship with the Forest Department and get constant support thereby enhancing people's participation in protection activities. In heterogeneous villages, the FPC leadership was dominated by the landed elite, thus giving them more control over forest resources and the poorer communities were not able to meet even their basic needs. In villages where marginalised communities participated actively, there was an active role for the NGO. In villages dominated by the landless and those who migrate to earn a living, there was less interest amongst local communities in FPCs. In almost 50% of the FPCs sampled in Karnataka, the poorer sections of the community are not part of the JFM process and even if present, their participation was limited [14].

Excepting a report from Andhra Pradesh, no other evaluation reports have attempted to evaluate functioning FPCs on a large scale. The definition of 'functioning FPCs' is still unresolved in many reports. Obviously, many parameters need to be considered in order to define the functioning of FPCs. A set of indicators that are considered 'essential' and

those that are ‘optional’ need to be developed. Essential indicators are those for which information is available in almost all FPCs, while ‘optional’ indicators are those where the information is systematically maintained. Essential indicators could be collected from a large number of FPCs and conclusions drawn could have implications on the current implementation process, while the results obtained from the ‘optional’ indicators may lead to future guidelines for policy change apart from adopting suitable implementation purposes.

#### 4.2 *The decision making process*

JFM adopted a decentralised approach authorising FPCs to make decision and implementing powers while the Forest Department acts as facilitator. One of the reports by Murali *et al.* [15] indicates lack of decision-making power and authority to FPCs in different states in India. It is necessary to bring JFM within the legal framework to make them independent and wean away from the Forest department’s interference, registering under Societies or Cooperative Societies Act. In many states FPCs are recognised by the Forest Department through a Memorandum of Understanding to undertake activities under JFM. 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 [16]. In 12 out of the 23 states that have implemented JFM, the Forest Department has the unilateral power to dissolve the FPCs [15].

Raising awareness among the community about the existence of JFM is the first step towards empowerment of people to manage forests and the decentralisation process. No serious assessment has been made in any evaluation reports to understand the awareness of the community about JFM. Unless community members are aware of these provisions, decentralisation is not complete. Further, if the community is unaware of the JFM objectives and provisions, the leaders or executive committee members could hardly achieve anything. A report from Madhya Pradesh [17,18] states that the FPCs in general have not emerged as autonomous, independent, village level institutions due to their poor linkages with NGOs and Panchayats, and high dependence on the Forest Departments. In one instance, in a village Khejari in Madhya Pradesh, the Panchayat has usurped the entire power of the JFM committee, as they are the major constituents of the executive committee [13]. In another instance in Karnataka, nearly 70% of the people did not know that there was a FPC in their village [18]. In Kilagada FPC in Andhra Pradesh, only 40% of men and 10% of women knew about the existence of FPC [13]. Similarly in Madhya Pradesh and Orissa, there is lack of awareness of JFM activity [13]. These anecdotal instances available from different reports indicate that JFM is still at the conceptual stage and needs lots of effort for effective implementation. Therefore a proper extension strategy is required to implement the JFM program effectively at FPC level.

#### 4.3 *Microplanning and community participation*

Preparation of a microplan essentially means that the village resources are inventoried through community participation along with the Forest Department and development activities for the future are planned. This is one of the critical components of the JFM process, primarily to take account of village resources, to identify potential land for afforestation, and to prepare development plans to undertake activities jointly. Microplan



preparation essentially enhances the sense of the community's involvement in their village development, promotes transparency, awareness of rights and helps the FPC to be self-reliant. An assessment of JFM should involve the extent of activities planned, works undertaken and any changes to the plan should be justified. In this section, we attempt to understand whether such activities were carried out by the evaluation teams and what suggestions were made. Further, it is important to note whether the community was involved in the preparation of the microplan. Unless there is community involvement, though a microplan may have been prepared and implemented, the essence of participatory forestry under JFM is not achieved.

In Andhra Pradesh, two contrasting reports were prepared: one by the Government and another by the state NGO committee. The Government report indicates that the microplan was prepared with satisfactory participation by the local community in Adilabad Anantapur, Godavari and Telangana districts. Involvement of the community was strong in the Guntur district, while in the Krishna district it was less so [9]. On the other hand the NGO view indicates that microplans were merely documents to satisfy the Forest Department's criteria and were not based on any demand-supply capacity of the village resource. In fact, in many FPCs, the community was unaware of the Memorandum of Understandings and microplans that are the basic documents of FPC [10]. An overall review of microplans led to the conclusion that most of them override the importance of forest resource inventories. The degraded forest areas were being treated following the prescriptions specified in the site-specific microplans prepared by the local NGOs and field staff of the Forest Department. There was no mention of species composition, the likely achievement of the growing stock, increase in productivity and the revenue that could be generated. People in several areas did not comprehend the process of preparing microplans. In most of the FPCs, the microplans were in English. Excepting a few districts such as Adilabad, the microplans did not estimate the biomass demand of the village community [13].

In Madhya Pradesh, FPCs have prepared detailed microplans and replaced the working plans. In West Bengal, although forestry operations were carried out according to the microplans, resource inventory was lacking. In Himachal Pradesh, 100 microplans have been developed in the two forest circles where the Department for International Development (DFID) supported JFM. But there is little correlation between need and resource analysis, and microplan activities are driven more by traditional closure of forests and plantations for timber species. The microplans are written and executed by the forest staff and villagers are not aware of their contents and the budget [19].

It is certain that microplans have been prepared largely without the involvement of the community. Microplans have served the purpose of becoming documentary evidence to indicate the village has been brought under JFM and do not look into the biomass requirements of the village nor do they suggest management of resources. In most cases the microplans have remained as 'plantation journals'.

#### *4.4 Capacity building*

In order to sustain the FPCs and to enhance the awareness and skills of the community to undertake various responsibilities under the JFM, the Forest Department and the donor agencies took up capacity building programs. Capacity building involved developing various vocational skills among the community, for example book keeping for executive

committee members, technical training for communities to enhance regeneration, biomass production etc. Apart from training communities to become more effectively involved in JFM, the Forest Department trained their personnel to improve communication and collaboration with communities, form FPCs, and prepare microplans. Apart from Forest Department officials and local community members, NGOs who facilitate the JFM implementation process were also trained in various activities. In most projects some allocation was made for capacity building activities and therefore almost all evaluation reports mention this activity with number of people trained in different programs or skills. The evaluation should have followed up on these training programs. For example, has someone who was trained in bamboo basket weaving used it to earn a living? Has someone who learned bookkeeping skills used them to look after the FPC's accounts? In view of transfer of officers frequently on public interest, the capacity built to serve the JFM ideology goes waste as trained officials are transferred to places where there is no JFM program.

In Andhra Pradesh the capacity building of Forest Department officials, NGOs and the communities were initiated at various levels. Centralised training programs were held by the State Institute of Forestry Training at Dullapalli and local training programs were also arranged. Training was given on various topics such as the JFM concept and activities to improve degraded forests, government orders on JFM, responsibilities of FPC members, soil and moisture conservation, protection of forests in FPC areas, biodiversity, Participatory Rural Appraisal techniques, microplan preparation and the role of women in JFM. NGOs have successfully motivated the village communities in the formation of committees and in microplan preparation. Around 250 NGOs are working with the Forest Department in 1167 FPCs. Women volunteers are also engaged in the JFM activities particularly with the objective of increasing women's participation in the program. Fifty-four women volunteers are involved in enhancing the participation of women in 1202 FPCs [9]. In Madhya Pradesh, training programs were conducted on different forestry issues (technical and social) for the Forest Department staff. This increased awareness among the senior level staff and facilitated an attitudinal change in the field staff towards the community. But training for FPC members, especially for women was inadequate. Evaluation reflected that training had insignificant effects on the community.

In Karnataka, training was provided for all categories of staff on PRA and extension skills. FPC members were given training on institution building, bookkeeping, common property management, the self-help group concept, conflict resolution etc. Field trips were also arranged to study the JFM process. The local NGOs were involved in training at the FPC level to create awareness particularly, among women and marginalised groups about the JFM concept and participatory management. Training was also provided for communities in bamboo and cane furniture making, vermiculture, bee-keeping, and honey and Non-timber Forest Product processing [20]. Approximately 11,795 members were been trained between 1992–1998 under the Western Ghats forestry program, including Forest Department personnel and the community. Of these 51% of the persons trained were from the Forest Department and the remaining 49% from NGOs and community [14]. In Himachal Pradesh, community training and capacity building has been done through village meetings, workshops and field trips in and around Himachal Pradesh, for selected FPC representatives [19]. The capacity building initiatives have helped increase awareness and have improved leadership qualities and managerial skills amongst community members. In West Bengal, regular training programs are carried out

by NGOs for all levels of Forest Department staff and for the communities. In Haryana, focus has been on microplanning, process documentation, monitoring, training on technical issues like plantation and nursery techniques, and grass management for villagers in JFM areas.

The evaluation reports have not looked into the effect of such training programs on individuals, in particular, and on the program at large. Another aspect that needs more attention is whether the training was directed at those who needed it or was it conducted at random? Of the people trained, how many were community members and how many were Forest Department personnel? Only one study indicates such a pattern. There is a clear indication that capacity building programs for community members and in particular for women are inadequate in Madhya Pradesh [17].

## 5 Social impacts

### 5.1 Equity concerns

JFM at the policy level has attempted to address issues concerning equity and therefore representation at the general body and at the executive committee has been made mandatory. There is representation for artisans, the landless, scheduled castes and tribes in the FPCs from most states [15]. However, evaluations should address equity concerns as they determine social harmony in villages and gain popularity only if these programs are implemented without any bias to the caste and class of the people living in and around the villages.

In a report Saxena *et al.*, [21] indicates that the FPC leadership (i.e. the president or chairman) was dominated by the elite members of the community in a Western Ghats district of Karnataka, where the JFM project was implemented. Such inequity has led to the use of additional forest resources through their political and economic power, reducing an opportunity for the marginalised sections to use forests appropriately. Another report from TERI [13,22] states that the decision making on forest-based activities is restricted to a few members, while marginalised sections of the community had negligible participation. In a specific case, an FPC involving five hamlets in Madhya Pradesh, one particular hamlet enjoyed 1236 person days of employment out of 2286 total person days of employment generated. Similar situation existed in another FPC in Devjiri where only one hamlet garnered all 30 days of employment.

Equity concerns are difficult to deal with. The difference exists among hamlets within a FPC, among castes within a village/hamlet, among classes within a village/hamlet, among trades such as forest dependent and not dependent, the landless and the poor. Thus any evaluation should address all these specifically with multiple criteria and indicators. Evaluation reports have been based on small samples they could work with instead of more appropriate large samples and in-depth studies as well.

### 5.2 Gender concerns

The participation of women is critical for the spread and success of the JFM program. Women spend considerable time and effort in using forests for their livelihood. Therefore the policy has specifically addressed their involvement in the general body and executive committees. However, there exists a discrepancy in the implementation of the project and

therefore strategies to address these concerns should be formulated. Any evaluation should highlight the shortfalls of the implementation process and suggest ways and means to overcome such shortcomings. One of the important aspects to address is the attendance of women at meetings and the impact of their voices on the concerns raised.

In most cases, women do not participate in day-to-day JFM committee activities. Considering that women are the main firewood and other forest product gatherers, Sarin [23] indicates that women are adversely impacted due to JFM regulations on firewood extraction as they will have to travel longer distances to collect firewood, fodder etc., compared to the pre-JFM period. Similarly multiple shoot cutting of sal (*Shorea tolu*) trees frequently renders leaves which are used for plates out of the reach of collecting women [24].

Though provisions are made under the JFM guidelines, women are unaware of the rules, regulations and their rights. Although members of the executive committee, they do not always attend meetings and when they attend, they do not press for their rights, privileges and aspirations. Even in the case of many all-women committees, they depend on the men or the Forest Department or the NGO to take care of the savings accounts due to their own illiteracy [13]. Women often patrol forests and apprehend offenders. In an instance in Andhra Pradesh, women members of Kommugudam FPC helped the Forest Department to apprehend timber smugglers and seized timber worth Rs. 30,000. In Harda in Madhya Pradesh, the participation of women is restricted to being members and office bearers to fulfil the criteria stipulated in the Government order [23]. The women do not attend committee meetings and if they do, rarely participate in discussions. In the 4 regions of Madhya Pradesh [17], there is limited participation by women in FPC proceedings, and poor interfacing with Panchayats and other voluntary groups. In Himachal Pradesh, women's participation in executive committee is often even more limited and the communities are also not aware of the stipulation in the Government order [19]. Some of the women executive committee members were from wealthier backgrounds and had little understanding of the problems of the poor forest dependant women. However, a positive aspect of JFM in Himachal Pradesh is that equal wages are paid to men and women for the same work [20]. In Karnataka, women received the benefit of paid employment, though there is a disparity in wages compared to the men, and they also received free smokeless stoves for reducing firewood consumption [22].

### 5.3 Credit cooperatives

To enhance female participation and to strengthen their economic position in society, credit cooperatives called 'Self-Help Groups' (SHGs, often called thrift societies) were initiated under many JFM initiatives in the country. In fact, in many places where they have been initiated, the SHGs are doing better than JFM committees. Though formation of SHGs is part of the JFM program in most states, they are pursued as entry point activities for promoting savings.

Under the JFM program in Andhra Pradesh female self-help groups have been formed with 10–15 female members who contribute a fixed amount of money that is deposited in a bank. About 1144 thrift groups have been constituted in 830 FPCs. The fund is utilised to lend money to the needy, thereby decreasing the menace of moneylenders [9]. The women feel that participation in SHGs is part of the JFM activity. Though these groups have helped them to be more cohesive, assertive and has built team spirit, it has not helped them to participate actively in the JFM decision making process.

In Madhya Pradesh, JFM has helped women to achieve economic independence and social cohesiveness. Many FPCs have formed SHGs where money is collected regularly from members and deposited as a fund. This money is circulated among members or others at low rates of interest. The formation of SHG groups of women in Jhabua has increased their access to other financial institutions and empowered them economically [22].

It is important to draw parallels between JFM and the SHGs. The same people work at both institutions and work towards similar causes. However, the success of one is perceptible and the other is not. The fear of a poor recovery of loans from the rural poor is losing ground, at least in SHGs. However, over the years and in different states, the success of SHGs has been remarkable and therefore it could be concluded that given the right opportunity and the environment, the local community can show the way in leading the JFM cause successfully.

#### *5.4 Employment and income generation*

In view of the slow resource enhancement process of JFM i.e., developing a degraded forest system, the community who are dependent on the forests need immediate access to food and livelihood security. Therefore apart from involving the community in the process of regenerating the forests, it is important to generate employment from time to time in the JFM program, to aid resource development in the initial years and to keep the community's spirits strong. Specifically, the advantage local communities witnessed from the JFM program is employment generation through plantation activities, silvicultural interventions and other related activities such as, soil and moisture conservation and watershed programs. Therefore it is important that the evaluation process considers this for the success and sustainability of the program.

In Andhra Pradesh, about 39.9 million person days were generated through JFM. Initiation of forest development activities and soil and moisture conservation works created an additional employment of about 2,410 man days totalling Rs 94,000 as wages per year per village by engaging 57 families. This has directly resulted in a 60% reduction in migration. In Jorakushma in West Bengal 60% of the money received by the FPC has come paid employment and in 3 FPCs, 600 to 258,385 person days was created under JFM and more than 100,000 was earned as wages in Boramara FPC [13].

The above examples show the generation of employment either directly or indirectly from JFM. However, once the resource starts developing many such wage employment opportunities will be created. There are several examples quoted in the evaluation reports indicating that JFM leads to enhanced resource supply and an increased wage earning capacity in the local community. In Kasumuru FPC of Guntur district in Andhra Pradesh, each family obtained about Rs 1000 because of forestland development activities. In Adilabad and Khammam district, FPCs have become self-sufficient thanks to the revenue obtained from beedi leaves and in future they need not depend on the Forest Department or Government [9] for funds.

In Madhya Pradesh income generated from NTFPs ranged from Rs 1500 to 4000, while in West Bengal it ranged from Rs.1000 to Rs.8000 per family annually. The landless and marginal farmers no longer depend on out-migration for additional income. According to a study by PRIA and Samarthan [17], due to poor linkages between NTFP availability and market, income generation has been negligible. In Jhabua, there was an

increase in grass productivity leading to a self-sufficiency in fodder for the villagers and it also generated a grass surplus for exporting to adjoining districts, thus generating additional income for the Forest Department [23].

## **6 Legal and policy issues**

JFM visionaries perhaps have thought that one day only local people will manage their forests including planning, implementing and even punishing the offenders. One day the Forest Department will take on an advisory role to the FPCs rather than protecting and managing the village forests. One of the major issues that still bothers JFM is the tenurial security of the land which a community protects. In most instances, it is still believed that JFM is a government activity and the program will be withdrawn one day with no role for the community to play. The power to carry out all the above activities will be inherited only when the land is leased for a specific but sufficiently long period to the community. But the forest policies are such that there are no provisions to lease the forest to FPCs. Therefore there is a need to change the policy and act radically to make provision for JFM.

There are numerous instances in Orissa, Madhya Pradesh and West Bengal, where the local FPC have caught offenders and imposed a fine on them, but later they have found that legally they had no right to do so. Though many reports discuss the provision of tenurial security and legal sanctity by registering the committees under the Societies Act or Cooperatives Act, so far no FPC holds the legal right under any existing provision. Such tenurial security would enable the smooth running of FPCs and partly reduce the burden of dissolving FPCs by the Forest Department. Another alternative suggested by some reports is that of Gram Panchayats taking on the role of FPCs. Gram Panchayats are democratically elected legal bodies that hold the key to rural development programs and therefore may seem a suitable choice. However legal hurdles and provisions under the Forest Act and Panchayat Act need to be studied.

## **7 Summary and conclusions**

The evaluation of JFM, conducted in different states from different perspectives indicate that there are several issues that need to be addressed and several facilities need to be created for the smooth implementation of JFM. Here we highlight the major issues raised by the reports reviewed.

- 1 Tremendous progress has been made in JFM implementation over the last decade, with respect to the number of FPCs formed and the area brought under JFM. However, apart from forests, there is great potential to include recoverable wasteland under JFM.
- 2 One of the foremost issues that needs attention is the definition of the role of FPCs and its assessment from different stakeholder perspectives.

- 3 By and large, decision making rests with the Forest Department and hardly any decisions taken by the community are implemented at the FPC level. FPCs in general have not emerged as autonomous and independent village level institutions as they have poor linkages with NGOs and local governing bodies, and are highly dependent on the Forest Department.
- 4 Awareness among the community about the existence of JFM is the first step towards the empowerment of people to manage forests and towards the decentralisation process.
- 5 Microplans except in a few instances have been prepared largely without the involvement of the community. Microplans do not specifically deal with resource inventories, biomass production estimates, community requirements and management prescriptions that need to be followed for the sustainable use of the forest resources of a particular village.
- 6 Evaluation reports reveal a lot about the number type of capacity building programs undertaken in JFM programs. However, they do not look into the adequacy and effectiveness of capacity building programs. The capacity building programs for women and artisans are grossly inadequate.
- 7 By and large women do not attend committee meetings and even if they do, rarely participate in discussions. Some of the female executive committee members were from wealthier backgrounds with little understanding of the problems of the poorer forest dependant women.
- 8 Evaluation reports paint a picture of female credit cooperatives as success stories. Therefore it is important to understand the functioning of these cooperatives and to roll out the lessons learnt to JFM programs.

In the ultimate analysis, the evaluation reports so far indicate that JFM has made some impact in the country and has spread over several states. The spread of the concept and its effective implementation is far from complete. The real concept of JFM still needs to be nurtured and the fruits harvested. JFM should become 'felt need' of the community than the government forcing them to undertake participatory forestry. The Government may want to adopt a strategy that involves less investment in this sector as external support for it is drying up. Therefore, there is a need to involve all stakeholders, including NGOs and academics to undertake intensive analysis to develop a monitoring and evaluation strategy to implement the program in a meaningful manner.

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