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Livelihood Promotion through Joint Forest Management: A Case Study of Aizawl Forest Division, Mizoram

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Abstract

The Joint Forest Management (JFM) programme is embracing the philosophy of forest conservation and livelihood improvement through cooperation between state and civil society. It has emerged over the past decades both as a specific paradigm of forest governance in India and as India's largest community forestry. The JFM programme in India has a vast relevance for developing nations, which have been predominantly agrarian economy and their population being dependent upon forests for subsistence. Currently, there has been a paradigm shift but the need is to have a holistic approach to forest and natural resource management with development of concept of livelihood initiatives through people's participation for forest enrichment.Livelihood promotion is linked to basic human needs of providing shelter, clothing, clean water, education and health care. The present study is based on exploratory design; the data were collected by using mixed method approaches. The primary data were collected through quantitative and qualitative methods. For the area of the study, two villages were selected i.e. Sairang and Tuirial of Aizawl forest division, Mizoram. A total of hundred households were selected from two villages by adopting purposive non-probability sampling method. The households are covered under the study areas that belong to the forest protection committee under JFM Aizawl Forest Division, Mizoram. The paper evaluates impacts of protection on forest productivity and on the livelihood of local communities. It also suggests strategies for its revival and making JFM further contribute effective toward forest conservation and enhanced livelihood opportunities in the future.

Key words: Forest, Management, Livelihood promotion.

Introduction

India's current forest and tree cover is estimated to be 78.29 million ha, constituting 23.81 percent of the geographical area of the country (ISFR, 2011). The forest cover alone amounts to 69.20 million ha, against the recorded forest area of 76.95 million ha. Out of total forest cover, 12.06 percent is very dense forest (more than 70% crown density),

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46.35 percent is moderately dense forest (40 % to 70 % crown density) and the remaining 41.59 percent is open forest (10% to 40% crown density). As per the India State of the Forest Report (ISFR) 2011, forest cover has declined by 367 sq.km compared to the forest cover in the preceding ISFR in 2009.

Due to the various factors such as critical livelihood – forest linkage of a huge forest dependent population (FSI, 2011; Davidar et al., 2010), demand and supply gap of forest products, resulting in exploitation beyond its carrying capacity (Agarwall et al., 2009) and forest fires, overgrazing, illegal cutting down of trees, and diversion of forest land for various purposes (FSI, 2011; Davidar et al, 2010; Agarwall et al., 2009; MoEF, 2009; MoEF, 2006). In the forested landscape of India, the livelihoods of the people living close to forest and within the forest are inextricably linked to the forest ecosystem. People depend on the forest for a variety of forest products for food, fodder, agriculture, housing, and an array of marketable minor forest produces which can potentially degrade forest if harvested unsustainably. Therefore, the livelihood concerns of the millions of poor people living in and around forests contribute to forest degradation along with other factors.

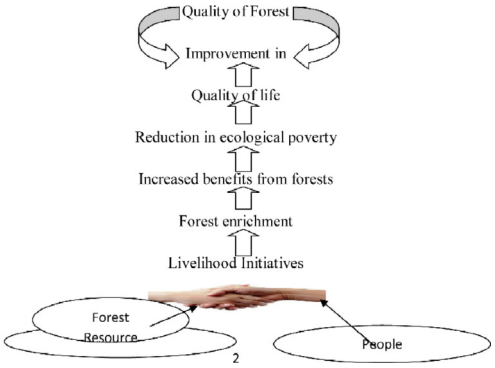
Profile of Mizoram

The state of Mizoram with geographical area of 21,081 sq. km has a forest cover area of 19,054 sq. km which is 91.44 percent of the state's geographical area and 2.44 percent of India's forest and tree cover. In terms of forest canopy density classes, the state has 138 sq. km very dense forest, 5,900 sq. km, moderately dense forest and 13,016 sq.km open forest. Mizoram is situated in between longitude 92.15 E to 93.29 E and latitude 21.58 N to 24.35 N. Mizoram has a total length of 277 kilometers from north to south and 121 kilometers from East to West. It has a population of 10, 97,206 according to 2011 census. There are eight districts, ten forest divisions, 23 towns and 26 rural development blocks.

Livelihood System

The livelihood system means developing the forests in a manner that the outputs from the forest provide the community with substantial economic benefit in perpetuity to attain a satisfactory level of life (Figure 1).

Figure 1 Livelihood Initiatives through Forest Enrichment (LIFE)



Source: Singh, M.K. (Ed.) 2003. *Proceedings of the International Workshop on JFM: a decade of Joint Forest Management - retrospection and introspection.* Dehradun, Indian Council of Forestry Research and Education. 400 pp.

Statement of the Problem

At present the forest cover in Mizoram has been depleting at a fast rate due to many reasons such as persistence of traditional shifting cultivation, uncontrolled fire, unregulated felling etc. leading to failure of Joint Forest Management (JFM) in Aizawl forest division, Mizoram. The actual problem faced by JFM in Mizoram is not on the part of lack of finance but due to the institutional constraints arising out of the village forest development committee at the grassroots level as well as with the implementation of JFM due to un-controlled fire causing damage to the forest area. Another alarming problem is the rate of labour employment rate dissimilarity between Ministry of Environment & Forest, Government of India (MoEF) and Mizoram. The cost of labour wage has been fixed at Rs. 220 per day by the MoEF for whole India, but the local rate is at Rs. 300 in Mizoram. These lead to shortage of labour when needed by the VFDC (Village Forest District Council) which required labour force, since the local villagers do not like to be under-paid.

The involvement of party politics in the election of VFDC has created hurdles to have effective JFM. In this backdrop, the researcher selected two villages of Aizawl forest division, Mizoram i.e. Sairang and Tuirial for the purpose of the study. Sairang was selected for study due to its success in implementing JFM and Tuirial was selected due to its meager success in JFM as compared to Sairang village.

JFM in Mizoram

As per the guidelines issued by the MoEF, GoI, the Government of Mizoram responded to the National guidelines by issuing circular for JFM on 18.9.1998 notification NO B. 11011/36/95-FST. Plantation was carried out in 1, 84,482 hectares of land. The JFM programme was started in Mizoram for the first time in 2003 in some of the selected villages in Aizawl forest division and Mamit forest division as a pilot project. The Aizawl forest division has a total geographical area of 1,683.66 sq. km, having five ranges namely: Aibawk, Aizawl, Sairang, Saitual and Seling. There are 52 JFMC existing in Aizawl forest division; however there are only 17 active JFMC as on today. The Aizawl forest division has 55 villages with a total population of 4, 04,054. A total area of 4,750 hectare plantation has been carried out in Aizawl forest division, Mizoram.

Objectives

The main objectives of the present study are as follows:-

i) to study the socio economic conditions of local community members participating in JFM Aizawl Forest Division, Mizoram and

ii) to assess the benefits and impacts of the programme in terms of livelihood, institutional, vegetation and level of participation.

Methodology

The present study is on exploratory in design; the data was collected by using

mixed method research design. The primary data was collected both in quantitative and qualitative methods. The quantitative data was collected through field study, semi-structured interview schedule from the sample households. The qualitative data was collected by using case study method and focus group discussion from both households as well as the field staff of Environment and Forest Department. A total of hundred households were selected from the two villages of Sairang and Tuirial by adopting purposive non-probability sampling method.

The households covered by the study are from areas that are member of forest protection committee under JFM Aizawl forest division, Mizoram. The secondary data was collected from books, articles, journals, magazines, different internet websites etc. The collected data was processed by using SPSS package presented in the form of simple percentages, proportions, averages and cross tabulations.

Results and Discussion

Demographic Profile of the Respondents:

The demographic profile of the respondents is presented in six categories viz., gender, age, marital status, education, occupation and income as shown in Table 1. Among the respondents more than two-third (68%) of them were male out of which seventy percent of them belong to Sairang village. In Tuirial village, two third (66%) of the respondents were male whereas 32 percent were female. The table shows that in both the villages, more than two-third of the respondents were male and one third female, which shows clearly that female participation is less.

The age of the respondents was is divided into four groups namely: youth (18-29 years), adults (29-40 years), middle age (40-60 years) and old age 60 years and above. Among the respondents, the majority forty percent belong to the middle age group (40-60 years) in which more than one third of the respondents represented both the villages. Almost one third (32%) of the respondents were adults (29-40 years) in which one third of them were equally distributed in both the villages. While the age group of youth and old age category represented less than one fifth. The mean age of the respondents is thus 45 years.

From the table, the data shows that middle age group respondents constitute the majority whereas the youth (18-19 years) constitute the lesser percentage due to the family household paying attention to JFM, and apart from that the youth engage themselves more in other type of works such as quarrying, labour works under private sectors, and also due to lack of interest towards management of forest. The reasons for representation of middle age group in JFM being more is that it is good for their livelihood promotion as well as due the fact that most of them participate as leaders in civil society organizations such as Young Mizo

Association (YMA), Mizo Hmeichhe Insuihkhawm Pawl (MHIP), village council etc. They thus have more awareness on JFM programme as compared to other age groups. In most cases the youth did not answer the questions asked by the researcher. The middle age group were more interested since they have better knowledge about the JFM programme.

With regard to marital status, more than three-fourth (89%) of the respondents were married while only 11 percent of the respondents were unmarried. The data reveals that married persons were more responsible for livelihood activities in order to lead the family.

Education is an important variable in order to assess the knowledge on any aspect. The educational status of the respondents are divided into six groups namely: Illiterate, Primary, Middle, High school, higher secondary and Post graduate. More than half of (56%) of the respondents belonged to middle school education and the illiterate accounted for 2 percent of the total respondents with 2 illiterate at Tuirial and nil in Sairang. There were no graduate persons among the respondents.

Table 1. Demographic Profile of the Respondents

Sl.No	Characteristics	Village		Total
		Sairang	Tuirial	
		n=50	n= 50	N=100
I	**Gender**			
	Male	35	33	68
		70.0%	66.0%	68.0%
	Female	15	17	32
		30.0%	34.0%	32.0%
II	**Age**			
	18 -29 years	9	2	11
	(Youth)	18.0%	4.0%	11.0%
	29 -40 Years	14	18	32
	(Adults)	28.0%	36.0%	32.0%
	40 - 60 Years	21	19	40
	(Middle Age)	42.0%	38.0%	40.0%
	60 and above	6	11	17
	(Old Age)	12.0%	22.0%	17.0%
	Mean ±Std.dev	**45.83±15.56**		
III	**Marital Status**			
	Married	41	48	89
		82.0%	96.0%	89.0%

	Unmarried	9	2	11
		18.0%	4.0%	11.0%
IV	**Education**			
	Primary	7	16	23
		14.0%	32.0%	23.0%
	Middle	30	26	56
		60.0%	52.0%	56.0%
	HSLC	6	4	10
		12.0%	8.0%	10.0%
	HSSLC	3	2	5
		6.0%	4.0%	5.0%
	Post-Graduate	4	0	4
		8.0%	0.0%	4.0%
	Illiterate	0	2	2
		0.0%	4.0%	2.0%
V	**Occupation**			
	Labour	24	30	54
		48.0%	60.0%	54.0%
	Farmer	11	4	15
		22.0%	8.0%	15.0%
	Gov't Servant	1	1	2
		2.0%	2.0%	2.0%
	Self employed	11	15	26
		22.0%	30.0%	26.0%
	Teacher	3	0	3
		6.0%	0.0%	3.0%
VI	**Income**			
	Rs. 20,000 - 50,000	2	9	11
		4.0%	18.0%	11.0%
	Rs.50,000 - 1,50,000	40	23	63
		80.0%	46.0%	63.0%
	1,50,000 -3,00,000	6	12	18
		12.0%	24.0%	18.0%
	3,00,000 -4,00,000	0	3	3
		0.0%	6.0%	3.0%
	4,00,000 and Above	2	3	5
		4.0%	6.0%	5.0%

Source*: Primary data.*

From the table, we come to know that persons with middle school education constitute the largest percentage. Moreover, most of the local community members engaged in JFM programme because they were mostly confined to labour work activities whereas JFM provides employment opportunities through entry point activities (EPA).

The occupational structure of the respondents is categorized into Labourer, Farmer, Government Servant, Self-employed and Teacher. Among the respondents more than half (54%) of them were labourers in which 24 respondents (48%) belong to Sairang and 30 respondents (60%) belong to Tuirial. Less than one fifth (15%) of the total respondents were in the category of farmers out of which 11 respondents (22%) belong to Sairang and 4 respondents (8%) belong to Tuirial. More than one fourth (26%) of the respondents were self-employed out of which 11 respondents (22%) were from Sairang and 15 respondents (30%) from Tuirial. The remaining were government servants and teachers.

The table shows that majority are labourers by occupation the reason being that they engage more in JFM through entry point activities (EPA) as labour work force such as clearing land and planting trees and also, they are more participative compared to other occupant groups. The JFM programme is basically labour work in nature and significantly helps to contribute towards this. Government servants account for the lowest segment with only 2 percent of the respondents since they are busy with their service/ official duties and have less time to participate effectively in forest management.

The annual income of the respondents is divided into five groups as follows: Rs. 20,000 - Rs. 50,000, Rs. 50,000- Rs. 1,50,000, Rs. 1,50,000 - 3,00,000, Rs. 3,00,000 - Rs. 4,00,000 and Rs. 4,00,000 and above. Among the respondents almost two third (63%) of them belong to the income range of Rs. 50,000 - Rs. 1, 50,000 of which more than three fourth (80%) belonged to Sairang whereas more than one third (40%) belonged to Tuirial village. Only 5 percent of the respondents' income range was 4 lakhs and above.

From the data analysis we come to understand that the income range of the respondents between Rs. 50,000 - 1, 50,000 is the majority in both the villages. In this income group most of them are labourers, who are engaged in other types of labour work apart from the labour employment generated through JFM programme. Whereas the income ranging in between Rs 3,00,000 - Rs 4,00,000 is less in percentage because the local community members in this income group are either self-employed in fisheries, gardening, commissioning sand, businesses etc. or government servants who do not participate satisfactorily as compared to other income groups since they engage in other type of work and have

a better income for livelihood/primary income than just depending on labour employment generated through entry point activities under JFM programme.

Table 2 indicates that the livelihood of families improved due to implementation of JFM. About half of the respondents (46%) said that livelihood of thwir family did not improve due to implementation of JFM representing 46 percent of both the villages. More than one fourth (30%) of the respondents said that livelihood of their family improved due to implementation of JFM in which more than one third (44%) of respondents belonged to Sairang and less than one fifth (16%) belonged to Tuirial village.

Table 2. Livelihood of family improved due to implementation of JFM by Village

Family improved	Village		Total
	Sairang	Tuirial	
Yes	22 44.00%	8 16.00%	30 30.00%
No	23 46.00%	23 46.00%	46 46.00%
Don't Know	5 10.00%	19 38.00%	24 24.00%
Total	50 100.00%	50 100.00%	100 100.00%

Source: *Primary data.*

Almost a quarter (24%) of the respondents said they did not know if the livelihood of their family improved due to implementation of JFM. By analyzing the data we come to know that majority of the respondents reveal that livelihood of the family did not improve due to implementation of JFM, and also that the livelihood of the family improved due to implementation of JFM in Sairang more than Tuirial.

Table 3 shows reasons for successful implementation of JFM by local community members. The table depicts Sairang only excluding Tuirial because the former is located outside reserved forests area whereas the latter is located within the reserved forest area.

Table 3 Reasons for successful implementation of JFM by Village

Reasons	Village	
	Sairang	Tuirial
Forest field staff were efficient in performing their duties	31 60.00%	31 31.00%
Not satisfied with the regularity of field staff	1 2.00%	1 1.00%

Don't know	18 36.00%	18 18.00%
Total	50 100.00%	100 100.00%

Source: *Primary data.*

Almost two-third of the respondents (60%) at Sairang state that forests field staff were efficient in performing their duties, whereas 2 percent proclaimed they were not satisfied with the regularity of forests field staff and less than one-fifth (18%) don't know. Thus, it is evident from the above table that the forests field staff at Sairang was efficient in performing their duties.

Table 4 EPA under JFM served as improvement for socio-economic conditions of local community members

EPA under JFM served socio-economic conditions	**Village**		**Total**
	Sairang	**Tuirial**	
Served	40 80.00%	46 92.00%	86 86.00%
Don't served	5 10.00%	2 4.00%	7 7.00%
Don't know	5 10.00%	2 4.00%	7 7.00%
Total	50 100.00%	50 100.00%	100 100.00%

Source: *Primary data.*

Table 4 reveals that Entry Point activities (EPA) served as improvement for socio-economic conditions of local community members, more than three-fourth (80%) of the community members at Sairang stated that EPA under JFM served to improve socio-economic conditions, whereas 10 percent stated that EPA under JFM did not, and 10 percent said that EPA under JFM said they did not know. Vast majority (92%) of the respondents at Tuirial stated that EPA under JFM served for improvement while 4 percent stated that EPA under JFM did not and 4 percent of the respondents did not know. Thus, the data revealed that in both the villages the entry point activities served for the improvement of socio-economic conditions of local community members.

Table 5 shows that vegetation increased after implementation of JFM, more than half (52%) of the respondents agreed that vegetation cover increased after implementation of JFM at Sairang while more than one-fourth (28%) disagreed and one-fifth (20%) said that they don't know.

Table 5. Vegetation increases after implementation of JFM by Village

Vegetation cover increased after implementation of JFM	Village		Total
	Sairang	Tuirial	
Agree	26 52.00%	6 12.00%	32 32.00%
Disagree	14 28.00%	36 72.00%	50 50.00%
Don't know	10 20.00%	8 16.00%	18 18.00%
Total	50 100.00%	50 100.00%	100 100.00%

Source: *Primary data.*

At Tuirial 12 percent of respondents agreed that vegetation cover increased after implementation of JFM while 72 percent disagreed and 16 percent don't know. The table shows that majority of the respondents disagreed that vegetation cover increased which is a clear indicator of decreased vegetation cover.

Conclusions

Joint Forest Management provides opportunities for the poor to utilize the traditional knowledge in sustainable management of forests with the help of the Forest Department and Government of India. Livelihood promotion activities will ultimately reduce pressure on forests producing an increase in forest cover in future. Livelihood promotion is fulfilling the basic human needs of providing shelter, clothing, clean water, education and health care. To achieve more progress, land has to be made productive and cattle have to be healthy. A combination of short and medium rotations and coppice system needs to be evolved for a variety of tree species being planted under JFM for faster economic gains by which productivity in the forest can be increased to meet the challenges of growing fuel wood, fodder and timber demand. Participatory forestry programmes must develop an instrument to distribute benefits down to individuals, households and targeted groups within communities to play a meaningful role in livelihood promotion activities. Moreover, we have to put governance in mission mode for a more pragmatic approach to JFM.

Awareness campaign: Awareness campaign and training programme is needed to be held regularly for more effective implementation of Joint Forest

Management in Aizawl forest division, Mizoram. Fund allocated for 'awareness and training' should be increased considerably and spent effectively to reach the primary targets.

Utilization certificate: Cultivators who cultivated within the area of JFM plantation, they usually do not receive fund for clearing, plantation and burning of cultivated land within a reasonable time. The fund allocated for this has to be utilized effectively in time without any lapse, reaching the primary target in order to produce the utilization certificate to let the cultivator receive fund within appropriate time.

JFM term needs to be made longer: Four years is too short for plantation to get matured in a plot of land where plantation is carried out. If the term of JFM can be made at least 10 years with continuous fund flow for management from the Ministry of Environment & Forests and Climate change, GoI, after plantation in an area where JFM is carried out, this will help to ensure a better result in forest management than the current four year term.

Non-timber forests products:Timber forest products needs to be encouraged but on the other hand non-timber forest products such as mango, amla, jack fruit, passion fruit, guava etc. needs to be encouraged too. They can help in forests creation as well as give economic benefits to the local community members since their products can be sold in the market.

Penalize theft practices: Penalty needs to be given against any person involved in theft practices of trees and bamboos whether it be a forest official or local community member, and rewards be given to the committed officials as well as community members. This can help to ensure a better JFM in Aizawl Forest Division, Mizoram.

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