

Role of Gender in Community Forest Management: The Case of Humbo District Community Based Forest Management Project, Wolaita Zone, Snnpr, Ethiopia

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Abstract

Over the last few decades Community-based forest management has become increasingly popular in many developing countries including Ethiopia in response to the continued depletion of forest resources due to the non-participatory and inequitable property right arrangements in the traditional forest management systems. However, empirical evidences on aspects of gender roles specially, women's participation in the new approach is scarce. The current study was conducted at Humbo community forest management project in Wolaita zone of Southern Ethiopia with the aim to investigate the role and implications of gender for sustainable forest management in context of CFM. Accordingly, three out of seven CFM co-operatives were purposively selected for the study. This was followed by a stratified random sampling of 150 households (113 male and 37 female) based on gender. Important research data were collected through household survey, key informant interviews and focus group discussions. The data analysis was carried out by using descriptive statistics and econometric analysis. Results of the study showed that the participation of female headed household particularly in higher level decision making and forest protection activities was very low compared to the males. In contrast, results on division of labor among household members revealed that females were the primary collectors of NTFPs mainly for household consumption. Analysis of major demographic and socio economic variables influencing participation in CFM activities showed that gender (being male), wealth (richer), age (older) and education (literate) user group members have higher access to participate at decision making level. The study revealed that gender differences along with other socio economic disparities do affect the participation of households in forest management activities and decision making. While the heavily forest dependent poorer and female headed households are merely involved in labor and time consuming forestry activities such as planting and NTFPs collection, the richer and male-headed households have taken most of the decision making posts. The study suggests that improving the participation and role of female headed households in higher level forest management activities of the project should be given consideration.

Keywords: Community Forestry, Forest based product, Division of Labor, Gender

1. INTRODUCTION

Forests are one of the most important natural resources on earth providing a wide range of economic and environmental benefits to mankind. The most commonly recognized values of forest resources can be generally grouped into direct use values (production and consumption) and indirect use values (ecological functions and environmental protection and regulation services) (Constanz et al., 1997). Despite their immense economic and environmental benefits however, forests are being depleted at an alarming rate especially in developing countries like Ethiopia (FAO, 2006).

One of the major causes for the continued depletion and degradation of forest resources is related to the inefficient and non-participatory nature of the classical forest management systems that are characterized by loosely defined and unequal property relations (Gobeze et al., 2009). This is because the sustainable management of forest resources particularly those under communal property rights is significantly affected by the nature of the group that manages and uses it (family size, gender, and wealth differentiation...); and institutional arrangements put in place (Agrawal, 2001).

The principle of promoting the balanced involvement of both male and women groups in the forest management decision making lies on the premise that since women are equally (if not more) responsible for most of the forestry activities, improving their role and benefiting could lead to a more sustainable management of forest resources ((FAO, 2007; Baland et al., 2010; Tachibana et al., 2001). However, women are often excluded from participation including in CFM systems. The main reason for this exclusion is attributable to the rules set up to govern the community forests, social barriers stemming from cultural constructions of gender roles, responsibilities and expected behavior; and male bias in the perception of those promoting community forestry (Agarwal, 2001; Godbole, 2002). FAO (2007), stated that gender disaggregated data showing the level of participation, contribution and benefiting of women in the forestry sector in general and at Humbo CFM in particular is scarce.

Therefore, prime aim of this study was to investigate gender role in community forest management: specifically it aimed to assess the level of participation of men and women in community forest management

activities, to identify important demographic and socio-economic variables affecting the participation of community members in collective forest management, and to examine division labor in community forest management activities across household member. In this paper the researcher seek to provide answers to the following question: is there a difference between men's and women's participation in community forest management activities, what demographic and socio-economic variables affect the participation of community members in the CFM activities?, is there any labor division based on gender related to participation in community forest management activity?

2. STUDY SITE, DATA COLLECTION, SAMPLING AND ANALYSIS METHODS

This study was undertaken in in Humbo district, Wolaita zone, Southern Nations Nationalities and Peoples Region (SNNPR), South Western Ethiopia. Both primary and secondary data were used for this study. The primary data collection started with a preliminary survey followed by a key informant interview, focus group discussions, and household survey with questionnaires.

Primary data collected from household include; demographic and socio-economic characteristics, level of both male and female participation in CFM activities, socioeconomic factors related to participation, labor division in community forest management activity across household members. The structured questionnaires were prepared for the household survey based on the information elicited through key informant interviews, focus group discussions. Then it was pre tested by six households in each co-operative. Two stage sampling technique was employed to select household. In the first stage three co-operative (Abela-longena, Bolla wanche, Bossa wanche) were selected purposively out of the seven local level co-operative by virtue of the representativeness of gender.

In the second stage the household within the selected cooperative were stratified in to two groups based on sex (male and female) in order to create opportunity of entering female user group in to sample.

Finally, 150 households (113 male and 37 female) were randomly selected from the total of 2,378 households found in the three co-operatives and then the sample was distributed proportionally across the selected cooperatives and sample households were selected using simple random sampling. Both qualitative and quantitative data collected was first carefully checked for existence of incomplete questionnaire and possible no responses, then analyzed by using relevant descriptive statistics.

3. RESULTS AND DISCUSSION

3.1. Characteristics of sampled households

The respondents of this study include either male or female from the households which mostly involve in the CFM activities. Among the respondents 75.3% are male and 24.7% are female. This implies that majority of the CFUG are male member. The average household size was 5.4 in the study area with minimum 2 and maximum 10. The result of F-test reveals that the existence of statistically significant difference ($P=0.006$) in family size among the sampled male and female headed household. In contrary to the researcher's assumption, household family size was significantly higher in female headed households than male headed household.

3.2. Gender issues in community forest management activities participation

3.2.1. Protection

Protection is one of community forest management activity in which the user groups are being involved. About 91.7% of male and only 8.3% of female were participating in forest protection according to the schedule of community forest protection period of time. This indicates the lower participation of female in protection, even in this 8% they may not directly participated, meaning their adult son is allowed to participate in such activity instead of his mother. The analyzed chi square also shows the existence of statistically significant difference ($P=0.000$) via sex of household. This is in line with the result found by Jeffery *et al.*, (1998), who conclude that women do not go to the forest for protection work as the forest patch is somewhat distant and women feel it is unsafe to go alone. Similarly, Agarwal (2001) also observed that male guard is usual whereas female guards were rare, and only a small percentage of patrols had both sex and women alone.

3.2.2. Meeting

Meeting is another community based forest management activity at the study area. Out of total respondents 92% of male headed household reported that as they regularly attend meetings while the small proportion for female headed households is only 8%. In this case participation statistically different ($p=0.000$) via sex (Table 2). This may indicate that even if the responsibility in community forest management for both sexes is equal due to various reason female headed household is very low in participation of meeting related to forest management.

The result is in agreement with Godbole (2012); Plaza-Moralde (2007), they suggested that in many communities due to their culture women are not allowed to sit on the same stages as men and they are expected not to speak in front of men. The result may therefore show an important implication for the equitability of CFM as the likelihood of the concerns of women group who are more dependent on forest for their livelihood being

raised and addressed is reduced.

Table 1: Gender group distribution in CFM activities (frequency by %)

CFM activities	Proportion of respondents participating in CFM activities					χ^2
	Male (n=113)		Female (n=37)		Total (%)	
	No	%	No	%		
Protection	99	91.7	9	8.3	100	55***
Meeting	80	92	7	8	100	31***
Planting	74	67.3	36	32.7	100	14***
Regeneration	62	64.6	34	35.4	100	17***
CFUGI	67	91.8	6	8.2	100	21***

3.2.3. Planting

Better proportion of respondents that constitute 67% of male and 33% of female responded as they have participated in planting tree. Moreover, there is significant variation in participation in tree planting ($p=0.000$) among the sex of household head. Still participation of male is higher compared to female, but female participation is somehow better as compared to other activities. This includes nursery preparation as a tree planting activity. Similarly, Sarkar (2011), reported that women participation is considered as wage labor in forest department in tree planting activity of forest management in India.

3.2.4. Regeneration

Out of 100% participated household in regeneration activity majority, 65% were males and 35% were females (table 2). Likewise in tree planting activity though the difference in their participation is significant ($p=0.000$) among sex of household head. This can suggested majority of the respondents have high participation in this activity. This result is similar with Plaza Moralde (2007), who observed that men respondents have high participation in all phases of activities pertaining to the Mangrove rehabilitation project whereas; female headed household have high participation in mangrove regeneration activities.

3.2.5. Community forest user group identification (CFUGI)

CFUGI is one of decision making place of forest management process. About 91.8% of male and only 8.2% of female were involved in it (Table 2). As indicated the participation of female is very low, even in this 8% of female may not directly participated, meaning their adult son is allowed to participate in such activity instead of his mother. Moreover the statistical result also shows that the existence of significant variation ($p=0.000$) via sex of the household head. This implies that women are almost neglected from the decision making place of CFM and most of forest management decisions are dominantly done by male. From this result we can conclude that more dependent and knowledgeable groups of the community are excluded from the system. Similar study was conducted by Leone (2013), at Nepal confirmed that women are often neglected from the decision making process that sets out the rules to access and collect forest products within a community forest.

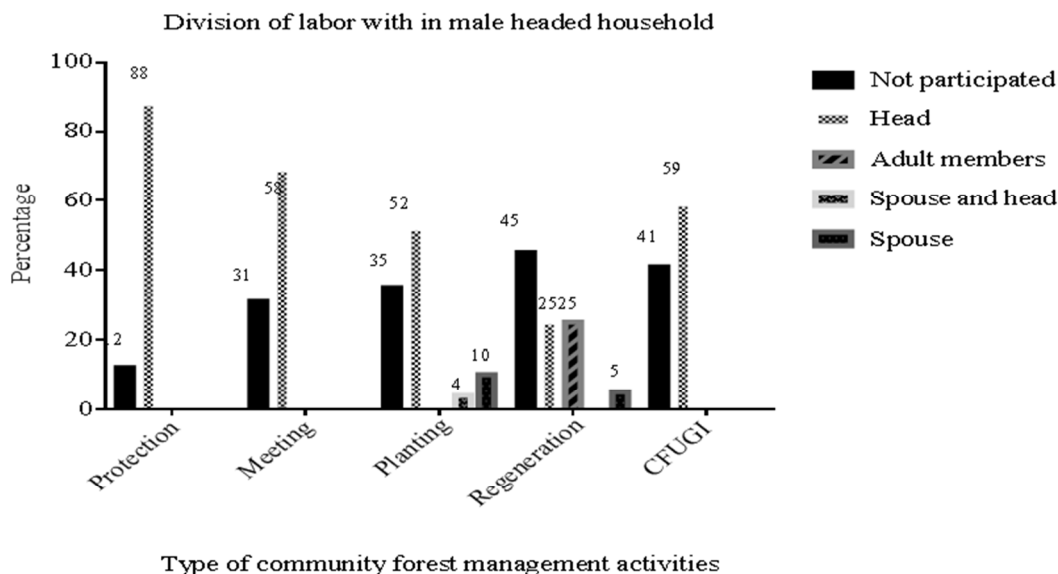
3.3. Division of labor in male headed household

In community forest management there were different activities conducted among the household members and their participation was different from one activity to the other. Accordingly, 88% of the head of the household were participated in forest protection and the few number, 12% were not participated either of spouse or adult members of the male headed household (Figure 1). Similarly, 59% of head of the male headed household were participated in the CFUGI and 41% were not participated either of spouse or adult members of the male headed household. On the other hand, about 58% of the head of the household were participated on the activities of meeting followed by 31% of household member were not participated and the remaining 11% of both spouse and head were participated from the male headed households of the CFM member. Regards to planting activities, 52% of head ho were participated, 34% of household member were not participated, 10% were participated from spouse and the remaining 3% and 1% were participated from head and spouse and from the adult members of the male headed household respectively. Contrary to the other activities majority, 45% of the members of the male headed household were not participated in regeneration activity and this followed with the equal number, 25% of the head of the household and adult members of the male headed household were participated in the activity.

In general about 88%, 69%, 58%, 52%, and 25% of the head of the male headed household were participated in protection, CFUGI, meeting, and planting and regeneration activities respectively (Figure 1). This indicates that almost all of the activity in the CFM is dominated by the head of the household rather than other members of the household (i.e. spouse and adult members), since the rules and regulations of CFM supports

them as a member of the household.

This indicates that women are excluded from the decision making activities of forest management since they were not involved in the different activities of the CFM.



Type of community forest management activities

Figure 1: Distribution of household member in CFM under male headed household

3.4. Division of labor in CFM under Female headed household

In CFM of the study area the member of household members were allowed to participate in the different activities. Accordingly, 97% of the members of female headed household members were participated in planting activities. Of this 51% of the head of the household were directly participated and followed by 46% of adult male members of the household. Regeneration is the second top activities following planting by which 92% of the female headed households were participated. From this 51% were participated from adult members of the household followed by 22% of the head and 19% of the adult male were participated in regeneration activities. The third activities are protection in which only 24% of the members of the female headed household were participated in the forest protection. The probable reason for the low level of female headed household in the forest protection activity is may be due to she may have not adult son. However, she is not enforced to participate in protection more-off if she haven't adult son she is expected to participate in the alternative activities. This is because she fears and the culture of the community also doesn't encourage her to participate in such risk activity due to her sex.

Regards to the meeting activities only, 19% of the members of the female headed household were participated. Here only 8% of the head of the household and 11% of the adult male participated in the activities. The last activities in the community forest management on which few numbers of female headed household were participated is CFUGI. Accordingly, only 16% of the members of female headed household were participated with only adult male members of the household.

Generally, majority of the head and female headed household members were participated in planting and regeneration activities. This could be due to their task is not difficult like as the other activities and culturally they were also more expected as they are knowledgeable to carry out this activities than the other activities undertaken within the CFM. Contrary to this the less number participation of the head of the female headed household in the majority of decision making activities in CFM probably due to, in fact female is double burdened to carry out both devalued indoor and outdoor activities particularly in female headed household and they may have no adult son members of the household.

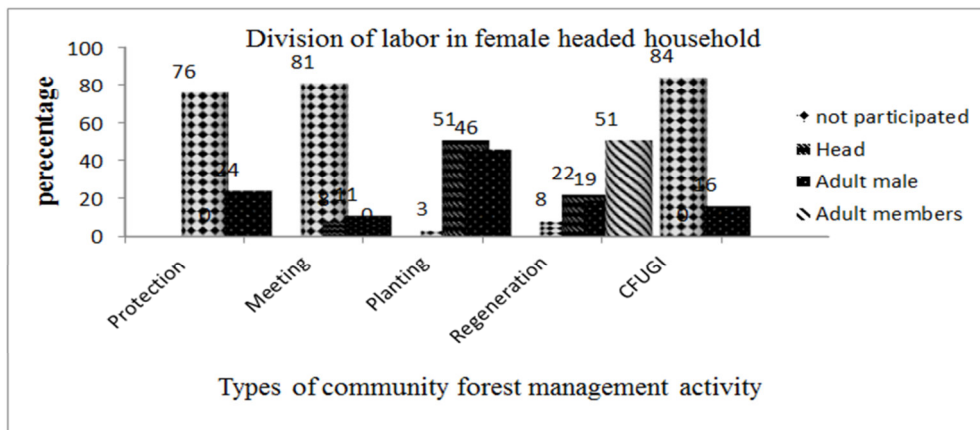


Figure 2 Distribution of household member in CFM under female headed household

3.5. Labor division for forest product harvesting

3.5.1. Fuel wood collection

The community forest management institution of the area allows none timber forest product to be collected free of cost as one intermediary benefit to villagers under Joint forest management. Most of the products extracted from community forest are for consumption purpose and also they are more of less valued product due to the existing product harvesting rules. In this CF, two kinds of firewood produced from the forest, one from management regime (i.e thinning and pruning) and another from dried standing tree. The collected fuel wood in this case is mostly for household consumption, according to labor allocation based on higher proportion, 75% of women followed by 15% of men were involving in fuel wood collection (Fig. 3).

Similarly, Agarwal (2009); Godbole (2012); and Sarkar (2011) Mugittu (2001), reported that women are the primary collectors of non-woody product from the forest particularly, fuel wood for household consumption.

3.5.2. Pole or construction material

Of total participated household member 100% were male members, while none of females were involved in this activity (Fig. 1). Study conducted by Agarwal (2009), in parts of India and Nepal showed that men's dependence is typically for products such as pole which are needed occasionally and can also be purchased. Generally, pole is kind of woody product which is dominantly harvested by male member of household in the study area.

3.5.3. Fodder extraction

Fodder is also another free of cost resource to be used by the community from the CF. It is the most frequently extracted product similar to fuel wood (Fig. 3) and mainly harvested by women (59%). The reason might be as result of the excited culture in the area less valued forest products are extracted by female that is why their involvement is higher relative to other. The result is fairly comparable with finding by Okunade and Yekinni (2007), who concluded that 68% of women collect fodder for animal use. Similarly, Agarwal (2009) ; Sarkar (2011), who suggested that forest products such as, fodder fall mainly in women's domain also have a shorter gestation period and greater potential for extraction than timber which falls mainly in men's domain.

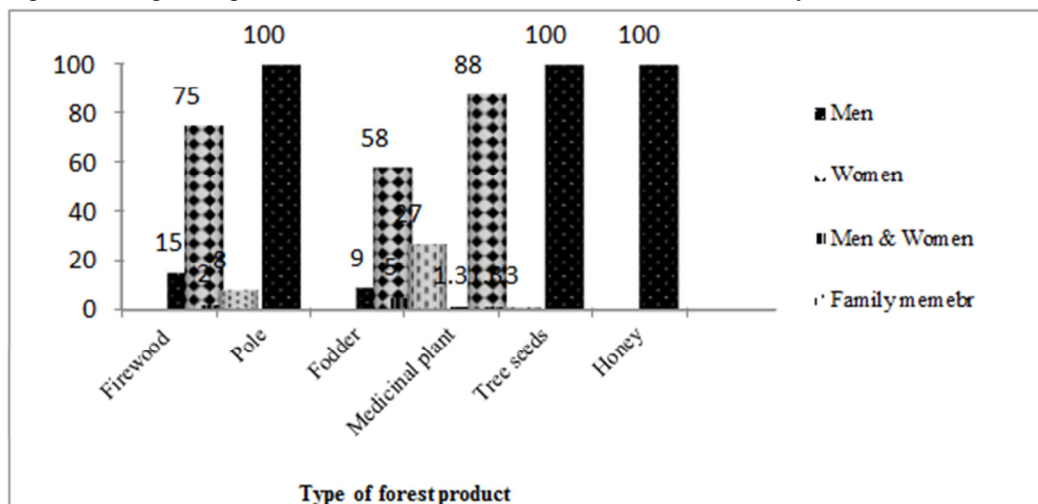


Figure 3: Division of labor with in household member for forest product collection

3.5.4. Medicinal plant harvesting

Harvesting forest plant for medicinal purpose is another benefit that the communities gain from the community forest management for free of cost. In this regards 88% of women and only 1.3% of male in the household were more involved in the harvesting activities of medicinal plant (Fig. 3). This finding is in agreement with Manfre and Rubin (2012), who describe that women's priorities for forest use are often considered to stem from their household responsibilities, such as collecting firewood for cooking or forest plants for medicinal use.

3.5.5. Tree seeds harvesting

Tree seeds are also another benefit type used by the community for cost free which more or less high valued product as compared to other product type, due to these 100% of male were gathered seed with none of female were involving (Fig.3). Godbole (2012), found opposite result to present finding and who was reported that women are the key gatherers of NTFPs including tree seeds.

3.5.6. Forest honey

Forest honey at the study site is higher valued forest product relatively the overall 100% honey production were dominantly performed by the male member of the household with none of females were involving (Fig. 3). These implies that regarding with forest product extraction women are engaged in less valued forest product, that is why women involvement in low valued product is higher than that of higher valued product. This observation is in agreement with the study conducted by Mugittu (2001), who reported that honey is liked a lot but it's only men who can harvest it due to several reasons including lack of courage and skills among women. Also FAO (1992), reported that honey production from the forest tend to be more the role of men than women.

3.6. Cross tabulations of socio-economic characteristics of respondents related to their participation

3.6.1 Education

Education is linked positively; meaning as the respondents become educated then their participation in most of CFM activity will become better compared to contrary part. The result is in agreement with Serah-Wambui (2002), and Plaza-Moralde (2007), reported that the higher the educational level of the respondents then higher is their level of participation in most of forest management activities.

3.6.2 Age of respondents

Concerns to age category the chi-square analyzed indicate the existence of significant variation in participation of respondents with different age category in different collective forest management activities except in forest protection and meeting. So that the younger respondents (20-30 years) were the least interested in being involved in different forest management (i.e. meeting, protection, regeneration, planting, and CFUGI) compared to those of 31-50 years and above 50 years. These finding is in line with Serah- Wambui (2002), concluded that the younger respondents were the least interested in being participated in CFM activity specifically in decision making of forest management.

3.6.3. Wealth status

Regards to wealth category, the rich members of the CFM were more interested in participation in the decisional activities than the managerial activities in comparison to the poor who are more interested in participation of managerial activity. The relation is statistically significant except in protection of forest. Similarly, Adhikari (2002) reported that meeting and the decision-making process is the activities which are largely dominated by socially and economically privileged sections of the community.

3.6.4. Extension service

Higher proportion participants were observed from the household who get the extension service in most of CFM activities compared to opposite group (who didn't get extension service) or respondents who get extension service will increasingly participated in community forest management relative to other group. This can implies that access to extension service on household participation in CFM activities is positive meaning as they get extension service then their participation also become well.

Table 2: Relative frequency (respondents by %) of other socio-economic variables in CFM

variables	Community forest management activities					Average
	Protection	Meeting	Planting	Regeneration	CFUGI	
Educational status						
Illiterate (n=49)	21.3	18.7	28.2	24.0	6.8	19.8
Elementary (n=67)	50.9	50.6	43.6	47.9	47.9	48.18
High school (n=30)	24.1	26.4	24.6	24.0	39.7	27.70
Graduated (n=4)	3.7	4.6	3.6	4.1	5.5	4.3
χ^2	23 (0.000)	16(0.003)	10(0.044)	14(0.008)	61(0.000)	
Age category						
20-30 (n= 16)	13	13.8	13.6	11.5	16.5	13.68
31-50 (n=89)	61.1	57.5	70	74	63	65.12
>50 (n=45)	25.9	28.7	16.4	14.6	20.5	21.22
χ^2	(NS)	(NS)	37(0.000)	31(0.000)	9(0.011)	
Wealth						
Poor (n=97)	63.9	57.5	70.9	76.0	49.3	63.6
Medium (n=38)	28.7	26.4	21.8	24.0	32.9	26.76
Rich (n=15)	7.4	16.1	7.3	0.0	17.8	9.72
χ^2	4(NS)	9(0.009)	8(0.023)	32(0.000)	17(0.000)	
Extension service						
Yes (n=100)	75.0	79.3	70.9	75.0	89.0	77.84
No (n=50)	25.0	20.7	29.1	25.0	11.0	22.16
χ^2	12(0.001)	15(0.000)	4(0.046)	8(0.004)	32(0.000)	

Source household survey, 2014

Not: NS is not significant

Conclusion

This study has revealed that the participation of forest user group member households in the Humbo CFM activities and decision making is significantly affected by some key demographic, socio-economic and gender related characteristics of the households. It appears that households with female heads, in relatively poor economic status, with little or no education but better access to extension service are involved in routinely time taking and laborious activities such as planting and collecting NTFPs. In contrast, households with male heads, with better wealth status and better education levels are involved in higher level decision makings and public meetings on CFM. The vivid differentiation in the roles of male and female headed households in forestry activities and decision making may likely be due to the influence of gender-based social and cultural biases in allocation of responsibilities in the collective forest management process.

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