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Factors Influencing the Level of Benefits Derived from Social Group Participation: A Study in Eastern Wollega Zone, Oromia, Ethiopia

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Research Article

Abstract

This research empirically examined factors influencing the level of benefits derived from social group membership in Eastern Wollega Zone, Ethiopia. Methodologically the study used an explanatory research design. Quantitative data were gathered from 490 rural households of the Agricultural Growth Program (AGP) targeted districts using a multi-stage sampling technique. Multiple imputation techniques are used to deal with missed observations. An ordered logistic regression model is employed to empirically evaluate the predictors of the level of benefits derived from social group membership. The econometric results of an ordered logistic regression identified nine explanatory variables as factors influencing the benefits derived from the social group. The significant variables were marital status ($p<0.05$), education ($p<0.05$), farming status ($p<0.01$), mixed farming ($p<0.01$), livestock production ($p<0.01$), status in membership ($p<0.01$), trust index ($p<0.01$), decision making index ($p<0.05$) and labor contribution index ($p<0.05$). However, most of the explanatory variables were insignificant i.e. crop production, age, gender, farm size, heterogeneity index, diversity of membership index, cash meeting attendance index, and cash contribution index (not significant at less than 5% but significant at 10%) This study is very important in contributing to scarce literature related to the factors contributing to the level of benefits derived from social group participation in Ethiopia. The results are expected to support decision-makers at the local level, federal government higher ministries, and policymakers by providing empirical evidence on the factors affecting the level of benefits derived from social group participation.

Keywords: Social group participation, Level of benefits, Rural households, Ordered logistic, Ethiopia.

1. Introduction

Societal networks have worth. In the literature social capital had various benefits which include increasing welfare, risk sharing, facilitating the flow of information, access to education, reducing crime, reducing transaction cost, enhancing access to land, labor, credit, facilitating rural farming, & supporting economic development. The concept of social capital is broadly used across numerous disciplines of social science including sociology, political science, and economics, but the factors determining the level of benefits from social group participation are not well recognized. Social capital is generally understood to be a resource generated from social relations, which facilitates both individual and joint actions (Coleman, 1988). The concept of social capital had been tailored to social & economic disciplines relatively in recent years. In broader terms, social capital is a multi-dimensional variable comprising trust, networks, labor contribution, cash contribution, decision-making index, and meeting attendance of members which facilitates coordination & cooperation for mutual benefits (Putnam, 2000).

Traditionally in economics, growth, and development are based on the capacity utilization of the major production factors: land, labor, and capital (natural, physical, human, and financial). In recent years the attention of scholars

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diverted toward the importance of social capital. Social capital adds a social aspect to the development model that has been mostly ignored in an economic exploration of determinants of poverty and household welfare.
Ethiopia is one of the countries having the fastest economic growth. Paradoxically the country is also the acme of the poorest (Geda & Yimer, 2014). Assuring people's welfare in Ethiopia is a fundamental challenge that the government and development agencies are facing (Getachew et al., 2017). Vigorous policy and scholastic research on the level of benefits from social group participation and its determinant factors are lacking in Ethiopia. The evidence on the level of benefits received from social group participation and its predictors is inconsistent and lacks methodological strength. Therefore, this study aims to analyze the predictors of the level of benefits received from social group membership in Eastern Wollega Zone, Ethiopia.
This study is very important in contributing to a gap in the literature related to the determinants of the level of benefits derived from social group participation. Studying the predictors of the level of benefits derived from social group participation is relevant in Ethiopia particularly in the study area, where households are experiencing pervasive and extreme poverty.

2. Literature Review

This part deals with the review of key theoretical and empirical literature related to the level of benefits received from social group participation and its determinants. Regardless of the spotlight of most researchers on social capital & economic issues, the study on the predictors of the level of benefits received from social group membership is scant. The reviews of some related literature were discussed in this section.
The popular theorist of social capital Putnam (2000) argued that social capital had benefits in increasing welfare, sharing risks, facilitating the flow of information, access to education, reducing crime, reducing transaction cost, enhancing access to land, labor, and credit. Further, Putnam identified various socio-economic factors influencing the level of benefits received from social group participation, such as marital status, education level, age, gender, farm size, farming status, mixed farming, livestock production, status in membership, trust index, decision-making level and labor contribution to their association, crop production level, diversity of the network, diversity of membership, cash meeting attendance, and a cash contribution to their association.
According to Colman's (1988) theory of social capital connection, trust, networks, and norms are basic drivers of socio-economic improvement. The Social Resource Theory by Lin et al. (1981a), hypothesize that the resources embedded within a network lead to an individual's profitability. The links that an individual utilizes within her /his group regardless of the strength of the tie provide she/him with the necessary resources to meet her /his objectives. This theory elucidates how an individual through her/his ties within the group, will be able to utilize the resources owned by other individuals within the group for welfare betterment.
Several scholars suggest that social connections have worth. The study done by Rustiadi & Nasution (2017) stated the important role of social networks in increasing benefits, supporting economic activities, and sustainable rural development through social interaction. The study was done by Adepoju (2012) on the predictors of the level of benefits derived from participation in social group membership in Southern Nigeria indicated that 78% of the households benefited from early market information access and risk sharing, whilst 55% of respondents got farmland access. Also, he reported that education level has a negative association with the level of benefits derived from social group participation. Furthermore, Adepoju reported Farming status, crop production, livestock production, mixed farming, social status, and level of participation in decision-making and labor contribution as statistically significant factors that determine the level of benefits received from the social group membership. Finally, he argued that the presence of networks and smooth information flow among society advance access to market information.
According to Paal &Wiseman (2011), social connection solves the problems of credit risk-sharing arrangements. Yamamura (2010) established that social participation can diminish the crime level and the death rate from natural disasters. In addition, Halpern (2010) reported that a society with better access to social linkage is more likely to benefits as a result of higher educational triumph, and better economic profitability.
Additionally, Chamlee-Wright (2008) used the notion of investment in the network in supporting the process of economic development. He argued that the presence of networks improves an agent's access to information. Fafchamps & Gubert (2007) and Karlan (2007) argued that social group membership improves credit access more than ever in developing countries. Katungi et al. (2007) stated that partaking in faction activities is confirmed to advance the technological renovation. Furthermore, Ray & Bijarnia (2007) illustrated that social capital can also have a downbeat effect on the economy & environment by widening the slit, especially in depressed and low

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tolerance communities. Paavola & Adger (2005) reported that shared action reduces transaction costs and provides a wide range of production.
In sum, literature identified that social capital had various benefits which include increasing welfare, sharing risks, facilitating the flow of information, access to education, reducing crime, reducing transaction cost, enhancing access to land, labor, credit, facilitating rural farming development, support economic development & human resources. Additionally, Education, Household farming status, farming enterprises, crop enterprise, livestock, and mixed farming, being an executive member in a social group, Decision-making index, and labor contribution were identified as predictors of the level of benefits from social group membership.

3. Conceptual Framework

The conceptual framework to examine the predictors of the level of benefits resultant from social group participation is developed considering the social capital literature of Rustiadi & Nasution (2017), Adepoju (2012), and Paal & Wiseman (2011) the conceptual framework of the study is developed as in figure 1. The conceptual framework describes the linkage between the dependent variable i.e. Level of benefits received from social group membership and independent variables i.e. social capital and socio-economic factors.

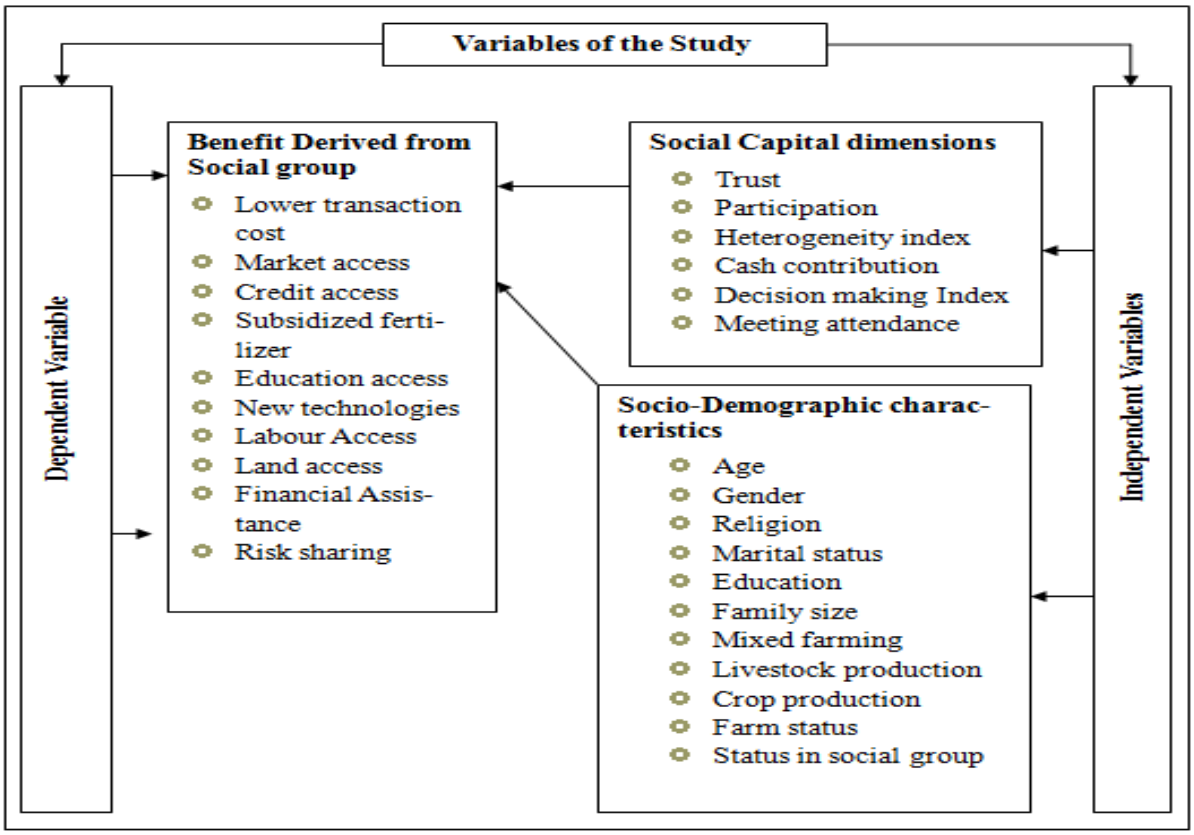

Fig. 1: Conceptual Framework of the Study

4. Hypothesis

Null-Hypothesis:

H_0: Each identified socio-economic factor does not predict the level of benefits received from social group membership.

H_0: $\beta_1=\beta_2=\beta_3=\beta_4=$.....$=\beta n = 0$; Ho: $\beta i = 0$

Alternative Hypothesis:

H_1: Each identified socio-economic variable influences the level of benefits received from social group

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membership.

H_1: $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4$.....$\neq \beta n \neq 0$; H_1: $\beta_i \neq 0$

Where, β_i = (i = 1 to n) are the coefficients of the vectors of explanatory variables that influence the level of benefits received from social group membership.

5. Methodology

5.1. Research Design

This study employed an explanatory research design to examine the determinants of the level of benefits received from social group participation; this design is used following the suggestion of Creswell (2013). The rationale behind choosing this design is to evaluate the relationship between the level of benefits received from social group participation and its explanatory variables building a cause-effect relationship between variables using an ordered logistic regression model is required which makes the explanatory design appropriate.

5.2. Data Type and Collection Techniques

Primary & secondary data were employed in the current study. The primary data was gathered using a structured questionnaire. The primary data collected from each household includes Socioeconomic & demographics, Participation in local-level associations, and indicators of the level of benefits derived from social group participation. The secondary data sources were from local level government officials, published and unpublished materials.

5.3. Sampling Technique

In this study to determine the sample size, a single proportion formula was used following Burgess (2014) and Khotari (2004) by taking, *p*=50% with a 95% (Z=1.96) confidence interval of certainty (alpha=0.05) and 5% margin of error (*e*=0.05). Accordingly, the sample size for this study was calculated as follows:

$n = \frac{Z^2 * p * (1-p)}{e^2}$, where n=initial sample size, z=confidence interval of certainty, p=coefficient of variation, e=marginal error of 5%.

$n! = \frac{(1.96)^2 * 0.5 * (1-0.5)}{(0.05)^2}$=384.16 ≈ 385

The sampling frame for this study covers households in Agricultural Growth Program (AGP) targeted districts of Eastern Wollega Zone which is 43954 households. Therefore, it is possible to use the following correction formula for the final sample size determination.

$nf = \frac{n!}{1+n!/N}$, where nf=final sample size, N=total number of households.

$nf = \frac{385}{1+385/43954}$ = 381.6570≈ 382, by adding 10% (38) contingency for non-response rate, the sample size become 420 respondents. Later during data collection, the researcher extended the sample size from 420 to 490 feel that the inclusion of some kebeles out of the AGP targeted area within the AGP targeted District was necessary to increase the reliability of the study.

5.4. Sampling Procedure

A multistage sampling method was used to recruit study participants. Because, the size of the zone is large, making it difficult or expensive to observe all the units inside the zone. The basic advantage of the multi-stage sampling technique is that it is more flexible than the one-stage sampling (Khotari 2004). Also, it can increase a balance between statistical precision and cost. Since the scope of the study is limited to AGP targeted districts in the Eastern Wollega zone, all AGP targeted districts and kebeles were included in the sample. At the first stage, all three AGP targeted districts in the zone have been selected. At the second stage, from three districts, all AGP targeted kebeles (24) were selected. Further, to increase the reliability of the study and to accommodate farmers who live out of the AGP area, five non-AGP targeted kebeles were selected based on their potential of density and diversity of social group association following the recommendations of district administrator's. At the third stage, the required sample respondents were proportionally allocated to several kebeles based on their size. Finally, lists of households/respondents from each kebele administrative office were used to identify the final 490 representative households from each selected using a systematic random sampling technique. To take care of randomness the researcher checked and ensured that the lists of households in each kebele were not prearranged in cyclic or periodic order, but in alphabetical which gives a good representative sample as it will comprise households from

both bottom and top classes. To decide the sample interval, the identification number is assigned to all households list, the population of each kebele is divided by the required sample size from each kebele, and then every k^{th} household participated in the study.

5.4. Data Analysis Tools
Both descriptive and inferential statistical (econometric models) were used to analyze the quantitative data.

5.4.1. Descriptive Statistics
In descriptive analysis mean for continuous variables, percentages & frequencies for categorical variables, standard deviation and cross-tabulations were done to summarize, interpret and conclude the results. ANOVA for scale variables and chi2- tests for categorical variables were done. Identification of potential explanatory variables using unadjusted bivariate analysis was done. The STATA-15 software package was employed to analyze the data. Multiple imputation techniques are applied to deal with missed data.

5.4.2. Inferential statistics
This study employed an ordered logistic regression econometric model to infer the relationship between dependent & independent variables. To check the goodness of fit of the model, t-test, F-statistics, and pseudo-chi-square were done. The standard significance level of 5% at a confidence interval of 95% was used for interpretation. The detailed ordered logistic model specification is presented below:

5.4.2.1. Ordered Logit Model
The main objective of this study which is to identify the predictors of the level of benefits of social group membership was achieved using an ordered logit econometric model. The dependent variable was initially measured by categorizing the level of benefits into low, medium, and high benefits. According to Gujarati (2004) and Adepoju (2012) ordered logit model is extensively used to analyze ranked response variables. Also, the studies of Adebusola (2013), Kawakatsuy & Largeyz (2008), and Abdel-aty (2001) employed this model. The standardized ordered logit model was specified as follow:

$Y^* = X' \beta + \varepsilon$

Where X, β, and ε are the vector of explanatory variables, coefficient, and error term respectively. Predicted outputs (y*) are not observed. We do observe only the following:

$y = 0$ if $y^* \leq 0$.....equation (1)

$y = 1$ if $0 < y^* \leq \mu 1$.....equation (2)

$y = 2$ if $\mu 1 < y^* \leq \mu 2$.....equation (3)

Where μ1and μ2 are the cut points that are unobservable or the threshold variables that designate the discrete category of the unobservable factor falls in the logit model. The thresholds are determined in the maximum likelihood estimation process for the ranked logit.

Normalize α to one (1).

Probability (y i=0) =Probability (y*<0)..... (4)
Probability (Xiβ+, ε<0)
Probability (ε<0-Xiβ)
ϕ (0- Xiβ)

Pr(yi=1) =Pr(0≤y*≤μ1).....(5)
Pr(0 ≤ X iβ+ε<μ1)
Pr(ε<μi -Xiβ)- Pr(<0- Xiβ)
ϕ(μi -Xiβ)-ϕ(0-Xiβ)

Pr(yi= 2) =Pr(yi *≥μ1).....(6)
Pr (Xiβ+ε ≥μ1)
Pr (ε≥μ1- Xiβ)
1-Pr (ε≤μ1- Xiβ)
1-ϕ (μ1- Xiβ)

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Remind that, $0<\mu 1$ for the benefits received. The probability for the benefits received by the household is:

$L=[\phi(0-Xi\beta)]zi1[\phi(\mu 1-Xi\beta)-\phi(0-Xi\beta)]zi2\ [1-\phi(Xi\beta-\mu 1)]zi3$.....(7)

Zij= 1ifyi=j

0otherwise for j=0, 1, 2 ..... (8)

Where the i^{th} individual, Y_i is the observed response and X_i is a vector of explanatory variables. The unknown parameters βj were estimated by maximum likelihood. Y = level of benefits received coded as 0 = low benefits, 1 = medium benefits, 2 = high benefits.

To this end, the observed dependent variable that represents the level of benefits received from participation in the group category can be expressed as follows:

1 if $y^*\leq 0$ (low benefits)

Yn 2 if $0<yn^*\leq \mu 1$ (medium benefits)

3 if $\mu 1<y^*\leq \mu 2$ (high benefits)

5.5. Description of dependent and independent Variables

5.5.1. Dependent variable

The dependent variable considered in this study is the level of benefits received from being a member of a social group. The composite score is calculated to measure the level of benefits received from participation in social groups. Households respond to questions concerning the benefits received from social group membership by creating dummy variables that assume two values (Yes=1, No=0). These benefits include Transaction cost reduction, Information access, Credit access, Education access, Risk sharing, Technology access, Fertilizer access, Land access, Labor access, and Market access.

Following Adepoju's (2012) dichotomized (binary) scale that is scoring 1 point for Yes and 0 for No responses. Using 10 statements on the benefits of being a membership; a respondent scored a minimum of zero and a maximum of ten points. Therefore, using a composite score the categorization for the level of benefits derived from group participation into high, intermediate, and low benefits is then done. Accordingly, High benefits = Between Mean + SD and ten points, Medium benefits = between lower and higher level, and Low Benefits = between zero and Mean-SD were generated and used in the analysis.

5.5.2. Independent variables

Independent variables were the social capital dimensions and socio-economic characteristics of the sampled households.

5.5.2.1. Dimensions of social capital

Dimensions of social capital in this study comprise trust index, heterogeneity index, the density of membership, decision-making index, labor contribution, cash contribution, and meeting attendance index.

Trust is social capital dimension indexed from ten indicators: generalized trust, trust in neighborhoods, trust in family, trust in friends, trust in co-religionist, trust in similar ethnicity, trust in local administrators, feeling of safety at home, feeling of safety during walking, and feeling of safety in public transport. The density of membership index is measured as the total number of memberships of households in various associations as a percentage of the entire population. Correspondingly, the Heterogeneity index is formed from ten indicators of the diversity of networks such as the same neighborhood, same clan, occupation, same belief, same income group, same religion, same-sex, same age group, same educational level, and same ethnic were used to build heterogeneity index.

The Decision-making variable represents the participation level of households in the decision-making process of their associations at different levels. Meeting attendance is measured by dividing the actual number of meetings to scheduled meetings by associations and normalized to 100. The cash contribution variable was measured adding the total cash contributed by households to the various associations in Ethiopian Birr (ETB), then normalized to 100. The labor contribution variable was measured using the number of working days contributed by households to their associations, finally normalized to 100 percent.

5.2.2.2. Socio-economic variables

Socio-economic variables used in this study include age, gender, marital status, education level, household size, status in a social group, farming status, farm size, crop production, and livestock production. The level of education of the households is used as a proxy for the human capital variable. It gives exposure to acquiring and utilizing

social capital. Household head age is measured in years. Gender variable was used in analysis assuming consumption can be varied between sexes. Household size is made up of the family members in the household. Farm Size is considered as an area of farmland in hectares. The farming status of the households was measured using the categorical variable which assumes 1=full time farming and 0=par time farming. The status of a social group is represented by being an executive member, being a member, and not being a member of a social group.

6. Result and Discussion

This part discusses the results of the study in four main sections: the details of Socio-economic characteristics of respondents and social capital dimensions, Categories of benefits received from social groups & Household membership in social groups, and predictors of the level of benefits from being a social group membership.

6.1. Socio-economic factors and dimensions of social capital

The detailed explanation of socio-economic variables and social capital dimensions available to households in the study area is presented here-under.

6.1.1. Description of Socio-economic characteristics

The descriptions of the socio-economic characteristics of the respondents were presented in Table 1. The proposed sample size for this study is 490. Of this, 473 households were participated in the study making the response rate 96.53%. About 42.28 %(N=200) of the sample population is from the Guto Gida district, 32.77 %(N=155) is from Diga district and 24.95 percent (N=118) is from Wayu Tuka district.

Table1: Socio-economic factors

Variables	Frequency	Mean	SD	Min.	Max.
District					
Guto Gida	155(32.77)				
Diga	200(42.28)				
Wayu-tuka	118(24.95)				
Gender					
Female	80(16.91)				
Male	393(83.09)				
Age (years)		41.53	10.54	21	80
Education (years)		5.34	5.12	0	18
Family size (numbers)		4.17	2.28	1	19
Marital status					
Single	21(4.44)				
Married	404(85.41)				
Divorced	48(10.15)				
Farming Status					
Full-time	342 (72.30)				
Par-time	131(27.70)				
Crop production					
No	180 (43.90)				
Yes	230 (56.10)				
Livestock production					
No	213(49.77)				
Yes	215(50.23)				
Mixed farming					
No	49(12.69)				
Yes	337(87.31)				
Farm size (hectare)		4.50	2.85	0.75	15

Source: Authors' computation from Field survey, 2021

The study population comprised 83.09% males and 16.91% females. About 43.61% of the households fall between

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31-40 years. The mean age of respondents was 41.53 years. This result indicates that the majority of respondents are in their active age to execute economic activities which are close to the report of the UNDP (2019) on the life expectancy of Ethiopia as 56 years. By education level, about 23.36% are illiterate (have no formal education), 24.04% are between grade 1 and 4, 26% were between grade 5 and 8, 17.23% of respondents are between grade 9 and 12 and about 9.3% are above grade 12. The average years of education of respondents are 5.34 years. By marital status, the married respondents account for 85.41percent; single respondents are 4.4% and divorced respondents account for 10.15% of the sample studied. The average and the maximum number of household sizes are 4 and 19 respectively, about 76.5percent of households reported between 1-4 household members. Only 1.27% of respondents reported the maximum household member which is above 13. The highest household number in the study area is 19.

About 56.1% of the respondents are involved in crop production while 43.9 percent are not crop producers. This result revealed that most households engaged in agricultural work as a primary source of income. 50.23% of households are participants in livestock production. About 87 percent of respondents are followers of a mixed farming system and the remaining 12.69% are not. Concerning the primary occupation of respondents, about 41.44 percent are farming, 1.27 percent are civil servants, 19.03% private enterprise, 12.9% Artisan, 13.7% are traders and the remaining11.6% others.

6.1.2. Social Capital Dimensions

The distributions of the social capital dimensions to households in the study area were displayed in table 2. The description was focused on the major seven dimensions of social capital including trust, the density of membership, heterogeneity, decision-making, meeting attendance, labor & cash contributions.

The average level of trust index is 67%, whereas 13% and 985 were minimum and maximum levels of trust index respectively. About 42.14% of the diversity of the network belonged to an average respondent. The minimum and maximum heterogeneity indexes in the study area were 3% and 90% respectively.

Table 2: Social Capital Dimensions

Social capital dimensions	Mean	SD	Min.	Max.
Trust index (%)	67.08	24.19	13	98
Heterogeneity Index (%)	42.14	22.53	3	90
The density of Membership (%)	38.25	9.97	13.63	93
Decision making Index (%)	39.03	18.28	16.66	100
Meeting attendance (%)	70.77	13.94	24.59	91.66
Labor contribution (man days)	23.04	10.58	5	47
Cash contribution (ETB)	1093.93	559.56	100	2500

Source: Authors' computation from Field survey, 2021

Concerning the density of membership index, an average is 38.25 percent, the minimum and maximum density of membership in the study area is 13.6% and 935 respectively. About 39% of participation in decision-making is owned by an average household. About 16.6% and 100% were the minima and maximum levels of participation in decision making respectively. The average meeting attendance is 70.7 percent. Also, an average of 1093.9 ETB is contributed annually by each household to various associations. Concerning labor contribution annually the average value of 23.04 man-days was contributed.

6.2. The Level of Benefits Derived from Social Group Participation and Household Membership

In this part, the details of the level of benefits received from social group participation and household membership in various social groups were presented.

6.2.1. Benefits of social group participation

The description of participants following the benefits received from social group membership and categories of the level of benefits received from social group participation is indicated in Tables 5 & 6. About 85.62% reported to access new information to various credit sources, followed by households that benefited from risk-sharing (79.07%), Next to this are respondents that benefited from access to market outlets (77.17%), who benefited from financial assistance in times of need (75.26%), opportunities to new technology (73.15%) and Transaction cost reduction (71.88%). This result shows that market information, need for financial support, access to new technology, and reduced transaction costs were the rationales of households to participate in social groups. About 69.13% of households accessed information regarding fertilizer, as well as land access (66.60%) and labor access

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(66.38%). The least of the benefits received by respondents is education access and this accounted for 61.31%. The result reveals that benefits received from social groups by the majority of the respondents were above average. For the detail see Table 3.

Table 3: Description of benefits received from the social group

No.	Statement	Yes		No	
		Frequency	**%**	**Frequency**	**%**
1	Market access	365	77.17	108	22.83
2	Risk sharing	374	79.07	99	20.93
3	Transaction cost reduction	340	71.88	133	28.12
4	Labor access	314	66.38	159	33.62
5	Education access	290	61.31	183	38.69
6	Fertilizer access	327	69.13	146	30.87
7	Land access	315	66.60	158	33.40
8	Financial assistance	356	75.26	117	24.74
9	Technology access	346	73.15	127	26.85
10	Credit access	405	85.62	68	14.38

Source: Authors' computation from Field survey, 2021

6.2.2. Distribution of Benefits Derived from Social Groups participation

The details of participants into levels of benefits derived from their various social groups are indicated in table 4. The mean score is 6.5 & the SD is 2.8. Using these values, the responses were grouped into three categories as specified below.

Higher Benefits Category = Mean + SD to 10= which is 9.5 to 10

Medium Benefits Category = between lower and higher benefits category Limit i.e. 3.7 to 9.5

Lower Benefits Category = between zero to Mean minus SD i.e. 0 to 3.7

Table 4: Distribution of the Categories of levels of social capital benefits

Categories of social capital benefits	Frequency	Percentage
Lower	63	13.32
Medium	368	77.80
Higher	42	8.88
Total	473	100

Source: Authors' computation from Field survey, 2021

The result shows the categories of levels of benefits that the households received from being a member of social groups. The medium benefits level is 77.8%, followed by lower-level benefits (13.32%) and then higher benefits (8.8%). It indicates that the majority of the households in the study area were at the medium level of benefits. The mean value of 6.5 implies that in the study area an average household received up to 6.5 benefits from their social associations.

6.2.3. Household membership in social groups

Table 5 presents the household associational memberships in various social groups in the study area. The distribution of the household's membership in social groups shows that membership in the 'Edir' association covers the highest rate with 95.14%. This is followed by religious group (94.69%), Cooperative (94.27%), and 'Equb' association (92.39%) respectively. The reason is the majority of the households are religious and engaged in 'Edir' and 'Equb' as well as cooperative activities for financial support. While political party and Community based association membership recorded 72.94and 64.9 percent respectively. Social groups below average membership include 16% in women association, 26% in health group, 42% in traders association, 49.15% in neighborhood group, 35.11% in social service group, Occupational/professional group (23.19%), Environmental protection group (20.38%), Agricultural production group (15.04%), Parent-teachers association (14.41%), Sports group (9.73%), Recreational group (4.86%), Red-cross association (1.48%), and another group (0.86%). The least, yet, is the youth group which accounts for 0.63%. This may be due to most respondents being from old aged category. For detail, description sees the table below.

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Table 5: Distribution of respondent's membership in social groups

No.	Association	Yes		No	
		Frequency	%	Frequency	%
1	Ekub association	437	92.39	36	7.61
2	Edir association	450	95.14	23	4.86
3	Community-based association	307	64.90	166	35.10
4	Women association	149	16	240	64
5	Health group	279	26	165	0
6	Traders association	264	42	148	18
7	Parent-teachers association	68	14.41	404	85.59
8	Religious group	446	94.69	25	5.31
9	Neighborhood group	231	49.15	239	50.85
10	Social service group	165	35.11	305	64.89
11	Environmental protection	96	20.38	375	79.62
12	Occupational group	109	23.19	361	76.81
13	Cooperative association	444	94.27	27	5.73
14	Agricultural production group	71	15.04	401	84.96
15	Sport group	3	9.73	470	99.37
16	Youth group	46	0.63	427	90.27
17	Political party	345	72.94	128	27.06
18	Red-cross association(NGO)	7	1.48	466	98.52
19	Recreational group	23	4.86	450	95.14
20	Another group	13	0.86	460	99.14

Source: Authors' computation from Field survey, 2021

6.3. Factors Influencing the Level of Benefits Derived from Social Group Participation

The result of the ordered logit model which was employed to examine the factors influencing the level of benefits derived from social group membership presented in table 6. The categories of benefits derived i.e. lower, medium, and high formed the dependent variable as ordered 0, 1, and 2 respectively while 19 predictor variables were considered in the model. However, only 9 explanatory variables were statistically significant at different levels. They are marital status ($p<0.05$), education ($p<0.05$), farming status ($p<0.01$), mixed farming ($p<0.01$), livestock production ($p<0.01$), status in membership ($p<0.01$), trust index ($p<0.01$), decision making index ($p<0.05$) and labor contribution index ($p<0.05$). Whereas, majority of included independent variables were insignificant i.e. crop production, age, gender, farm size, heterogeneity index, diversity of membership index, cash meeting attendance index, and cash contribution index (not significant at less than 5% but significant at 10%). The likelihood ratio chi-square of 85.47 with a p-value of 0.0000 reveals that the model as a whole is statistically significant. Pseudo R squared is 0.3022.

The log-likelihood ratio Chi-^{2} test with 19 degrees of freedom, LR χ 2 (19) = 85.47, p= 0.000, shown that the logit regression coefficient of the predictors included in the model was statistically different from zero, so the full model with 19 predictors provides a better fit than the null model with no independent variables in predicting cumulative probability for the level of benefits received from social group participation. The likelihood ratio R^2 L = 0.3022, which is the Pseudo R^2 and is also called McFadden's R^2, suggesting the relationship between the response variable, level of benefits received from social group participation, and the 19 predictors were moderately good.

6.3.1 Marginal effect of factors influencing the level of benefits derived from social group participation

Marginal effects of significant explanatory variables are presented in Table 7. The education of respondents is statistically significant at 1% and negatively associated with the benefits received from social interaction. This shows that the higher the level of education, the lower the benefits derived from social group participation. The econometric result revealed that an increase in the level of education increases the likelihood to derive low benefits by 0.0402127, medium level by 0.0049125 and decreases the probability of getting high benefits by 0.03530 keeping other covariates in the model constant as displayed in table 9. The result indicated that education may reduce active social interaction. This result is in line with the study done by Adepoju (2012) but contradicts the report of Halpern (2010) which shows higher education is related to benefits received from social group participation.

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The marital status of the households variable is statistically significant ($p<0.05$) and positively related to the level of benefits received from social group participation. The result indicates that being in a married household is related to a higher level of benefits as compared to single respondents. An ordered logistic regression result revealed that on average being a married household decreases the probability of receiving a lower level of benefits by increasing 0.0553986 whereas increases the likelihood of receiving a medium and higher level of benefits by 0.0103903 and 0.0450083 respectively as compared to single respondents keeping other variables constant. This variable is not included in the work of Adepoju (2012) which is the only study related to the current research.

Table 6: Result of the ordered logit for Categories of Benefits Received

Variables	Coefficient	Std. Error	Z	P-value
LogAge	-0.911962	0.7171328	-1.27	0.203
Gender				
Male	-0.0457132	0.4916741	-0.09	0.926
Marstats				
Divorced	0.5339508	0.86319	0.62	0.536
Married	0.07577253**	1.060754	0.71	0.0401
LogEdu	-0.5949645**	0.2464317	-2.41	0.016
Logfamsiz	1.687019	0.6442775	2.62	0.0109
LogFarmSZ	0.2569148	0.3680985	0.70	0.485
MixedFrm				
Yes	1.83923***	0.6214162	2.96	0.003
Farmstats				
Full time	1.551188***	0.4760447	3.26	0.001
Croppro				
Yes	0 .6179569	.6207978	1.00	0.320
Lvstocpro				
Yes	1.521497 ***	0.5851427	2.60	0.009
SStatus				
Member	7426687	0.7398283	1.00	0.315
Executive	2.444391***	0.8663102	2.82	0.005
TRindex	0.0193585**	0.0088005	2.20	0.028
HetIndex	-0.0112745	0.0102869	-1.10	0.273
DensityMindex	0.0168072	0.0234204	0.72	0.473
InstDecMindex	0.0119788 **	0.0122564	1.98	0.028
MeetatIndex	-0.0031969	0.0142272	-0.22	0.822
LabConindex	-0.012711**	0.0086921	-1.46	0.144
CashCindex	-0.0157083*	0.0089805	-1.75	0.080
SCAindex	0.0495543	0.03343	1.48	0.138
cut1	-2.697266	3.276826		
cut2	3.94901	3.283167		
LR chi2(19) = 85.47, Prob > chi2 = 0.0000, Pseudo R2 = 0.3022				
Log likelihood = -98.691226				

Note: *** 1% significant level, **5% significant level, * 10% significant level

Source: Authors' computation from Field survey, 2021

Farming status is also statistically significant at 5% & positively linked to the benefits derived. The finding revealed that being a full-time farmer decreases the probability of receiving low benefits by 0.1244032 and increases the probability of receiving medium and higher benefits by 0.0484138 and 0.0759a894 respectively. This finding is in complete agreement with the work of Adepoju (2012).

Livestock production is statistically significant at 5% and positively influences the level of benefits received from social group participation. The result revealed that being a livestock producer reduces the likelihood of getting a lower level of benefits by 0.1046349, although increases the likelihood of receiving a medium and higher level of benefits by 0.0149466 and 0.0896883 respectively. This finding is consistent with the work of Adepoju (2012).

The mixed farming system variable is significant at 1% and positively influences the level of benefits derived from social group participation. The ordered logistic regression model revealed that being a mixed farmer increases the probability of receiving the higher benefits by 0.1304172 whereas reduces the likelihood of receiving the lower and medium level of benefits by 0.0798058 and 0.0506114 respectively. This finding is consistent with the study of Adepoju (2012).

Status in a social group i.e. being an executive member significantly predicts the benefits derived from the social group at a 1% significant level. For executive members, the probability of getting higher benefits was increased by 0.1652572 and reduced the probability of getting lower and medium benefits by 0.1565261 and 0.0087311 respectively. This result is supported by the study of Adepoju (2012).

The labor contribution index is statistically significant at 5% and negatively influences the level of benefits derived from social group participation. The result revealed that an increase in man-day increases the likelihood of obtaining the lower level of benefits by 0.0008514 while decreasing the probability of receiving a medium and higher level of benefits by 0.000104 and 0.0007474, respectively. This implies that more labor contribution will decrease the level of benefits derived from social group participation. This result is not consistent with the work of Adepoju (2012).

Table 7: Result of Marginal effects

Variables	Marginal effect for Y= low benefits	Marginal effect for Y= intermediate benefits	Marginal effect for Y= high benefits
LogAge	0.063131	-0.0077123	-0.0554187
Gender			
Male	0.0036647	-0.0003882	-0.0032766
Marstats			
Divorced	-0.0410708	0.0113847	0.0296861
Married	-0.0553986	0.0103903**	0.0450083**
LogEdu	0.0402127**	0.0049125**	-0.0353001**
MixedFrm			
Yes	-0.0798058***	-0.0506114***	0.1304172***
Logfamsiz	-0.1216343	0.0148593	0.106775
LogFarmSZ	-0.0156449	0.0019112	0.0137336
Farmstats			
Full time	-0.1244032***	0.0484138***	0.0759894***
Croppro			
Yes	-0.0413594	0.0048008	0.0365586
Lvstocpro			
Yes	-0.1046349***	0.0149466***	0.0896883***
SStatus			
Member	-0.0705901	0.0427795	0.0278106
Executive	-0.1565261***	-0.0087311***	0.1652572***
TRindex	-0.0013207**	0.0001613**	0.0011593**
HetIndex	0.0007129	-0.0000871	-0.0006258
DensityMindex	-0.0011449	0.0001399	0.001005
InstDecMindex	-0.0009085**	0.000111**	0.0007975**
MeetatIndex	0.0001863	-0.0000228	-0.0001635
LabConindex	-0.0008514**	-0.000104**	-0.0007474**
CashCindex	0.0010443*	-0.0001276*	-0.0009168*
SCAindex	0.0033645	-0.0001897	-0.0031747

Note: *** 1% significant level, **5% significant level, * 10% significant level

Source: Authors' computation from Field survey, 2021

A few studies on this issue excluded the trust index variable from the determinants of the level of benefits received from social group participation. The trust index variable is found to be a positive and significant association with the level of benefits derived from social group participation. An ordered logistic regression result revealed that an increase in trust index reduce the probability of getting lower benefits by 0.0013207 whereas increased the likelihood of receiving a medium and higher level of benefits by 0.0001613 and 0.0011593, respectively. The result clearly showed that having trust in the community, family members, friends, and local institution leads to higher benefits. This finding is consistent with the Paavola & Adger (2005) report which revealed a shared action creates

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lower transaction costs through building trust and provides a wide range of production transactions, labor, credit, and land, which can increase the level of benefits received from the social group.
The decision-making index variable is statistically significant ($p<0.05$) and positively influences the level of benefits received from social group participation. The result indicates that the more households are involved in the decision-making process, the more they receive benefits from being members of the social group. An output of the ordered logistic model revealed that an increase in participation in the decision-making process reduces the probability of getting low benefits by 0.0009085 whereas it increases the probability of receiving medium and higher benefits by 0.000111 and 0.0007975 respectively. This shows that active participation in the decision-making process is an input to derive the benefits of belonging. The finding of this study is in line with the work of Adepoju (2012).

7. Conclusion and Recommendation

The main aim of this research is to examine the predictors of the level of benefits derived from social group membership. Methodologically the study used an explanatory research design. Quantitative data was gathered through a community-based cross-sectional survey conducted among randomly selected 490 rural households using a multi-stage sampling technique. Missing data were managed using multiple imputation techniques. An ordered logistic regression model was employed to evaluate the predictors of the level of benefits derived from social group membership. The econometric results of an ordered logistic regression identified nine explanatory variables as factors influencing the benefits derived from the social group. Those significant variables were marital status ($p<0.05$), education ($p<0.05$), farming status ($p<0.01$), mixed farming ($p<0.01$), livestock production ($p<0.01$), status in membership ($p<0.01$), trust index ($p<0.01$), decision making index ($p<0.05$) and labor contribution index ($p<0.05$). Whereas, majority of included independent variables were insignificant i.e. crop production, age, gender, farm size, heterogeneity index, diversity of membership index, cash meeting attendance index, and cash contribution index (not significant at less than 5% but significant at 10%).
The current study concludes that the level of benefits received from social group participation is determined by marital status of households, level of education, farming status, mixed farming, status in a social group, livestock production, decision making an index, trust index, and labor contribution of households in the study area. Therefore, the government should take a measure that enhances the level of benefits of the society from social group participation through giving special emphasis to the development of identified predictors by the current study.

8. Limitations and future directions

The current study is limited to only three districts of the Eastern Wollega Zone at the household level. The restriction of study to individual-level might ignore the predictors of level of benefits from the social group at the higher institutional level. Since the study data is cross-sectional, a one-time observation is difficult to determine the temporal relationships between outcome and predictor variables. Future research should focus on identifying a possible causal relationship between the level of benefits received from social group participation and its determinants using experimental/longitudinal research design.

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