

JOINT FOREST MANAGEMENT AND RURAL DEVELOPMENT IN JHARKHAND

Manish Tiwari*

ABSTRACT

The present paper is based on facts derived from empirical investigation of the two tribal villages namely, Argandi and Bagmundi in Barhait and Borio blocks of Sahibganj district, which represent low density forest regions in Jharkhand. It highlights the nature and pattern of rural development in the region as a result of Joint Forest Management (JFM). The paper is divided into three sections. Section I is introductory which conceptualises the notion of Joint Forest Management and Rural Development. It also includes the objectives and guidelines of JFM in India. Section II deals with universe and sample of the study, which describes the demographic and socio-economic profile of the region as well as the respondents. Section III presents the empirical findings. Facts include the nature of employment generation from forest activities, a comparative account of management practices in pre-JFM and post-JFM periods, composition of income from forest resources, overall ecological, economic and social impacts of JFM in the region. It also covers the strengths, weaknesses, opportunities and threats of JFM in the concerned area.

Introduction

Participatory conservation and development initiatives have proliferated all over India since 1990. The concept of Joint Forest Management (JFM) was introduced in India in the National Forest Policy of 1988 which stresses on the partnership between the state forest departments and the local communities generally known as Joint Forest Management. JFM is a forest management strategy under which the forest department and the village community enter into an agreement to jointly protect and manage forest land adjoining villages and to share responsibilities and benefits. The government resolution of 1990 makes provision for three kinds of JFM committee i.e.

(a) Forest Protection Committee (FPC), for the protection of well stocked forest.

(b) Village Forest Committee (VFC), for rehabilitating the degraded forest areas.

(c) Eco Development Committee (EDC), for protected areas with a view to ensuring bio-diversity conservation in national parks and sanctuaries.

The Ministry of Environment and Forests (MoEF), Government of India issued a detailed guideline in June 1990 for people's involvement in forest conservation and management through an appropriate village level organisation. It also laid emphasis on the procedure of sharing of usufructs and share of the net sale proceeds.

This new participatory management approach elevated the local people from the receivers of some benefits from area to the level of co-managers along with the forest personnel

* Department of Sociology, Banaras Hindu University, Varanasi - 221005. Email Id: manishtiwariibhu@gmail.com

over a designated area of forest. It ensures equitable benefit sharing of the usufruct as well as the financial returns from timber harvest. It brought to focus the need for development of modified silvicultural systems and flexible management approach for ensuring local need based and sustainable multi-product output from the previously degraded forest area, and better NWFP yield from good forest areas.

In 1999, MoEF adopted the National Forest Action Programme (NFAP) which laid emphasis on livelihoods based forest resource management, development and use by local people that would lead to self-reliance and sustainability.

The MoEF, issued a supporting circular on 21 February 2002 for strengthening the JFM programme in the country. The main features are :

- * Providing legal status through registration of JFM committees.
- * Women should constitute 50 per cent of the membership of the general body and at least 33 per cent of the Executive Committee.
- * JFM may cover good forest area.
- * The working plan should have a JFM overlapping working circle with flexible guidelines for preparation of JFM micro-plans.

The JFM was started for the rehabilitation of degraded forests, but in course of time, after incorporating different approaches which brought the indications of success, the state forest department realised the importance of income generating activities for rural development. Beginning in 1990, the programme of JFM in the country can be revealed by the fact that till date, 99,708 joint forest management committees (JFMCs) are formulated all over India which covers 2,01,05,729 hectares of forest areas and 1,37,42,629 families are involved in these JFMCs. Since 2000- 2001, a new pilot scheme named

forest development agency (FDA) was initiated by National Afforestation and Eco-Development Board under MoEF to undertake all the integrated village afforestation and eco-development activities in and around 1,70,000 villages, which are situated in the vicinity of forest.

The concept 'rural development' has been interpreted in two ways. In a narrow sense, it refers to development of rural areas through the development of activities based mainly in the rural areas such as agriculture, animal husbandry, village crafts and industries, rural infrastructure, technology and innovations, etc. The broader view of rural development is not only large in scope and coverage, but also with respect to its approach to the problem, its focus is directly on the well-being of the people in rural areas. In broader sense, it includes changes in social, political, economic, cultural, technological and structural aspects with a view to improving the quality of life of the rural people.

In all expressions rural development refers to distinct state interventions in the economics of under-developed countries and one which is at once broader and more specific than agricultural development. The expression rural development may also be used, however, to refer to processes of change in rural societies, not all of which involve action by governments. In this case the activity of rural development, a form of state intervention, must be considered simply as one of the forces concerned- although it is one which has become of increasing importance.

A number of researchers, NGOs, academic institutions, individuals, donor agencies, etc., have carried out extensive studies on different aspects of JFMCs and their sustainability (Hill and Shields, 1998; Saxena, 1997; Sarin, 1996; Prasad, 1999; Singh et. al., 2005; Bahuguna et. al., 2004; Ravindranath et.al., 2000; Prasad and Bhattacharya, 2004). These studies reveal varieties of experience of JFM and rural development in different regions of the country, which can be observed as changes in forest cover, ecological change, recharging of ground

water, increased irrigational facilities, reduction of the incidences of smuggling, fire and grazing, empowerment of marginalised communities and gender equity. Tata Energy Research Institute (2008) in a study for Ministry of Environment & Forests reveals illustrations of rural development in India through JFM, which can be classified under various aspects- institutional, benefit sharing, marketing, productivity and silvicultural. These studies reveal that rural people have been benefited both qualitatively as well as quantitatively from the activities of JFM in India.

Methodology

We have attempted to evaluate the impact of JFM on rural development in the selected region of Jharkhand. Jharkhand State which was earlier a part of Bihar came into existence on 15 November, 2000 after a long movement for separate statehood. As per the report of state forest department, there are 10,903 JFM committees working in Jharkhand and the area covered under JFM is 21,86,066 hectares. Our study is confined to two village forest committees of Argandi and Bagmundi villages in Barhait and Borio blocks of Sahibganj district, which represent the Santhal Pargana division of Jharkhand State.

Forest ratio of Sahibganj district covers 2.4 per cent of the total forest area of Jharkhand State. Because of its low forest density, the area has remained ignored in studies concerning forests and rural development in Jharkhand. While there are several evidences of the studies concerning JFM in adjoining areas of Ranchi in Chhotanagpur division, the Sahibganj district in Santhal Pargana division remains unexplored, as it has been considered less significant. We are of the opinion that the operationalisation of JFM and its impact on rural development be observed and analysed in a holistic and wider perspective covering both high and low forest density areas. There are plenty of studies in high forest density areas but the low forest density areas have not been explored adequately. We feel that there is a need to include such unexplored low forest density areas in order to get a complete picture

of operationalisation of JFM and its impact on rural development. It is with this rationale that we selected Sahibganj district as a universe of the present study.

Since the universe of the study i.e. the concerned villages selected for the present empirical study, falls under the category of degraded forest area, it is managed by village forest committee (VFC) and there is no existence of Forest Protection Committee (FPC), constituted for the protection of well stocked forests and Eco Development Committee (EDC) constituted in National Parks & Sanctuaries. The constitution of VFC consists of:

Chairman (Official)-	DFO/ Range/ Beat Officer having jurisdiction over the area.
Secretary - (Non- Official)	From the land owning community.
Members (Official - & Non- Official)	Sub-Divisional Officer (Civil) or Extra Assistant Commissioner (DC) having jurisdiction over the area. Two non-official members have been nominated by the concerned village authority from the land owning community, and one forester/ forest guard as official member has been appointed by the Chairman.

The number of general body members and executive committee members in village Argandi is 490 and 21, respectively. In the village Bagmundi, the number of general body members and executive committee members is 260 and 11, respectively. While all adult males and females are members of general body, executive committee consists of 65 per cent male and 35 per cent female members in both the villages. The Chairman as the representative of the department has veto power on financial and technical matters for a given project. The training is imparted to lower and middle level

forest officials, village communities and NGOs from time to time as and whenever necessary. The general body of VFC is supposed to conduct its meeting every month whereas the executive committee is supposed to meet once in three months. Duties and responsibilities of the VFC include ensuring the fulfilment of the objectives of JFM, keeping the activities of VFC in record and ensuring protection of VFC forests.

The detailed socio- economic and demographic profile of the two villages- Argandi and Bagmundi-can be observed as under :

The profile reveals that village Argandi has 188 households and village Bagmundi has 107 households altogether. While selecting the sample, we adopted the Census method and covered all the households of the two villages. We considered each household as a unit. The sample of the present study altogether is 295, which consists of one active and adult member (male or female) from each of the households of Argandi and Bagmundi villages. For identifying the active and adult member of household, we followed the reputational technique as well as their active participation in forest management and development activities. The respondents in both the villages were interviewed individually with the help of interview schedule which included their socio- economic profile, the nature of participation in forest management activities, their relationship with the forest officials, their perceptions and experiences of managerial efforts in the concerned region. In terms of age group, our respondents vary from 20 to 60 years. Majority of respondents (65 per cent in Argandi and 70 per cent in Bagmundi village) belong to the young age group between 20- 40 years. In terms of gender classification, the sample consists of 122 male (65 per cent) and 66 female (35 per cent) in village Argandi and 69 male (65 per cent) and 38 female (35 per cent) in village Bagmundi. While selecting the sample, we essentially picked up all such respondents who were actively involved in forest management affairs as a member of the executive body of village forest committee (VFC) apart from some active members of the general body of VFCs.

Ethnically, both the villages are tribal dominated, particularly dominance of Santhal tribe with a small percentage of non-tribal population. Accordingly, in terms of caste and ethnic composition, the sample in village Argandi consisted of 186 Santhal tribe and 2 members of Backward Caste whereas the sample in Bagmundi village consisted of 95 Santhal tribe, 5 Backward Caste and 7 Scheduled Caste. The respondents were interviewed with the schedule individually and the field investigation was completed entirely in a span of 6 months from July 2008 to December 2008.

Results and Discussion

The impact of JFM on rural development in the region was evaluated on several criteria which include the nature of employment generation from forest activities, composition of income from forest resources, a comparative account of management practices/ activities in pre-JFM and post-JFM periods, overall ecological, economic and social impacts of JFM in the region. Besides these, an attempt is also made to observe the strengths, weaknesses, opportunities and threats of the community forestry in the region.

Employment Generation from Forest Activities

Forest activities like collection of NTFPs and TFPs generate direct, indirect and self-employment opportunities for the forest dependent communities right through the year (Nayak, 2001). Collection of forest products is considered a major economic activity for local communities since they spend most of their time in extracting forest products. The employment generated by forest resources has been estimated by evaluating the working days (man-days) spent by a household in collection of a range of forest products with respect to other economic activities.

It was found that in village Argandi and Bagmundi, annually about 294.78 (52.78 per cent) and 233.44 (40.19 per cent) of mean man-days of employment were generated for each household from collection of NTFPS and TFPs,

Table 1 : Village Profile-Argandi

District : Sahibganj		Block : Barhait					Village : Argandi						
Area : 592 f.c.s.		Households : 188											
Total/Male Female	Community				Children Population Below 7 Years	Literates	Workers				S e x R a t i o	All	961
	Total	SC	ST	Others			Total	Main	Marginal	Non- Workers			
Total	847	0	829	18	157	123	479	318	161	368			
Male	432	0	423	9	74	98	244	169	75	188		SC	
Female	415	0	406	9	83	25	235	149	86	180		ST	960
												Others	1000
												Children	1122
Workers Category	Cultivators			Agricultural Labourer			Household Industry			Others			
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	
Main	311	165	146	5	5	5	1	1	0	1	1	0	

Source: <http://jharenvis.nic.in/forest.html>

Table 2 : Village Profile (Bagmundi)

District : Sahibganj		Block : Borio					Village : Bagmundi						
Area : 191 Hcs.		Households : 107											
Total/Male Female	Community				Children Population Below 7 Years	Literates	Workers				S e x R a t i o	All	866
	Total	SC	ST	Others			Total	Main	Marginal	Non- Workers			
Total	489	9	428	52	109	41	270	97	173	219	Others	733	
Male	262	5	227	30	60	36	145	95	50	117	Children	817	
Female	227	4	201	22	49	5	125	2	123	102			
Workers Category	Cultivators			Agricultural Labourer			Household Industry			Others			
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	
Main	94	94	0	0	0	0	0	0	0	3	1	2	

Source: <http://jharenvis.nic.in/forest.html>

out of the total employment of 558.49 and 580.76 mean mandays per household, respectively. This indicates the importance of forest economy in providing employment opportunities to forest dwellers. The generation of employment from forest based activities is around 57.60 per cent of total mandays in other parts of the country as per the evidence of some studies (Mallik, 2000 and Prakash, 1999). Forest Department (FD) has provided seasonal and occasional employment opportunities to the forest dwellers. Employment generated from Forest Department (FD) is estimated around

73.65 (13.18 per cent) and 47.33 (8.14 per cent) mean mandays, respectively. Another main source of employment is plantation work, which provides 120.51 (21.57 per cent) and 187.87 (32.34 per cent) mean mandays annually for households of forests. Both NTFPs and TFPs activities not only generated employment but also provided income to the forest dwellers. In this context, low C.V. percentage suggests that employment generation from NTFPs and TFPs, forest department and plantation works is more stable than agriculture and allied activities and other activities in the villages.

Table 3 : Composition of annual employment of households from forest activities

Activities	Village Argandi			Village Bagmundi		
	Mean Mandays	S.D.	C.V. (%)	Mean Mandays	S.D.	C.V. (%)
Collection of NTFPs and TFPs	294.78 (52.78)	273.87	92.90	233.44 (40.19)	230.23	98.62
Agriculture and allied activities	61.32 (10.97)	156.26	254.84	90.67 (15.61)	189.37	208.87
Forest Department work	73.65 (13.18)	41.75	56.69	47.33 (8.14)	61.21	129.32
Plantation work	120.51 (21.57)	117.14	97.20	187.87 (32.34)	261.47	139.16
Others	8.23 (1.47)	22.95	278.89	21.45 (3.69)	42.94	200.16
Total	558.49 (100.00)	100.63	82.22	580.76 (100.00)	99.38	63.28

[S.D. = Standard Deviation and C.V. = Co-efficient of variation (%)]

[Figures in parentheses are percentages to the total]

Composition of Income from Forest Resources

Local communities are largely dependent on forest resources for their livelihood and they derive annual income to the tune of Rs. 26,601.29 per household from various sources. Out of the total annual income per household, income generated from collection of NTFPs and TFPs (for both own use and sale) comprised

Rs. 14,369.89 (54.02 per cent) and Rs. 13,425.31 (46.45 per cent) in Argandi and Bagmundi villages, while agriculture and allied activities comprised Rs. 947.78 (3.56 per cent) and Rs. 3,376.88 (11.68 per cent), respectively. The income derived by working in the FD constitutes Rs. 3,682.50 (13.81 per cent) and Rs. 2,366.50 (8.18 per cent) to the total income of households. The second important contributor to income is plantation work and they earn income from this

activity mainly for meeting the household requirements. The income generated from plantation is estimated at Rs. 6,025.50 (22.65 per cent) and Rs. 7,272.22 (25.16 per cent), respectively. After the income derived from the collection of forest products, the income from plantation is considered the second highest source of income for households. Income received from other sources stands at Rs.

1,575.62 (5.92 per cent) and Rs. 2,460.45 (8.51 per cent). The significant contribution to income from forest products is revealed by several other studies also, for example, income from the collection of NTFPs in Kalahandi district in Orissa State stands at 52.20 per cent (Mallik, 2000) and 51.44 per cent in the study area of Uttara Kannada district in Western Ghats region in Karnataka (Prakash, 1999).

Table 4: Composition of annual income of households from forest activities

Activities	Village Argandi			Village Bagmundi		
	Income	S.D.	C.V.(%)	Income	S.D.	C.V.(%)
Collection of NTFPs and TFPs	14,369.89 (54.02)	2710.10	18.85	13,425.31 (46.45)	6335.17	47.18
Agriculture and allied activities	947.78 (3.56)	1765.18	186.24	3,376.88 (11.68)	3335.38	98.77
Forest Department work	3,682.50 (13.84)	3799.14	103.16	2,366.50 (8.18)	1548.66	65.44
Plantation work	6,025.50 (22.65)	4474.41	74.27	7,272.22 (25.16)	4016.27	55.22
Others	1,575.62 (5.92)	1745.98	110.81	2,460.45 (8.51)	2279.46	92.64
Total	26,601.29 (100.00)	1219.22	42.05	28,901.36 (100.00)	1845.88	52.69

[S.D. = Standard Deviation and C.V. = Co-efficient of variation (%)]

[Figures in parentheses are percentages to the total]

The socio-economic and demographic profile of the village reveals that both the villages constitute ethnically homogenous community of Santhal tribe. The caste-wise variations was absent in such groups, hence we did not observe significant difference among them in terms of the benefits of JFM programme. The fact clearly reveals that the collection of NTFPs and TFPs fetches the largest composition of income compared to other sources of income to the households of forest dwellers. It can also be observed from the interpretation of co-efficient of variation analysis that income generated from the collection of forest products is more stable compared to plantation as well as agriculture

and allied activities with a lower variability of 18.85 and 47.18 per cent, respectively. This clearly shows that collection of forest products continues to play a pivotal role by contributing a substantial and steady income.

Description of Management Practices

The facts concerning operationalisation and functioning of VFC reveal that the general body meetings in both the villages were held ten times in a year instead of 12 times required normatively. The meetings of executive body were found to be held regularly once in every three months as per the norms. The average male participation in VFC meetings (25 and 27 per

cent) was found to be greater than female participation (18 and 20 percent) in both Argandi and Bagmundi villages, but their overall participation was quite meagre. The findings highlight that there is a need to sensitise the community to participate more often in the activities of VFC as partners of the programme and not merely as beneficiaries.

An appraisal was carried out in the selected villages to compare the management practices/ activities in pre-JFM and post-JFM periods and

observe the nature and pattern of changes in the region. Table 5 presents a comparative account of the indigenous management practices of panchayat forests at two points of time i.e. pre-JFM and post-JFM periods in the selected area. It can be noticed that people had devised a variety of well- thought practices for the conservation, management and equitable use of usufructs within their village communities. These practices emerged after a long period of trial and error and were accepted gradually.

Table 5 : A comparative account of management practices/ activities during pre- JFM, and post-JFM periods in the selected region

Village	Pre-JFM	Post-JFM
Argandi	Panchayat Forest (PF) was freely grazed by village cattle, collection of fallen wood and leaf litter was allowed. The PF guard elected (@ Rs. 200 p.m.) was liable to watch and ward the PF area and catch hold of offenders (both from own village and outsiders) and their tools (sickle, axe, sac, etc.)/ harvested forest produce; daily report to Sarpanch on the incidents and condition of the PF to be discussed in village meeting held at regular intervals and for case- to-case basis judgements by the FP; the offenders were asked to deposit fine fixed for the offence (<i>lopping green trees for fodder and wood-not exceeding Rs. 50 depending upon the severity of the offence; up to Rs. 300 for felling green tree of about 3 ft. girth; for example, the village records show that on 02.9.1989 a villager was fined Rs. 500 for cutting a big tree</i>) in the VFP fund; failing to comply the notice the case was referred to district administration. Lease rent levied for hutment space at roadside for selling fruits during tourist season;; royalty levied for collection of stones scattered for making walls, house building, etc. collection of leaf litter (to outsiders based on availability). For this, permits for 10 days were issued costing to Rs. 25 per two head loads of litter/ fallen wood.	Guard is maintained @ Rs. 500 month. The stonewall is damaged at several places and open grazing continues even after JFM in the planted plots. Fine levied @ Rs. 150 sack of lopped fodder leaves from own village and Rs. 250 from outsiders. Fine on green tree (girth 3 ft.) felling @ Rs. 500 in the neighbouring villages;
Bagmundi	In the beginning, the guard was given Rs. 30- 45 p.m., which has been gradually raised to Rs. 300 p.m. now. The source of income of FP is the royalty from fine imposed on illegal extraction of forest produce, sale of old dried tree for timber, royalty from resin tapping, etc. Fine imposed on implements of offenders (sickle @ Rs. 1, axe @ Rs. 5, felling of green tree @ Rs. 5); Free grazing, complete ban on lopping and cutting of green trees, pass system for fodder leaves (@ Rs. 10 for	In the newly planted area under JFM due to damage of wall the animals' thorough fare has started again. The fine now levied is @ Rs. 20 on lopping and @ Rs. 500 for felling trees

Table 5 : (Contd.)

Bagmundi	15 days) - in case of excess fodder the passes were also issued to outsiders, the dried tree having > 3 ft. girth sold @ Rs. 5, tree with more diameter used for rafters and house making @ Rs. 10, in case of a villager in need of wood for house building two dried trees for rafters, and 10 trees for poles were given to him. For repair of PF wall from the royalty income, daily wagers were employed under the supervision of forest guard, forest fire is put out collectively by all the village people still. Plantation seeking people's participation used to carry out in the past, nurseries were also raised earlier for income generation. For example, the records of FP show that a nursery raised by them in the 1980s under the guidance of Soil Conservation (FD) sold the seedlings @ 25 paisa to the FD for plantation in the neighbouring villages.	of > 3 ft. girth. The other sanctions and rules to use the usufructs from PF remain the same. Presently no forest guard. Now people (particularly the women groups) have become the forest guards voluntarily. The other practices with regard to protection and royalty remain same as pre-JFM period.
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It is evident from the details given in Table 5 that the JFM brought about some remarkable change with regard to demarcation of PF boundary, protection of forest from grazing, illicit felling, revival of grass cover and canopy of trees, plantation of species of local preference, awareness and coherence among village people. But at the same time it is also evident that in the efforts of institutionalisation and legalisation, some of the easy decisions earlier taken quietly became complex.

Impact of JFM on Ecology, Economy and Society

We attempted to observe the ecological, economic and social impacts of JFM programme in the selected villages. Table 6 summarises some of the ecological, economic and social impacts of JFM programme in the studied villages. It was felt that there was no format/ proper device to record these indicators of change. Most of the descriptions are subjective and based on the memory of respondents.

Table 6 : A summary of ecological, economic and social impacts of JFM programme

Village	Ecological Impacts	Economic Impacts	Social Impacts
Argandi	<ul style="list-style-type: none"> * Revival of forest canopy * Minor improvement in water sources * Plantation in the year following JFM survived (about 40 per cent) * Some Gamhar and Seesham planted during JFM are surviving and have grown mature 	<ul style="list-style-type: none"> * Increase in fodder yield (sold Rs. 700 fodder to a village person) * Yield of leaf litter increase from 25-100 sacs * Deposit of Rs. 25,000 in the Gram Kosh. Now this money is used for protection of forest and pay wages to forest guard. 	<ul style="list-style-type: none"> * Coordination among village people improved considerably * Reduced women labour for fodder collection * People have started fodder purchase from outside * Feeling of belongingness to the forests

Table 6 : (Contd.)

Village	Ecological Impacts	Economic Impacts	Social Impacts
Bagmundi	<ul style="list-style-type: none"> * Soil erosion/ landslides reduced partly * Earlier the inferior and exotic trees planted by FD are now discarded * The forest became dense * The Village Panchayat (VP) and adjoining land is more moist and water yield of gadhera arising improved * Soil erosion was checked due to checkdams * Gamhar, Seesham, Sagwan trees expanded its territory as the lopping was banned during JFM, this has reduced the fodder yield also. 	<ul style="list-style-type: none"> * The programme has been beneficial in terms of employment generation. * The income from fine levied to outsiders was reduced as the PF Act is weak and enacted by FD in a normal routine matter-not as happened in VFP * Fodder production which earlier contributed about 20 per cent of the total village demand now meeting about 50 per cent 	<ul style="list-style-type: none"> * The coordination among village people on forest protection became strong. * Employment generated for village poor. * Ladies' groups are particularly active after JFM for protection of forests from illicit acts. * Literacy among women was spread through training on account keeping etc. * Groupism in village increased leading to dominance of elites and contractors.

Table 6 reveals that the impact of JFM varies in multi-dimensional forms. Barring a few negative impact like increasing elite dominance and groupism, the overall impacts in both the villages were found to be positive. We are of the opinion that elite dominance and groupism have their origin and existence even before the

introduction of the JFM in the area, hence such impacts cannot necessarily be correlated with JFM. In fact, they are the products of social formation. For instance, there were some miscreants in Argandi village who were involved in manufacturing country liquor. They used to apprehend the common masses and making

offense like cutting the trees, smuggling wood, creating a rift within the society, etc. The existence of such miscreant groups has not disappeared completely in post-JFM period but the situation has improved in the sense that their attempts are foiled on several occasions by VFC members in recent period.

We may conclude that although a small section (18 per cent) of community opined JFM as a means of employment (guards for village forest, earning profits out of various land based activities, etc.) by a few elites of village in association with contractors, but the positive impacts were perceptible by and large by the majority (82 per cent) of the respondents. An incidence reveals in what manner JFM was instrumental in breaking elite dominance and groupism in village Argandi. Once, Jharkhand Mukti Morcha (JMM) party workers from nearby village Argandi (not a member of VFC) were illegally cutting trees in the forest adjoining the village. The VFC members of Argandi village apprehended these offenders and the woods were confiscated. Hearing the news, senior political members of the JMM party came down to village the next day along with scores of men with bow and arrow. The party members tried to persuade the committee to let go the people along with the wood. The samiti retorted saying that the party workers could only be freed if they gave in writing that such an incident would not be repeated. They also threatened that the issue would be reported in the newspaper accusing the JMM party of forest destruction. Finally, the samiti member prevailed over the party workers who were later freed. The findings of the study thus suggest that JFM programme has brought

several ecological, economic and social impacts in the region.

We also attempted to investigate to what extent the forest officials who had played a regulatory or controlling role have accepted their new role supportive and facilitative and the nature of current relationship between the VFC and forest department. Normally, in a decentralised administrative frame, the VFCs are supposed to be the nucleus of decision making in organisation of meeting, selection of forest areas, micro-plan presentation, identification of works, species selection, entry point activities, etc. In practice it was observed that forest department intervenes and commands various decisions related to VFCs. The VFCs could not take independent decisions because of financial constraint. At times, VFC members came with independent proposals but they were scrutinised by the forest department officials and ultimately compelled to accept the plans of the forest department. The fact reveals that the idea of decentralised management of forest resources by the communities is jeopardised at times by the dominant role played by the forest department in decision-making process of VFCs.

SWOT Analysis of Joint Forest Management

There are different types of resource users, having different economic and social status, perspectives, knowledge, understanding and objectives in community forestry. We have made an attempt to overview the strengths, weaknesses, opportunities and threats of joint forest management in the selected region, which has been summarised as under:

Strengths	Weaknesses
Raised awareness and gained experience	Social equity issues are in question
Increased the users' access to forest resources	Focus on quantitative targets
Developed the conflict management skills	Elite domination of Community Forest User Groups (CFUGs)
Better understanding in inter and intra-Community Forest User Groups (CFUGs)	Increased a gap between rich and poor

Recognised the emerging local institutions and platforms	Authority to revoke or grant of community forests to bureaucrats
Reduced the women's workload	Lack of transparency of CFUG's fund mobilisation
Developed the leadership at grassroots level	Lack of representation of disadvantaged and women in planning process
Increased agro-forestry practices in homestead areas	Weak post-formation support to CFUG's
Started decentralisation practice	Lack of technical knowledge among CFUGs
Increased greenery and forest cover	Protection and timber species oriented approach
Decreased the rate of deforestation	Insufficient and compatible policies
Opportunities	Threats
Increased participation of the Panchayati Raj Institutions (PRIs)	Globalisation and privatisation
Democratic government	Bureaucratic resistance
Donor's interest/ support	Resistance to change
User's interest	Vested interests of powerful stakeholders
Progressive policies, laws, acts and regulations	Corruption and corruption network
Global concern and interest	Physiographic region specific
Integrate traditional social values with scientific discoveries and learning	
Scope of participation of women leading to women's empowerment	

We may conclude that the empirical facts highlight forest dependencies of the communities and the role of Village Forest Committees in generating their employment and income. A comparative account of management practices / activities during pre-JFM and post-JFM periods in the selected region evinced that JFM brought about some remarkable changes with regard to demarcation of PF boundary, protection of forest from grazing, illicit felling, revival of grass cover and canopy of trees, fire control, plantation of species of local preference, awareness and coherence among village people. But at the same time it is also evident that in the efforts of institutionalisation, legalisation and Forest Department interventions, some of the easy decisions also became complex. The ecological, economic and

social impacts of JFM were perceived in terms of revival of forest canopy, reduction in soil erosion, increase in fodder yield, creation of gram kosh, increased feeling of belongingness and coordination among forest communities, etc.

The overall findings of the study suggest that despite several shortcomings, JFM has given the sense of belonging to forest resources in the area as a result of which the communities in the selected region have been benefited in various forms-such as soil and water conservation, enhanced land productivity, improved employment opportunities, increased opportunities of participation of women, self-initiated forest protection initiative, livelihood generation, etc. But at the same time the findings also reveal that forest department still has

dominance over control of resources, fundings and other decisions in the strategy of decentralised forest management. It thus, highlights that there is a need for greater financial decentralisation. The flow of benefits to the communities need to be streamlined so that individual foresters are not able to upset the

arrangement provided in the government resolution. Viable management partnership need to be based on a sound understanding of forest use dependencies and balancing social, economic and ecological objectives of benefit participating village communities and the state.

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