



PEOPLE'S PARTICIPATION IN PARTICIPATORY FOREST MANAGEMENT IN THE SAL FORESTS OF BANGLADESH: AN EXPLORATIVE STUDY

Panchanon Kumar Dhali¹, Jurgen Pretzsch², Klaus Romisch³,
Abdus Subhan Mollick¹

Abstract

Forest resources in Bangladesh have been continuously depleting in terms of both area and quality. Traditional forest management practices have failed to improve the situation. As a result, Participatory Forest Management (PFM) has been proved as a successful strategy to solve the problem. Most of the studies on PFM in Bangladesh have tried to measure the physical targets of participatory forestry. However, the nature and extent of people's participation in participatory forest management have been rarely investigated. This study examined the level and extent of people's participation in participatory forest management in the Sal forest of Bangladesh. In this study, six PFM groups (three most benefited and three least benefited groups) were selected from the study area. Both qualitative and quantitative methods particularly questionnaire survey, key informant interview, group discussion and observation were employed to collect the data. Analysis of data revealed that PFM activities in the study area were very much centralized. Planning and decision-making activities were almost fully centralized, whereas implementation activities were to some extent decentralized to PFM groups. PFM participants in the study area have considerable involvement in implementation and benefit sharing of PFM activities. PFM participants involve themselves in activities like planting, tending, thinning and protection of plantations and in sharing benefits obtained from the felling of such plantations. However, PFM participants have little or no involvement in the planning and decision making of PFM activities. This study provides the basis for understanding of local people's involvement in PFM activities in Bangladesh.

Keywords: forests, forest management, participation, Bangladesh.

¹ Forestry and Wood Technology Discipline, Khulna University, Khulna-9208, Bangladesh

² Institute of International Forestry and Forest Products, Dresden University of Technology, Germany.

³ Institute of Forest Growth and Forest Computer Science, Dresden University of Technology, Germany.

1. Introduction

The total forest area of Bangladesh is 2.56 million hectares, which is 17.8% of the total land area of the country (Government of Bangladesh 1993). The plain land Sal (*Shorea robusta*) forest covers about 0.12 million ha of land, which is about 7.8% of the total forest area of the country (Alam et al. 2010). The Sal forests are located mostly in patches in the greater district of Dhaka, Mymensingh, Comilla, Tangail, Rajshahi, Rangpur and Dinajpur. This is the only forest type in Bangladesh that is available to the majority of the population. Owing to such factors as over exploitation, conversion of forestland into agriculture, fire and grazing, the productivity of the forest has been reduced to an alarmingly low level (Rahman et al. 2010). Most part of the Sal forests are now shrub lands with only 25% tree cover (Davidson 2000). The estimated area under encroachment was 37,574 ha and the number of encroachers were about 88,000 (Chowdhury 1994). Some estimates revealed that 65% of the Sal forest area is either highly degraded or encroached upon (Ganii et al. 1990).

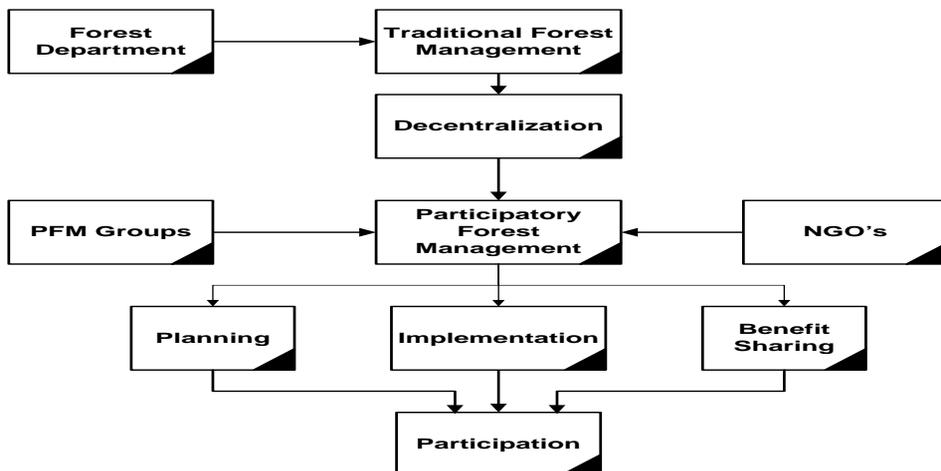
Many analysts argue that there is a limited scope and low possibility to increase and develop these forests under traditional forest management by the government. The forest department (FD) with their paramilitary orientation had been trying to police their territories from local people with an uncompromising zeal. In the process, there has been a prodigious growth of conflict between the government and local communities. The forest department has consistently blamed population increase and local people for the destruction of forests. The failure of state efforts in forest conservation and regeneration and the widening mistrust between state foresters and local people directed the government to think about alternative measures for the development of forestry in Bangladesh. Accordingly, the Government designed a new framework called "Participatory Forestry" and proposed the involvement of local people in the forest policy of Bangladesh. Since the early 1980s, Bangladesh forestry has witnessed the vigorous march of participatory forestry program to make room for wider participatory environment for people and government officials within which to cooperate in meeting the needs of local people. The Government had invited local people to participate in planning, implementing, managing and benefit sharing of forest resources under the participatory forest management program. Subsequently, the Forest Act of 1927 has been amended in 2000 to support and encourage participatory activities in the country. Enactment of the Forest Amendment Act 2000 established social forestry as a function of the forest department in accordance with the National Forest Policy 1994 (BFD 2013).

Participatory forest management (PFM) is a well-known government derived program not only in Bangladesh, but also in most of the developing countries, owing to its nature of involving local people in regeneration,

protection and benefit sharing of forest resources (Zaman et al. 2011). This study assesses the level of participation of the local people in regeneration, protection and benefit sharing of forest resources. Most of the studies on participatory forest management in Bangladesh have tried to measure the physical targets of participatory forestry. There were no significant studies conducted in Bangladesh highlighting the concept of people's participation. The objective of the study is to examine the level of people's participation in participatory forest management in the Sal forest of Bangladesh. In this regard, the study addressed how and to what extent participants were involved in the planning, implementation and benefit sharing of participatory forest management activities.

Participation is a complex issue and the interplay of various actors and factors are involved in ensuring its application properly. The research questions for this study are aimed to map the extent and level of participation in participatory forest management. In discussing this, Ribot's (2004) discussion on decentralization has been made use of. Theorists, practitioners and advocates believe that decentralization can lead to a number of positive outcomes. These include democratization and participation, rural development, public service performance, poverty alleviation, relief of fiscal crisis, political and macro-economic stability and national unity and state building. Most of the local benefits from decentralization are believed to come from increased popular participation, which, in turn, leads to increases in democracy, efficiency and equity. Like decentralization advocates, natural resource management theorists and practitioners also emphasize the need for local participation as a means for increasing management effectiveness and equity (Ribot 2004).

Figure 1. Scheme of Participatory Forest Management (PFM) in Bangladesh



From this theoretical framework of decentralization, the study analyzes the extent of participation as an outcome of a decentralized forest management particularly participatory forest management in Bangladesh (Figure 1).

Decentralization is usually defined as any act by which central government formally cedes powers to actors and institutions at lower levels in a political administrative and territorial hierarchy (Mawhood 1983; Smith 1985). Environmentalists, natural resource managers, and development agents are also promoting decentralization as a way of increasing both efficiency and equity in natural resource management (Ribot 2002). More recently, natural resource decentralization is being promoted as a means for giving substance to political rights (Anderson 2002; Kaimowitz & Ribot 2002).

“Participation” in its simplest of meanings implies people taking part, sharing, or acting together. For most of the time, people have been participating in the development of their own cultures through the sharing of tasks and responsibilities in their own small communities. The participation of local communities can range from local people providing labour for a project, to the involvement of local people in major decisions about a project. The World Bank (1996) defines the concept of participation as a process through which stakeholder’s influence and share control over development initiatives, decisions, and resources that affect them. According to the definition of the United Nations (1975), people’s participation entails three interrelated but distinct processes: (1) the involvement of the people in decision-making, (2) the eliciting of their contribution to development programs, and (3) their participation in sharing the benefits from the development process.

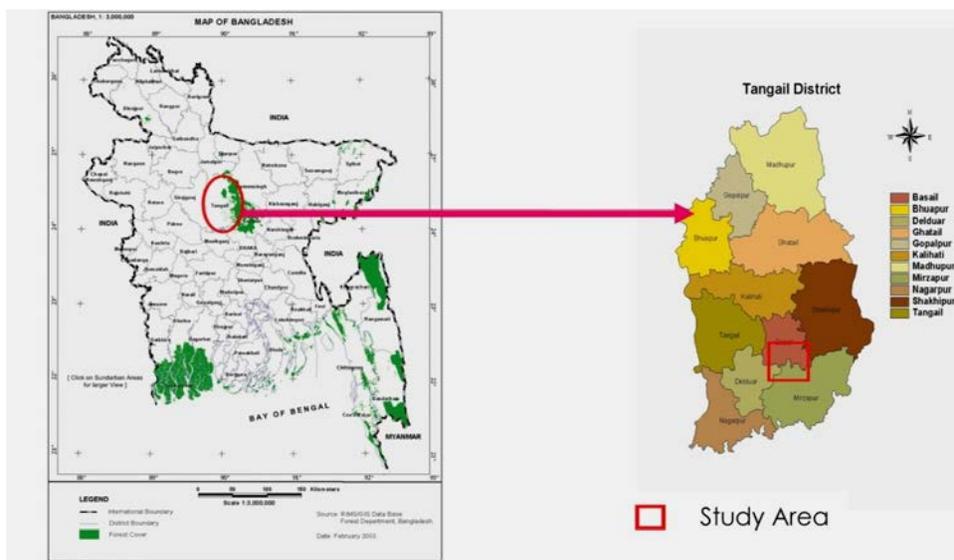
In this study United Nations (1975) definition on people’s participation has been taken as a guiding definition. Participation has been taken as an end as well as means as described by Oakley and Marsden (1984). It is understood as a process of empowerment. Using Uphoff’s (1991) classification of participation, the focus of this study has been on the following stages of participation: (1) in decision-making, (2) implementation of the participatory forestry activities (3) participation in social and economic benefit sharing.

2. Methodology

2.1. Study Area

The study was carried out in Tangail Forest division (Figure 2) of Bangladesh Forest Department. It is situated in the central part of Bangladesh around 150 kilometers away from the capital Dhaka.

Figure 2. Map Showing Study Area



It covers the whole of Tangail District and comprises 8 forest ranges. Participatory forest management activities in the Tangail forest division include woodlot plantation, agro forestry plantation and participatory Sal coppice management.

2.2. Selection of Representative Participatory Forest Management Groups

Representative groups (most benefited group and least benefited group) were selected for the study. The Forest department (FD) in consultation with the NGO associated with the plantation forms participatory forest management (PFM) groups. PFM groups are normally formed with the participants from the same plantation area. The size of the PFM group is not defined; it varies in the study area from as low as 10 to as high as 150 participating families.

The criteria used to select representative groups were “benefits obtained from the first rotation PFM plantations” i.e. groups that got higher amount of money are considered most benefited groups and groups that got lower amount of money are considered least benefited groups. As the group size was relatively small, three most benefited groups and three least benefited groups were selected for data collection.

2.3. Data Collection

Prior to data collection about the two representative PFM groups a reconnaissance survey was carried out in the study area to facilitate data

collection. The questionnaire was pretested in the field and discussions were held with PFM groups to provide them information about the purpose of the study.

Primary data were also collected by conducting the interviews. A total of 15 key informants (5 from each) from Forest department, participating non government organizations and PFM groups were interviewed. In-depth interviews were carried out to get a clearer and better overview of the research problem. Both qualitative and quantitative data from the participants were collected by using a questionnaire.

In this study, a manageable sample size, which might be treated as “good enough” was targeted. But, as the study is an explorative study and the time allocated for the field study was limited, the sample size was curtailed. All together 50 participants responded to the questionnaire. Out of these 50 participants 25 were selected randomly from the three selected most benefited PFM groups and the other 25 were selected randomly from the three selected least benefited PFM groups. The selected participants were then interviewed. Group discussions with members of the six selected participatory forest management groups were conducted in order to get the group's views about benefit sharing agreement, species selection, group activities, management decisions, protection of plantation, training and other relevant issues. Participants included in the group discussion were from both the executive committee as well as general members. They were not chosen through rigorous sampling. However, the purpose of the discussion was to explore rather than to explain or describe any definite issue.

2.4. Data Analysis

All the data collected from the field were coded and entered in to a SPSS data sheet. The entire dataset was then reviewed carefully. Reviewing was done for outliers, incorrect values and missing values. The collected data was analyzed by using the same software. Numerical data was analyzed through descriptive statistics like mean, frequency and percentage; and results were presented in charts, figures and tables.

3. Results

3.1. General Attributes of the Respondents

3.1.1. Age and sex

Among the 50 respondents, 22 i.e. 44% were in the age class of 40-49. Some 38% of the respondents were in the age class 50-59. Only a limited percentage of the respondents were in the age class 60-69 and 70-75, 12% and 6% respectively. The youngest and oldest respondents were of 40 years and 75 years old respectively. There were only 5 female respondents which

constitutes 10% of the respondents. In general, female representation in PFM in the study area is very low.

3.1.2. Income and Occupation

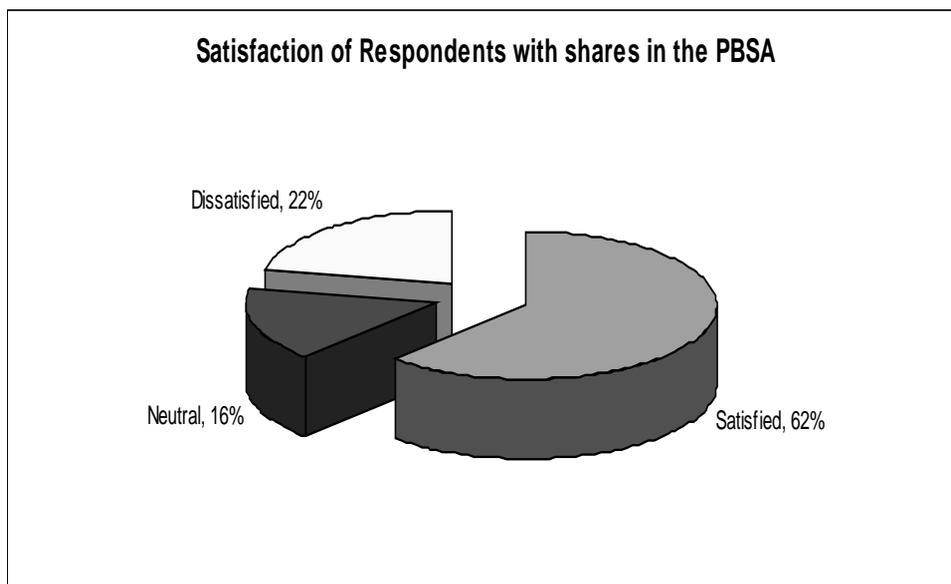
Almost 92% respondents replied that they had a source of income other than forestry. While 8% respondents had only forestry as their income source, all of these respondents were women. Income sources other than forestry constitute sharecropping, day labour, small business, farming on own land and cattle raising. In the study area, it was found that agriculture was the main occupation for every household but household members undertook other activities in addition to agriculture. Out of the 50 respondents interviewed, about 76% had agriculture as their occupation. Small business, housewife (only for female participants) and day labour constituted the rest.

3.2. *Extent of Participation in Participatory Forest Management*

3.2.1. Benefit Sharing of PFM Activities

According to the social forestry rules 2004, PFM participants get 45% of the benefits from the second thinning and final harvest. As all the 50 respondents had their shares of benefit from the first rotation, they were asked about their satisfaction with the share given in the Participatory Benefit Sharing Agreement (PBSA). The following pie chart (Figure 3) represents the reaction of the respondents regarding the PBSA.

Figure 3. Satisfaction of Respondents with Shares in the PBSA

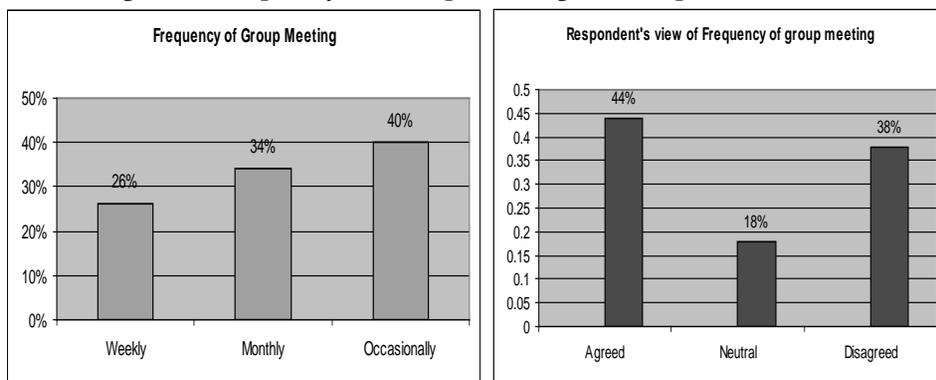


As the pie chart shows, 62% of the respondents were satisfied with their shares given in the PBSA. Some 22% respondents expressed their dissatisfaction with the shares given in the PBSA, while 16% remained neutral in expressing their opinion. All the respondents who were dissatisfied with their shares considered the present share as inadequate and feel that it should be increased.

3.2.2. Group Activities

Group meeting is a very important way of keeping the group active and taking collective actions. 26% of respondents replied that they met weekly to discuss different issues concerning group activities, while 34% of respondent said that they met monthly to discuss group issues, and 40% of respondents said that they met only occasionally (Figure 4).

Figure 4. Frequency of Group Meeting and Respondent's View



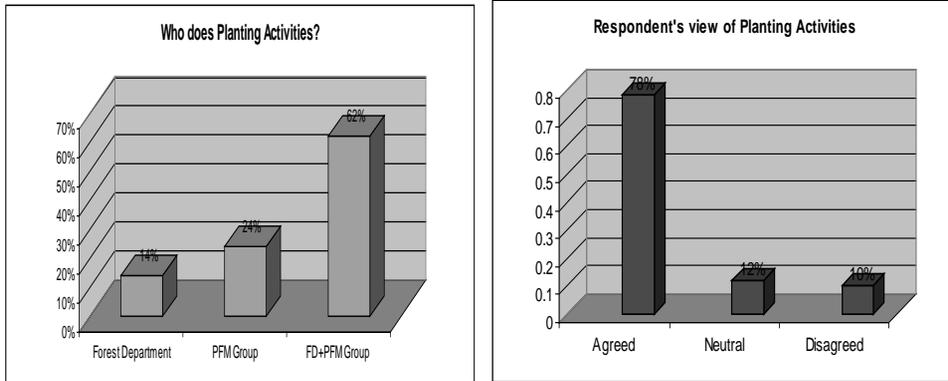
When respondents were asked to express their opinions on the frequency of group meetings, 44% of the respondents agreed with the frequency at which they were meeting, but 38% of respondents did not agree with the frequency at which they were meeting and 18% of respondents remained neutral. 74% of respondents commented that they could express their opinion in the group meeting against 26% of respondents who felt they could not do that. A majority of the respondents (72%) thought there were no irregularities in the group activities versus 28% of respondents who thought that there were some irregularities (Figure 4). A major irregularity pointed out by the respondents was that the group leader and influential members always took decisions.

3.2.3. Establishment and Management of Plantation

Establishment of plantation includes planting activities, tending operations and thinning operations. Management of plantation includes such

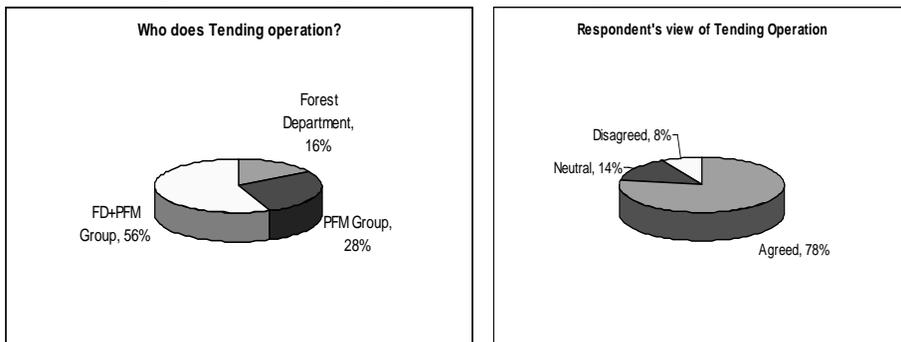
decisions like thinning regime, final harvesting and preparation of participatory forest management plans. To assess the extent of participation in establishment and management of plantations, the involvement of PFM participants in the above-mentioned activities were examined.

Figure 5. Planting Activities and Respondent's View



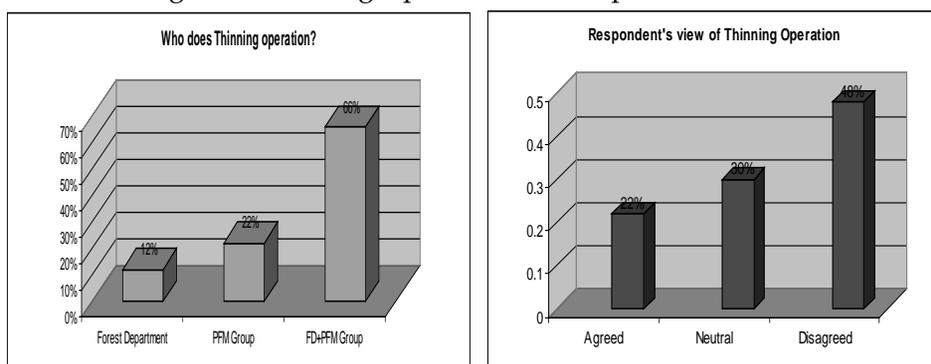
This study suggests that in most of the cases plantations are established by the FD with the help of PFM groups. FD provides saplings, fertilizer and other material support and PFM participants provide labor to establish plantation. As figure 5 shows, 62% of respondents replied that both FD and PFM groups jointly established plantations, while 24% of respondents said that they establish their plantations on their own and 14% of respondents recounted that FD established their plantations. When respondents were asked to rate planting activities, a majority of them (78%) agreed with the current practices while 10% of respondents did not approve it. As little as 12% of respondents remained neutral in expressing their opinion.

Figure 6. Tending Operation and Respondent's View



In the case of tending operation (Figure 6), more than half of the respondents (56%) indicated that both FD and PFM groups jointly carried out tending operations. FD provides fertilizer and other materials required for tending and PFM group provides labour to complete the operation. 28% of respondents noted that FD did not support them in tending their plantation, thus they had to do it by themselves. While 16% of respondents indicated that FD alone tended their plantations. When respondents are asked to rate the current tending activities, a majority (78%) agreed with the current practice against only 8% of respondents who did not agree. Some 14% of respondents remained neutral in expressing their opinion regarding tending operation.

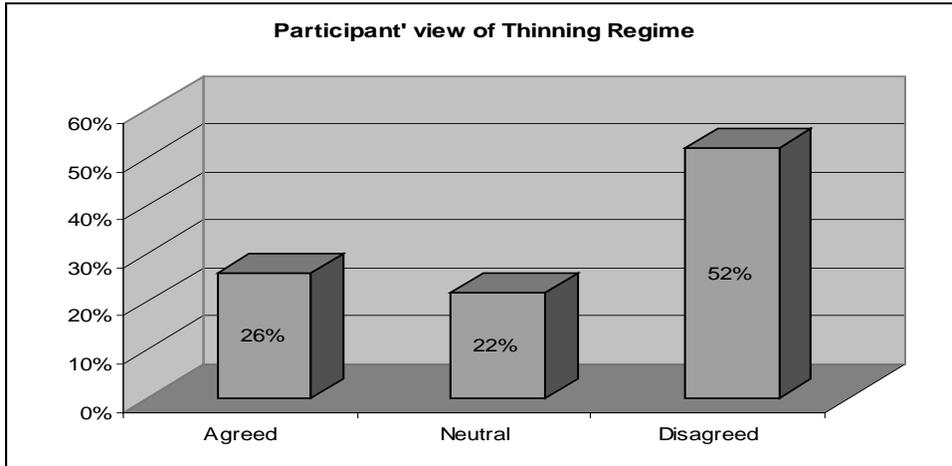
Figure 7. Thinning Operation and Respondent's View



Thinning operation is very important for the proper growth and diameter increment of trees planted in woodlots and agro forestry because initially saplings are planted with 2m X 2m spacing. This study revealed that 66% respondents did thinning operation in their plantations with the help of FD staff. About 22% respondents did thinning in their plantation by themselves. While 12% respondents claimed that FD staff did the thinning. In expressing their opinion regarding thinning operation, almost half of the respondents do not agree with the current practice of thinning operation against 22% respondents seem agreed. Almost one third of the respondents (30%) remain neutral in expressing their views regarding thinning (Figure 7).

In the case of woodlot and agro forestry plantations, FD proposes two thinnings. The first thinning would be carried out in the fourth year and the second would be in the seventh year. It is worthy to mention here that the decision on thinning regime is taken by the FD alone. PFM groups were not asked to express their opinion in this regard.

Figure 8. Respondent's View of Thinning Regime



This study suggested that slightly more than half of the respondents (52%) did not agree with FD's decision of carrying out two thinning in years four and seven respectively. Some 26% respondents however agreed with FD's decision on thinning regime and about 22% remained neutral (Figure 8).

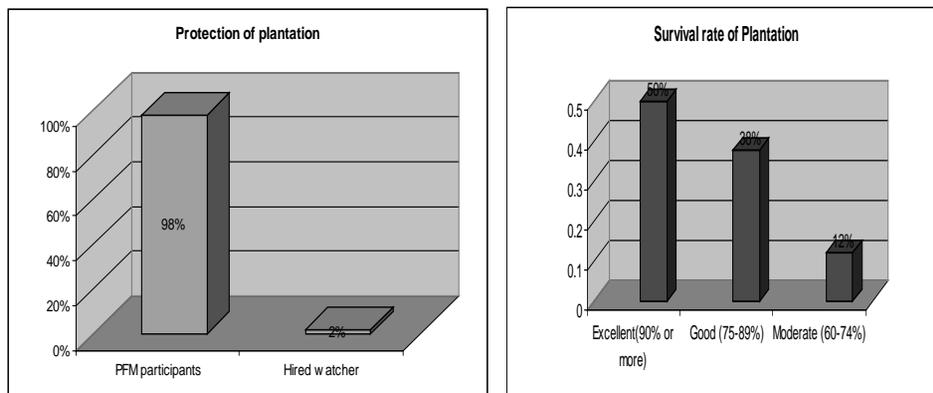
PFM groups have a better involvement in the establishment of plantations. Major tasks of plantation establishment like planting, tending operation and thinning operation are carried out either solely by the PFM groups or jointly with the FD. PFM groups however have a poor contribution in the management of plantations. Decisions on thinning regime, rotation of plantation and preparation of participatory forest management plan are taken by the FD. More than half of the respondents interviewed did not agree with the FD's decision to carry out two thinning operations in the fourth and seventh year of woodlot and agro forestry plantations. Most of the respondents, however, agreed with the 10-year rotation for woodlot and agro forestry plantation fixed by the FD. One of the most frustrating facts is that more than half of the participants did not know that there was a participatory management plan for their plantations. Most of the participants were neutral in expressing their opinion regarding the plan. They simply did not have enough technical knowledge to prepare a management plan. This study reveals that the capacity building of the PFM groups, which is a very first step for the success of participatory forestry, is lacking.

3.2.4. Protection of Plantation

Protection of plantation raised is a very important task in Bangladesh. The concept of participatory forest management originates primarily because of the failure of FD to protect their plantations by forest guards and other

staff. Field study suggests that in almost all the cases (98%) PFM participants protected their plantations on their own.

Figure 9. Protection and Survival Rate of Plantation



The survival percentage of the young plantation showed that the PFM participants were capable of protecting their plantations against biotic and other interferences. 50% of the plantations visited during the field survey had a survival percentage of more than 90%, which is considered excellent for this study. Another 38% of plantations had a survival percentage of 75-89%. Only 12% plantations had a moderate survival percentage (Figure 9).

3.3. Comparative Analysis between PFM Groups

3.3.1. Benefit Sharing of PFM Activities

To study the difference in benefit sharing of PFM activities, responses of respondents about their satisfaction with the present benefit sharing arrangement of most benefited and least benefited groups were compared. The chi square test of significance shows that the difference in responses between the groups was not significant.

Table 1. Chi Square Test Results of Benefit Sharing.

Type of Group	Satisfied	Neutral	Dissatisfied	Pearson χ^2 value	Significance level
	Frequencies				
Most Benefited	17	4	4	1.1	0.574 Not Significant
Least Benefited	14	4	7		

The table 1 shows that the present benefit sharing arrangement (FD 45%, participants 45% and TFF 10%) seems to be acceptable to both the most benefited and the least benefited PFM groups.

3.3.2. Group Activities

FD selects PFM participants for both most benefited and least benefited group. So there is no relevance of comparing participant selection process between the groups. Other activities like selection of participants for training, selection of group leader and other portfolios, frequency of group meeting and record keeping of group activities are compared between most benefited and least benefited group (Table 2). The chi square test of significance shows that there is no significance difference in participant selection for training between groups. However, there is significant difference between groups in selection of group leader and other portfolio, frequency of group meeting and record keeping of group activities.

Table 2. Chi Square Test Results of Group Activities

Activities	Type of Group	FD	PFM Group	FD + PFM Group	Pearson χ^2 value	Significance level
		Frequencies				
Selection of participants for training	Most Benefited	16	1	8	2.9	0.228 Not Significant
	Least Benefited	21	1	3		
Selection of Group Leader and other portfolios	Most Benefited	9	5	11	10.0	0.006 Significant
	Least Benefited	20	2	3		
Record Keeping of Group Activities	Most Benefited	3	12	10	56.8	0.000 Significant
Frequency of group meeting	Most Benefited	13	12	0	35.9	0.000 Significant
	Least Benefited	0	5	20		
	Least Benefited	15	4	6		

The significance difference between the groups in the selection of group leaders and other portfolios mean that the practice of democracy in most benefited groups is better than that of least benefited groups. In other words, FD's interference in selection of group leaders and other portfolios is less in most benefited groups and it is the opposite in case of least benefited groups. The significance difference between groups in record keeping of group activities mean that most benefited groups are more capable of keeping group records than least benefited group. While the significance difference in frequency of group meetings means that group meeting are regular in most benefited groups. Whereas in case of least benefited groups, group meetings are mostly irregular.

Respondent's view about the above-mentioned group activities are also compared between groups (Table 3). The chi square test suggests that there is significant difference in participants view between groups in group activities like selection of group leader and other portfolio and frequency of group meeting. The difference in respondent's view about group activities like selection of participants for training and record keeping is not significant.

Table 3. Chi Square Test Results of Respondent's View of Group Activities.

Participant's view of Activities	Type of Group	Agreed	Neutral	Disagreed	Pearson χ^2 value	Significance level
		Frequencies				
Selection of participants for training	Most Benefited	19	3	3	2.3	0.323 Not Significant
	Least Benefited	14	5	6		
Selection of Group Leader and other portfolios	Most Benefited	14	6	5	6.8	0.034 Significant
	Least Benefited	6	6	13		
Frequency of Group Meeting	Most Benefited	18	2	5	16.0	0.000 Significant
	Least Benefited	4	7	14		
Record Keeping of Group Activities	Most Benefited	14	8	3	4.4	0.110 Not Significant
	Least Benefited	7	11	7		

The significance difference in participants view about selection of group leaders and other portfolios and frequency of group meeting mean that in both cases most benefited group members mostly agree with the current practice while least benefited group members mostly disagree with the current practice.

This study reveals that the plantations raised by the most benefited groups have a better survival percentage than that of the least benefited groups. This seems to be because of the better group activities in the most benefited groups. This helps them to protect their plantation more efficiently against biotic and other interferences than the least benefited groups.

4. Discussions

The history of forestry in Bangladesh revealed that people's participation in decision-making and development activities even in a limited way were frustrated by excessive central and local bureaucratic control (Jashimuddin & Inoue 2012). In the absence of viable institutions, the implementation of participatory forestry has become bureaucracy dependent for both planning and implementation (Zaman et al. 2011). Moreover, bureaucratic interference sometimes hampers the natural growth of rural institutions i.e. PFM groups. In this study area, it was found that the organizational culture of the FD was to be rigid and highly hierarchical. There was a lack of mutual trust between and across levels in the organization. Guidelines about various initiatives of PFM issued from headquarters were very strict and leave little scope for discretion on the part of field personnel. Moreover, there was a lack of awareness of project goals among field personnel. Communication is unidirectional, from the top down; and there is a punitive orientation on the part of the management towards the personnel.

FD staffs in the study areas are not able to play their role effectively in the formation and functioning of PFM groups. Group formation is the base of practicing democracy as well as people's participation. However, most of the FD staff's attitude directs them as less responsive to the demand of the participants. The ultimate outcome of this is to manage community groupings in a top-down fashion and it may provide limited opportunities for participatory learning and decision-making. The mechanisms for building up communication between the forest department and local communities were ineffective. Participants, for example, had very poorly attended group meetings. The FD staff could hardly communicate with PFM groups.

This study suggested that signing of the participatory benefit sharing agreements (PBSA) between the forest department and the participating beneficiaries took a long time to be finalized. In the study area, it was found that even after 5 years of plantation establishments PBSA are not yet completed and handed over to the participants. This delay in signing PBSA is

affecting the implementation of PFM activities as it increases uncertainty among participants.

This study revealed that, women were suspicious and shy of field staff and their role in meetings resulting in passive discussions. Involvement of women in development activities are encouraged by the government and donors. It is argued that almost 50% of the population is women and real development of the society particularly in the rural area cannot really be made without their participation. In the project paper it was said that women and the disadvantaged class of the population would get special attention in this project. It was the responsibility of the FD to ensure that the women could participate easily and freely in the project. In the study area women were mostly ignored. Their participation was limited. Very few women participated in discussion in the project meetings. Attitude of FD staffs is the main cause of the lack of participation of the women in PFM activities. They maintained less contact with the women in the study areas and they were less responsive to the needs of the women. Moreover, local elites also were not so interested in their participation. However, women's participation should encourage in participatory forest management activities for its sustainable development (Kobbail 2012).

NGOs are incorporated in the SF project mainly to ensure people's participation. Several NGOs are working in the study areas. They are entitled to get financial and technical support from the state so that they can participate effectively in the implementation of PFM activities. The successful functioning of the project depends to a large extent on NGOs involvement and their performance (Safa 2007). It was assumed that the organizational cultures of government institutions are usually portrayed as being aloof from the people, as well as being rigid etc. Such culture has isolated them from the grassroots level of society. NGOs will work to fill the gap. They will become extension agents and able to mobilize extension workers on a much larger scale than government organizations. In the study area the extent and nature of NGO involvement in PFM activities have fallen far short of the expected level. NGO involvement in mobilization, group formation, training and provision of support services (e.g. health, education and micro credit) was very limited.

A key element for the success of participatory forestry is trust and confidence towards local capacity and ability, as expressed by higher authorities. This important notion of "trust" is fundamental (Davidson 2003). In the study area, it can be said that PFM participants have trust in persons, but not in institutions. Different institutions like FD, Union Parishad etc are responsible to carry out government programs to the people. For the successful running of those programs, institutional trust of the local people is very important. If there is dominance of personal trust over institutional trust,

then it will affect the functioning of that program. In case of PFM, participants' lack of trust in the institutions directs them to focus on personal trust. Such personal trust is derived from personal relationships and it will contribute to ensuring people's participation in the PFM activities. Institutions like FD and Union Parishad almost failed to play their role in ensuring the participation of the beneficiaries.

Significant interest has been generated among community people to participate in the PFM activities after observing the benefits accruing from the first rotation plantations. One important limitation of FD is its inability to involve all potential households as participants. As in the case of Tangail forest division, total forest area of the division is around 50,000 ha. Whereas total number of households in the division is 726,561, with a average household size of 4.4 (BBS 2001). In PFM activities FD provides one ha of forest land to each participant. Therefore, FD can only involve about 7% of all households, at a maximum in PFM activities in Tangail forest division. However, the number of potential households to be accepted as participants in PFM activities will be around 75% of the total households; thus there will be always non cooperation from the participants who are willing to participate but cannot be included in the PFM activities.

To be able to participate effectively in any program capacity building of the participating community is a very important. Capacity building is a long process and usually takes long time. This also holds true in case of PFM activities in Bangladesh. In the concept of PFM there is an option to develop participatory forest management plans for the management of the forest. This study reveals that few of the PFM participants are familiar with the term, nor do they have enough skill to prepare the management plan. To be able to do that, their capacity must be improved. This can be done by different trainings and workshops. But so far no such initiatives have been taken by FD. A similar study conducted by Salam and Noguchi (2006) reported that the overall capacity of the participants has not been developed to the desired level by the project implementers.

5. Conclusions

To sum it up it can be concluded that PFM activities in the study area are still very much centralized. Planning and decision-making activities are almost fully centralized whereas implementation activities are to some extent decentralized to PFM groups. PFM participants in the study area have good involvement in implementation and benefit sharing of PFM activities. PFM participants involve themselves in activities like planting, tending, thinning and protection of plantations and also in sharing benefits obtained from the felling of such plantations. However, PFM participants have little or no involvement in the planning and decision making of PFM activities. FD

dominates the decision making of activities like participant selection for training, species selection for PFM activities, selection of group leaders and other portfolios. Moreover, decisions like participant selection for PFM activities, thinning regime, final harvesting of plantations and preparation of participatory forest management plan are made only by FD.

Acknowledgement

This study was supported by German Academic Exchange Service (DAAD), Bonn Germany to conduct the study. We are also grateful to field staffs of local forest department for providing assistance during field survey.

References

- Alam, M., Furukawa, Y. and Harada, K. 2010. "Agroforestry as a Sustainable Landuse Option in Degraded Tropical Forests: A Study from Bangladesh". *Environ Dev Sustain* 12: 147-158.
- Anderson, J. 2002. *Nature, Wealth, and Power: Emerging Best Practice for Revitalizing Rural Africa*. Washington, D.C.: United States Agency for International Development.
- Bangladesh Bureau of Statistics (BBS). 2001. *Statistical Year Book of Bangladesh*. Ministry of Planning, Dhaka.
- BFD (Bangladesh Forest Department). 2013. Forest Department official website. <http://www.bforest.gov.bd/> (Accessed on July 18, 2013).
- Chowdhury, B. 1994. Forestry Sub-Sector, UNDP Bangladesh Agricultural Sector Review, BGD/87/023, Dhaka. pp. 5-27.
- Davidson, J. 2000. *Social Forestry in Bangladesh and Social Forestry Research at the Bangladesh Forest Research Institute*. Consultancy Report. Chittagong: ARMP, Bangladesh Forest Research Institute.
- Davidson, J. 2003. *Social Forestry in Bangladesh and Social Forestry Research at the Bangladesh Forest Research Institute, (Preliminary Draft) Final Report, Submitted Under the Technical Assistance Component Agricultural Research Management Project IDA Credit No. 2815-BD, Chittagong, Bangladesh*.
- Ganii, Q., Alim, A. and Stevens, P.R. 1990. *Rehabilitation and Land-use Planning of Sal Forests*. FAO/UNDP, Project BGD/85/085. Working Paper No. 39. Dhaka, Bangladesh. Part II, pp. 3-98.
- Government of Bangladesh. 1993. *Environmental Improvement Through Afforestation*, Ministry of Environment and Forest, Dhaka.
- Jashimuddin, M. and Inoue, M. 2012. "Community Forestry for Sustainable Forest Management: Experiences from Bangladesh and Policy Recommendations". *FORMATH* 11: 133-166.

- Kaimowitz, D. and Ribot, J.C. 2002. "Services and Infrastructure versus Natural Resource Management: Building a Base for Democratic Decentralization." Paper presented at WRI's Conference on Decentralization and the Environment, Bellagio, Italy, February 18-22.
- Kobbail, A.A.R. 2012. "Local People Attitudes Towards Community Forestry Practices: A Case Study of Kosti Province-Central Sudan". *International Journal of Forestry Research* Article ID 6526, 7 pages.
- Mawhood, P. 1983. *Local Government in the Third World. The Experience of Tropical Africa*. Chichester, John Wiley.
- Oakley, P. and Marsden, D. 1984. *Approaches to Participation in Rural Development*. International Labor Office, Geneva.
- Rahman, M.M., Rahman, M.M., Guogang, Z. and Islam, K.S. 2010. A Review of the Present Threats to Tropical Moist Desiduous Sal (*Shorea robusta*) Forest Ecosystem of Central Bangladesh. *Tropical Conservation Science* 3(1): 90-102.
- Ribot, J.C. 2002. *Democratic Decentralization of Natural Resources: Institutionalizing Popular Participation*. World Resource Institute, Washington, D.C.
- Ribot, J.C. 2004. *Waiting for Democracy - The Politics of Choice in Natural Resources Decentralization*. World Resource Institute (WRI), Washington DC.
- Safa, M.S. 2007. "The Role of NGOs in Improving Social Forestry Practice: Do They Promote Livelihood, Sustainability and Optimal Landuse in Bangladesh?" *Small-scale Forest Economics, Management and Policy* 3 (2): 223-238.
- Salam, M.A. and Noguchi, T. 2006. "Evaluating Capacity Development for Participatory Forest Management in Bangladesh's Sal Forests Based on '4Rs' Stakeholder Analysis." *Forest Policy and Economics* 8: 785-796.
- Smith, B.C. 1985. *Decentralization: The Territorial Dimension of the State*. London: George Allen.
- United Nations. 1975. *Popular Participation in Decision Making for Development*. UN Department for Economic and Social Affairs, New York.
- Uphoff, N. 1991. "Fitting Projects to People". In M. M. Cernea (Ed.), *Putting People First: Sociological Variables in Rural Development*. New York: Oxford University Press.
- World Bank. 1996. *The World Bank Participation Sourcebook*. World Bank, Washington, D.C.
- Zaman, S., Siddiquee, S.U., Faruq, M.A.A., Pramanik, M.R. and Katoh, M. 2011. "Reckoning Participatory Forest Management in Bangladesh: Study from Its Implementation Perspective". *Journal of Agricultural Science* 3(3): 233-239.