Factors Affecting Local People Participation in Forest Managed for Carbon Sequestration: The Case of Mount Damota, Southern Ethiopia

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Abstract
The main purpose of this study is to examine factors affecting local people participation in forest managed for carbon sequestration in the case of Mount Damta of Southern Ethiopia.The data were collected through document analysis, field observation, focus group discussions, key informant interview and by surveying 146 randomly selected households. The collected data were analyzed by using descriptive statistic, participation index and binary logistic regression. The study indicated that the level of participation of the local people was low in terms of attending the selected activities of the four stages of the forest management.However,majority of respondents participated in implementation phase activities.The level of participation of the local people was found being determined byage, sex, family size;training and education positively while land holding size, wealth, a distance from the forest and membership in executive committee negatively.Therefore, further efforts have to be made to enable the local people active participants in all processes of the forest management project.
Keywords: Forest Management, Local People Participation, Mount Damota

INTRODUCTION

Even though there is no unanimity between empirical information on forest coverage of Ethiopia, it was known for continuous decline. The main reasons for such forest dwindling were associated with the fragmented approaches which lacked systematic coordination between different actors, unsustainable utilization, growing pressure to agricultural expansion, unfavorable policies of the prevailing government and low attention to the protection of local people (Abayneh *et al*., 2004). Currently, following the policy of the government, participatory approaches are being practiced to address the problems of deforestation withthe participation of the local people in different parts of Ethiopia (Terefe, 2003).

Thus, as one of the signatories for Kyoto protocol in 2005 and responsive to climate change challenges, Ethiopia has launched climate change resilience green economy strategyseeking to realize clean development mechanism (EPA, 2012). The Kyoto protocol was emerged in 1997(UNFCCC, 2008) which allows industrialized countries to meet greenhouse gases reduction by supporting initiatives in developing countries that contributes to lower carbon dioxide. Thepractical commitments to the initiatives include afforestation and reforestation activities both require the human conversion of land from non-forest uses to forest in the host country (Povtal *et.al*., 2006).

In this regard, the launching of Humbo and Sodo communitiesassisted natural regeneration working under clean development mechanism is remarkable Ethiopia's typical role played in promoting afforestation and reforestation projects (CBO, 2007). The project is said to be unique in its nature compared to other participatory forest management in Ethiopia due to its focuses on improving social welfare and clean development mechanism whereby carbon sequestered by forests can be traded via the World Bank carbon trading scheme (WVE, 2010).

Despite their positive roles in improving the biophysical and socio-economic situations, the participatory forest management efforts are being reported and criticized for focusing on conservation of forests overlooking the traditional use right of the local people. The critiques also include moving responsibility without putting appropriate organizational setting in place. For these reasons, the forests remained in a state of deforestation and the national policies were found little exercised on the ground (Mulugeta and Melaku , 2008; Yemiru , 2011).

Moreover, the implementations of some community based forest managements are found being constrained by social, institutional and economic related factors. The constraints include level of education, awareness of the people about problems coming from forest destruction, the dependency of the societies on natural resources and poverty. The situation is aggravated by lack of strong community based organization and low level of livelihood diversification (Terefe, 2003; Alemtsehay , 2010). Intheviewoftheaforementioned conditions, it was found very important to assess whether local people were involved in all phases of the forest management which includes problem identification, implementation, monitoring and evaluation stages. If not involved,what factors are enhancing or hindering the level of local people participation which is the focus of the study.

METHODOLOGY
Site Description
Sodo community managed forest is located at distance of 385kms South West of Addis Ababa, on the main road to Arba Minch. The project site covers 503 hectares across the highlands of Mount Damota in the Southern Ethiopia.It adjoins five kebeleswhich includes KokateMarachare, Damot Waja, DelboWegene, GurumuWoide and KunasaFulasa*kebeles*[1]in SodoZuria and Damote Gale*Woredas*[2].Geographically, the project situates within $6^0 53´00´´$N-$6^0 58´00´´$N latitude and $37^0 44´00´´$E-$37^0 48´00´´$E longitude (Figure 1). The average mean maximum and minimum temperature of the site ranges between 13^0C and 25^0C. The soils throughout the project area are of volcanic origin and are often over a sedimentary base.Though inherently well‑drained and fertile including nitosols, yermosols and eutriccambisols. The vegetation is broadly classified as 'shrub land', in 'Montane Moist' Conditions dominated by montane forests. The average population density is estimated to be 600 per km2. Population density is very high. The livelihoods of Sodo community are based on subsistent agricultural systemproducing like Irish Potato, Sweat Potato, Wheat, Barley, False banana and taro. As it is among highly populated area within the country no sufficient land.
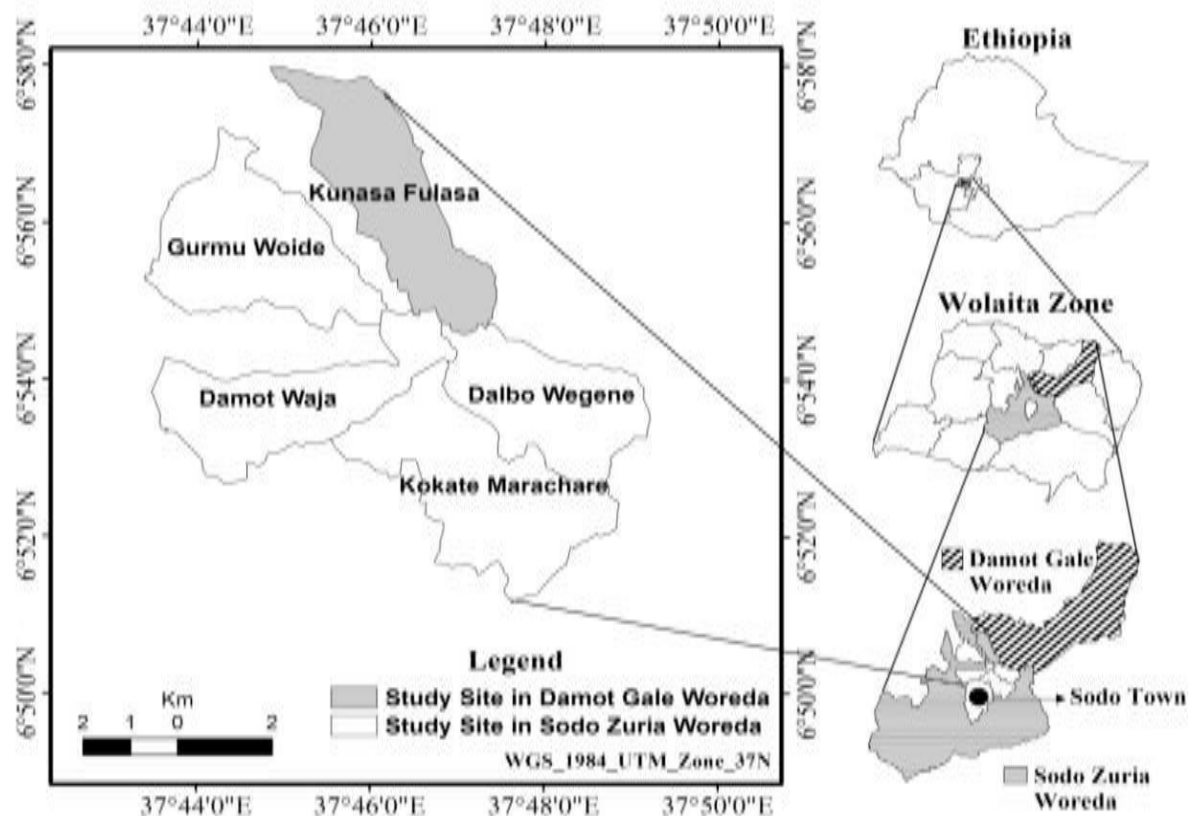

Figure 1: Administrative map of study site

Data Collection Methods
Document Analysis: The document analysis was conducted by reviewing of the available secondary data like, project documents, reports and research papers. This helped to identify the existing knowledge gap needed to be filled through research. Moreover, collection and examination of documented secondary sources of information facilitated the characterization of the participatory approach.

Observation: The field observation was made to understand the physical, social, economic, cultural and environmental conditions of the study area and the overall life style of people. During the observation informal interview was made with cooperative members, experts and managers. This method also enabled the local people to be aware of the researcher and it was used throughout the study to see if there was difference between what participants were telling and the field realities.

Focus Group Discussion: The Focus group discussions were conducted with elders, cooperative leaders' executive committee, ordinary community,and development workers, youths and women group. The discussions were guided by checklist containing leading questions.During the discussions, focuses were given to the major

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[1]Kebele is the lowest administrative unit in Ethiopia
[2]Woreda is the fourth level administrative body from top down in Ethiopia administrative system

activities accomplished in establishment of theSodo community managed forestand their roles.Moreover, attention was given to the discussionsmade with women and youth.

Key Informant Interview: Key informant interview was conducted with elders, local administrators and experts who were supposed to be knowledgeable about the locality particular those who were involved in the formation of the Sodo community managed forest. The key informants also developed wealth criteria which were used in their locality.**Household Survey:**   A household survey was used to obtain the quantitative data required to achieve this study. The survey has been conducted by usingquestionnaires administered to randomly selected cooperatives members. Before conducting household survey, questionnaire preparation and sampling size determination were made.

Data Analysis

The collected data were analyzed by using descriptive statistic, participation index and binary logistic regression.

Descriptive statistic: Descriptive statistics such as frequencies, percentages, mean, minimum and maximum were employed for summarizing the data and the results were presented using tables and figures.

Participation index: Participation index was used to measure the degree of local people's participation in the selected activities of the four stages.

Binary Logistic Regression: Even though descriptive statistic provided guidance for more advanced quantitative analyses, it was found insufficient to determine the direction and the magnitude of influence of explanatory variables on the level of participation. To address this limitation, binary logistic regression model was used.According to Tabachnick and Fidell (2007); binary logistic regression is said to be useful since it has a capacity to analyze a mix of all types of independent variables like continuous, discrete and dichotomous. Furthermore, according to Gujarati (2004), it is used to identify the determinants of dependent variable. Therefore, in estimating the binary logit model, the dependent variable was participation which took value of 1 if the household participated in forest management and 0 otherwise. The specification of the logit model is presented as:

$$p_i = \frac{e^{Z_i}}{1+e^{Z_i}} =, \quad Z_i = \beta_0 + \sum_{i=1}^{n} \beta_i x_i + e_i$$

,Where, $\mathbf{P_i}$is the probability of participation of the $\mathbf{i^{th}}$ household in the one or four stages of forest management and $\mathbf{Z_i}$is the linear combination of independent variables ($\mathbf{X_i}$) affecting participation, β_0 intercept,β_i slope parameter and the disturbance term ($\mathbf{e_i}$)

When specifying binary logistic regression, it is important to consider the probability of participants also there are non- participants in particular stage activities. Therefore, the ratio of probability of a household to participate to not participate is given by odds ratio and formulated as:

$$p_i = \frac{p_1}{1-p_1},$$ But, the probability not to participate$(1 - p_i)$ is given as: $\frac{1}{1+e^{-Z_i}}$, Then, the odds ratio can be written as: $\frac{p_1}{1-p_1} = \frac{1+e^{Z_i}}{1+e^{-Z_i}}$

Definition of Variables

A household decision on participation can be conceived of having two components: whether to participate in forest management or not. Both of these components are assumed to be influenced by a number of factors that are related to a household's characteristics. Therefore, to determine these influencing factors the following **dependent** and **independent variables** were employed. The selection of variable was done based on different literatures.

Dependent Variableis a variable that is said to be affected or explained by other variable.In this study, the dependent variable (Z_i) was operationalized as the actual involvement of the household in the four stages of the community forestry activities with dichotomous outcome treated as participating or otherwise. The four stages included were planning, implementation, monitoring and evaluation, and benefit sharing. Therefore, participation was coded as '1' if a household member participated in one of the four stages of the forest management and coded as '0' otherwise.

Independent variables (Xi) were considered as factors that influence the participation of a household in four stages forest management activities either positively (+) or negatively (-). The independent hypothesized variables were including age, family size, sex, wealth, education, land and livestock holding of the household, training, and distance from forest, benefit expected, and executive committee member. Based on review literatures, the hypothesis and brief discussions of each independent variable were given as follows

Table 1: Description of independent variables and expected signs

Variablecode	Variable description and unit of measurement	Variabletype	Expected sign
RAGE	Age of respondent (in years)	Continuous	±
RSEX	Sex (Male = 1, Female = 0)	Dummy	+
FAMSIZE	Household size (number of families)	Continuous	+
EDU	Educational level of respondents (1for formal school attendants and 0 other wise	Dummy	+
TLA	Total land area owned by a household in (ha)	Continuous	-
DSTFR	Distancefromthe forest (1=for proximate to the forest and 0= otherwise)	Dummy	-
WEALST	Wealth status (Poor = 1, Non-poor = 0)	Dummy	_
TRAIN	Participated in different training activities (Yes =1,No = 0)	Dummy	+
TLSU	Total livestock units owned by a household in TLU	Continuous	+
BECF	Benefit expected from the forest (Yes=1,No=0)	Dummy	+
ECM	Executive committee member (member=1, otherwise=0)	Dummy	±

RESULTS AND DISCUSSION

In order to gather the data from members of the five cooperatives, 146 households wereselected randomly from the total members of 1460. Out of the sampled households, 80.8% were male headed and 19.2% were female-headed. Even though there is men domination, it is possible to infer that there were efforts to involve both male and female in the forest management processes around the project area. The minimum and maximum age of the respondents was28 and 78 years with average age of 44.92. While the average family size was found being 5.32 with range of 1to 14 family members.As far as the education level of the respondents is concerned, 45.2 % of them were illiterate which means they have no formal education, 45.9 % of them can read and write and only 8.9% of the respondents were found having completed the secondary education. According to the wealth criteria set by the local key informants, in study area context there are household possessions which are used for categorization of the local dwellers as rich, medium and poor.Thus, among the interviewed participants 19.9 % were rich, 45.9 % were medium and 34.2% were poor respondents.

Factors Affecting Local People's Participation

For the achievement of this study, four stages of project including planning, implementation,monitoring and evaluation, and benefits sharing were used as frame work to assessstages at which they have participated in the execution of the different activities of the project. The concern in identifying the stage in which the local people participated was to know whether they were involved in all stages of the project or not. Out of the total informants covered in this survey, about 70.5% of the respondents participated at planning stage. Likewise, about 91.5% of them involved at implementation stage through field activities. Nevertheless, relatively small numbers of participants were involved at stages of monitoring and evaluation (15.5%), and benefit sharing (13.7%) as shown in **Table 2**. According to the result relatively majority of the respondents were involved at implementation stage of the forest management. But, this was to implement what was recommended by the field staffs and emphasis was given to the participation of the localpeople to get their labor contributions in the field activities. In the other hand, participation at implementation stage was high due to the understanding of the local people about the benefits of the rehabilitation project through awareness creation and at the same time carbon fund expectation, the daily allowance and fear of alienation as indicated by some of the respondents. Similar to this study, Kamnap (2003) found that the people participation at implementation stage being relatively high. This was due to the wage to their income and labors opportunities.

Table 2: Stages of local people participation

Stages of project planning	Frequency	Percent
Planning	103	70.5
Implementation	143	91.5
Monitoring and evaluation	23	15.8
Benefit sharing	20	13.7

Source: Household survey

Degree of Local People's Participation

The degree of local people participation was measured by computing the overall participation index of some selected activities of the four stages as indicated in **Table3**.The participation indices were calculated by computing the frequency of participants in particular an activity to the total number of respondents so asto know whether they were symbolic or actual actors in all activities of the forest management. The results showed that the degree of participation varied across the four stages of the project. Thus, their role at planning stage was low (0.290) when compared with implementation stage (0.303) which means their attendances at implementation stage activities was frequent than planning stage. This was due to the frequent visit from some responsible individuals of cooperatives and active participation of the local people in laborious field activities like planting tree.In line to this finding, Alhassan (2010) measured higher participation index at implementation stage (attending the activities). However, Seaba (2006) argued that it is not the number of attending the activities that actually reflect the extent of participation rather the role played in deciding on the activities. According to the same source, due to the meeting held inconvenient time and their passive roles like listening the issue of a meeting, degree of their participation in planning stage was found being low when compared to the implementation stage. Whereas the participation index at monitoring and evaluation (0.108) and benefit sharing stages (0.114) were very low (**Table 3**). This was the fact that many of respondents were not engaged since the activities were accomplished by the project experts with some selected elders which focused on local elites. In line to this study, Larson and Soto (2008) evaluated low level of participation due to the decentralizing of management responsibilities to the few who are loyal to the regime and considered as influential.

Table 3: Participation index of the selected activities at the four stages of the project

Stages of participation	Participation index(IP)
Planning	0.290
Implementation	0.303
Monitoring and evaluation	0.108
Benefit sharing	0.114
Overall participation index(IP)	**0.2123**

Source: Household survey

In general, the low degree of participation in the four stages of forest management persuaded to look into factors that determine the level of a household participation. Hence, some selected factors were hypothesized based on different literatures and analyzed using binary logistic regression model to determine the magnitude and direction of influence of the independent variables on the four stages of participation. In presenting the results only significant variables which were found as factors influencing a household participation are presented as below.

Planning Stage

The binary logistic regression result in **Table 4** reveals age and sex are affecting positively the participation of a household at planning stage while the land size owned by a household determine the level of participation negatively.

Table 4: Factors affecting at planning stage

Explanatory variables	Coef.	Std. E.	Sig.	Odds Ratio
RAGE	0.1678345	0.1140426	0.082*	1.182741
FARMSIZE	0.4169778	0.168188	0.754	1.517369
SEX	2.066534	0.094246	0.005***	0.1266239
EDU	0.4659105	0.8491363	0.382	1.593464
TLA	-1.388208	2.868248	0.052**	4.007662
TLSU	-0.0169195	0.2548266	0.930	0.9832228
DFTFR	0.9269204	0.7811169	0.135	2.526716
WEALST	-0.8414269	0.984542	0.393	0.431095
TRAIN	-0.5574612	0.6435349	0.620	0.5726611
BECF	0.9788343	1.301043	0.452	2.661352
ECM	0.2755928	.0.2259522	0.116	0.2755928
Constant	1.662858	1.267799	0.909	

*, ** and *** show variables significant at 10, 5 and 1% , respectivelyN= 146,
Chi^2 (11) = 27.77, P > Chi^2 = 0.0358, Pseudo R^2 = 0.2369,Log likelihood = -40.460495
Source: Household survey

Implementation Stage

Table 5 shows the binary logistic regression outcome of factors that determined a household participation at implementation stage. From the result, family size and training were found positively affecting participation. Whereas the wealth status of a household was analyzed as affecting the level of participation negative

Table 7: Factors affecting at implementation stage

Explanatory variables	Coef.	Std. E.	Sig.	Odds Ratio
RAGE	0.0389393	0.041542	0.348	1.039707
FAMSIZE	0. 1504218	0.05 1207	0. 054**	1. 27141
SEX	-0.7034505	0.7579988	0.353	0.4948748
EDU	0.4687669	0.6770591	0.489	1.598022
TLA	0.327493	0.6525698	0.616	1.387485
TLSU	0.0375534	0.2285414	0.616	1.038267
DFTFR	0.0884129	0.6424136	0.891	1.092439
WEALST	-1.0700345	0.418234	0.000***	6.921139
TRAIN	0. 6155742	0. 5364349	0. 002***	1.572661
BECF	2.558932	0.8393548	0.064	12.92201
ECM	-0.0887405	0.6945428	0.898	2.08456
Constant	1.154469	2.352612	0.624	

*, ** and *** show variables significant at 10, 5 and 1% , respectively , N= 146,

Chi^2 (11) = 32.27 P > Chi^2 = 0.0007, Pseudo R^2 = 0.24,Log likelihood = -50.70988

Source: Household survey

Monitoring and Evaluation Stage

Both distance from forest and being the executive committee member were found as factors that determine a household participation at monitoring and evaluation stage. According to the binary logistic regression result in **Table 6** distance from the residence and being executive committee member were found affecting the level of participation negatively.

Table 8: Factors affecting participation in monitoring and evaluation stage

Explanatory variables	Coef.	Std. E.	Sig.	Odds Ratio
RAGE	0.0040136	0.0351225	0.909	1.004022
FAMSIZE	0.1252298	0.1197386	0.296	1.133409
SEX	-1.163909	0.7876957	0.140	0.3122631
EDU	0.6391804	1.356755	0.638	1.894927
TLA	-0.3981887	0.544512	0.465	0.6715353
TLSU	-0.1192318	0.2051635	0.561	0.887602
DFTFR	-0. 5973799	1. 360274	0.013**	2.087527
WEALST	-2.255011	0.9095233	0.175	0.1048724
TRAIN	0.2886626	1.121364	0.797	1.334641
BECF	2.675054	0.8835753	0.536	1.642186
ECM	-2.034665	0.024946	0.003***	0. 6639122
Constant	1.383896	2.355393	0.557	

*, ** and *** show variables significant at 10, 5 and 1% , respectivelyN= 146, Chi^2 (11) = 29.99, P > Chi^2 = 0.0016, Pseudo R^2 = 0.2145,Log likelihood = -54.907805

Source: Household survey

Benefit Sharing Stage

Educational level was identified affecting the level of a household participation at benefit sharing. As hypothesized, education affected the initiation of participant to decide on being engaged in the processes of benefit sharing positively **(Table 7)**

Table 9: Factors affecting at benefit sharing stage

Explanatory variables	Coef.	Std. E.	Sig.	Odds Ratio
RAGE	-0.0239543	0.0385426	0.534	0.9763303
FAMSIZE	0.1882751	0.1379598	0.172	1.207166
SEX	-0.8790563	.8226915	0.285	0.4151745
EDU	0.9054651	0. 3984163	0.0002***	3.159464
TLA	0.4364613	0.6414657	0.496	1.547222
TLSU	-0.2360957	0.2131604	0.268	0.7897051
DFTFR	-0.3324913	0.6659412	0.618	0.7171349
WEALST	-1.877039	0.9056147	0.038	0.1530425
TRAIN	0.7335503	1.127218	0.515	2.082461
BECF	2.629403	0.8849322	0.301	1.386549
ECM	-0.6915152	0.7683362	0.368	0.5008166
Constant	1.8341	2.426365	0.450	

*, ** and *** show variables significant at 10, 5 and 1% , respectivelyN= 146,
Chi^2 (11) = 26.81, P > Chi^2 = 0.0049, Pseudo R^2 = 0.2166,Log likelihood = -48.5086
Source: Household survey

The aboveconsecutive binary logistic regression results showed some independent variables were affecting participation at different stages differently. Thus, age, sex and land at planning stage **(Table 4)**; family size, wealth and training at implementation stage **(Table 5)**; distance from the forest and being executive committee members at monitoring and evaluation stage **(Table 6)** ; and education at benefit stage **(Table 7)**. The odds ratio of the significant variables in each of the four stages was used. Therefore, interpretations and comparisons with other studies to each of the significant variable are presented as follow:

Age

Age has been found positively related at 10% significant level with participation at planning stage as shown in **Table 4**. This means that an increase in the age of household head increases the probability to participate during planning stage of the project. In other meaning, as the age of the household heads increases by one year the probability to participate at problem identification increases by a 1.18 units. The finding is similar to Maskey *et al.* (2003) which showed that that older people tended to participate more in the community forestry than younger people. This was attributed to the fact that older people were retired and had free time to participate in meeting. However, incongruent to this finding, age was observed to have a significant association with the participation level at benefit sharing stage in Alhassan (2010). In that sense the older people enjoy a great deal of authority to lead opinions and are expected to influence more decisions in higher level as powerful actors at the benefit-sharing stage compared to younger people.

Sex

The binary logistic regression result showed that difference in sex has statistically significant effect son participation of the household at planning stage of the project at 1% probability level. Thus, as presented in **Table 4**, the odds of males being participated in planning stage were 0.13 times greater than for females. This could be attributed to gender related problems that hinder women in participating and influencing forest resource management issues publicly. In line with this finding, Phiri (2009) suggested that in community based development approaches usually men dominate the discussion process of an issue. Therefore, the participation of women is found being low and management decisions can tend towards male.

Farm size

As expected, farm land owned by the household has negatively related with participation at planning stage at 5% probability level (**Table 4**). The implication of this result was that households head with larger land size have low intensity of participation in forest management activities. This could be due to the fact that the large land enabled them to have enough fodder, ground grass and other forest related benefits they could have got. Therefore, the odds ratio of farm size implied that if farm size increases by one hectare, the probability of a household to participate decreases by a factor of 4.01. The finding is consistent with (Chhetri, 2005).

Family size

Household member size has positive and statically significant effect on the initiation of participation of a household at 5% probability level as indicated in **Table 5**. This means a household with large number of family size tended to participate at implementation stage of the forest management activities. Based on the result of the odds, a unit increases in a household size would increase the interest of participation by a factor of 1.3. Thus, family size affects the decision of a participant to be engaged or not in the different stages activities of forest management.

Wealth status

Wealth has found to be negatively and significantly related at 1% significant level with participation at implementation stage as depicted in **Table 5**. The implication is that as non-poor are better in satisfying their

needs; so that it was rare for them to participate in such community based forest management that requires field task and daily labor. The odds ratio also implies that keeping other factor unchanged, the tendency of a household to participate decreased by a factor of 6.921 as wealth status improved by a unit. Similarly, it was evident during document analysis and key informant discussion indicated the prevalence of active participation of poor households in the field works particularly which provided daily income for their labor. However, this result contradicts the findings of Maskey e*t al.* (2003) which reported that lower wealthier individuals tend to participate less due to that they perceive less benefit from community forestry.

Training

As hypothesized, access to different training and experience sharing has significant positive influence on the likelihood of deciding on participation in the forest management activities (**Table 5**). Thus, when there was training and experience sharing, the greater the awareness of a household about importance of managing forest collectively. Therefore, the regression result showed that other things were being constant, the household engagement in forest management at implementation stage increases by a factor of 1.6 These situations of their environments initiated the local people to participate in the reforestation project by anticipating immediate improvements. Studies in Roux *et al.* (2008) and Maraga *et al.* (2010) identified the existence of synergies between the local people participation and their awareness on natural resources related problems. Furthermore, Almshehay (2010) indicted that awareness on the aim of management can affect the level of participation

Distance from the forest

As predicted earlier in the hypothesis of this study, distance from the forest has related negatively with the level of participation at monitoring and evaluation stage at 5% significant level as indicated in **Table 6**. This was because as a household further way from the forest resource, the less they interact with forest which probably led them to associate fewer values with the forest. The odd ratio result confirmed that as increase in distance from home to the forest, the likelihood of household engagement in forest management at monitoring and evaluation decreases by a factor of 2.09.

Executive committee member

Being the member of executive committee was found as factor affecting participation of a household at monitoring and evaluation stage. Thus, the binary logistic regression showed the significant influence and the coefficient attached was negative as shown in **Table 6**. The finding indicated that a household holding the executive position of cooperative participated more than the households holding less executive position. The odds ratio in turn indicated that the participation of non-committee members was less than 0.66 times that of who were members in executive committee.

Educational status

Educational status has significant positive association with participation in benefit sharing (**Table 7**). This was probably due to the fact that households with formal education can obtain information on forests benefits easily compared to with no formal education and were able to negotiate on benefit sharing in the local decision-making process. Moreover, it is logical that educated stakeholder participate more in sharing of benefits because of the technical nature of benefits sharing processes and its associated challenges at the local level. The odds ratio indicated that a unit increase in education results the participation of a household to increases by a factor of 3.16. In line to this study, Faham *et al.* (2008) concluded that the level of forest dweller participation in forest management activities increase as their level of formal education increases.

CONCLUSION AND RECOMMENDATION

Nowadays, participatory approach has become a contested concept due to the fact that it is found as means to achieve equity and empowerment at local level. However, it can be also used as means of control and effectiveness of predetermined project objectives. Thus, it was observed that the local people have been involved in the four stages of the Sodo community managed forest with different levels of participation. The level of participation was assessed being low in terms of degree of participation in the selected activities of the four stages. The main reasons for such passive participation were found selective involvement, domination of experts and mechanism followed.The level of a household participation in the four stages of the forest management was found being influenced by socio-economic related factors. Hence, age, sex, family size, training and education were found positively affecting the level of a household participation at the four stages of management. While total land holding, wealth status, distance from the forest and position in forest executive committee were found affecting negatively. From this, it is possible to conclude that household socio-economic characteristics can enhance or hinder the effectiveness and efficiency of a project which aims to achieve genuine participation of local people. Even though, processes followed to adopt participatory reforestation project made the professionals and the local people closer, it is not as such enabling all individuals to have a say on the issues raised rather than the few local selected individuals. But, such selected few local people cannot reflect all about the reality of the community as well as the environment. Therefore, it is advisable to use mechanism that allows the local people to be direct participants of the processes of forest management.Adopting participatory forest management to be

successful, it is important to consider socio-economic characteristics of the community that affect their level of participation.

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