Individuals' Determinants of Participation in Savings and Credit Co-operative Societies in Mwanza and Tabora Rural Areas, Tanzania

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Abstract

Participation in Savings and Credits Co-operative Societies (SACCOs) is open to all. Yet, some individuals do not participate. The study assessed individuals' determinants of participation in SACCOs. Data were collected cross-sectionally. Six SACCOs were purposively selected in four districts of Mwanza and Tabora regions, in which a total of 500 respondents (200 members and 300 non-members) were randomly selected. The study used a questionnaire and a key informant interview guide to collect quantitative and qualitative data respectively. Individuals' determinants of participation in SACCOs were analyzed by using descriptive statistics and logit regression model. Age, marital status, education level, land size, microenterprise ownership, entrepreneurship experience and livestock ownership positively influenced participation in SACCOs while gender had a negative influence. Microenterprise ownership highly influenced the probability of an individual's decision to participate in SACCOs relative to other socio-economic determinants. Moreover, lack of awareness on the operation of SACCOs was perceived as a factor hindering non-members' participation in SACCOs. It is concluded that both socio-economic and institutional factors influence the individuals' decisions participate. It is recommended that during the formation of SACCOs, SACCOs' leaders should consider socio-economic factors that promote the likelihood of individuals' decision to participate in SACCOs including age, marital status, education level, land size, microenterprise ownership, entrepreneurship experience and livestock ownership. Moreover, SACCOs' leaders should put more efforts on awareness programs to attract new members through village meetings and other social gatherings.

Keywords: Individuals' Determinants, SACCOs, Mwanza rural, Tabora rural

INTRODUCTION

SACCOs are member-based MFIs which encourage thrift among members while creating a source of credit to their members (URT, 2014). The government of Tanzania regards SACCOs as important financial institutions to address poverty reduction and financial exclusion particularly in rural areas where access to banking services are limited (URT, 2017). Following important roles played by SACCOs, the government of Tanzania has made efforts including setting conducive legal frameworks including the Co-operative Policy of 2002, the Co-operative Societies Act 2013, the SACCOs Regulations 2015 and the National Microfinance Policy (NMP) 2017 among others to catalyze smooth formation and operation of SACCOs in Tanzania. After independence in 1961, Tanzania Mainland had 3 SACCOs but by the year 2018 there were a total of 6 137 SACCOs serving more than 2.4 million members and having total shares, savings and assets of more than TZS 1.3 trillion while the loan portfolio amounted to TZS 1.299 trillion (TCDC, 2018;

Malamsha and Aletaulwa, 2014). This indicates that SACCOs are becoming potential financial service providers in Tanzania.

In order to reap the potential services offered by SACCOs, people with a common bond must come together (participate) to form internal financial capacity through share contributions and savings. Then, internal funds are used to generate financial and non-financial services to members in form of loans and training services, among other services (Ndiege *et al*., 2016). According to Kadir *et al*. (2016), the term participation refers to acting or taking part in a certain activity. In this study, participation means joining or being registered in a SACCOs as a member so as to acquire financial and/or non-financial services. One of the principles governing the operation of SACCOs, like any other type of co-operative societies, is open and voluntary membership, implying that everyone in a community is free to participate (join) in a SACCOs with a free will (ICA, 2015). An important question is that despite the recognized potential of SACCOs and that membership in these societies is open to everyone in a community, why do some people choose to participate in SACCOs and others do not?

According to Heckman and Smith (1999), participation in a program is more complicated when participants are self-selected into a program rather than being exogenously assigned into it because determining factors for self-selection are not straight forward. Kadir *et al*. (2016) pointed out that participation of an individual in a co-operative society is explained by a number of factors which include social factors, social networks, trust and individual factors. Birchall and Simmons (2004) summarized factors influencing individuals' participation in co-operative societies are grouped into three levels: resource and capabilities of potential participants (socio-economic factors), mobilization of participants and participants' motivations to participate. The first level which explains socio-economic factors was emphasized by Shah and Panigrahi (2015) as key for participation; thus the study focused mainly on socio-economic factors which determine individuals' participation in SACCOs. Habte (2016) asserts that in rural areas of developing countries, the socio-economic factors which determine individuals' participation in microfinance program include age, gender, household size, marital status, educational qualifications, ownership of microenterprises, entrepreneurial experience, land ownership, land size, livestock ownership and number of livestock owned.

Understanding determinants of individuals' participation in SACCOs is vital for promotion of SACCOs model in Tanzania because the country has a SACCOs penetration rate of 2% which is below the Africa's and world's average participation rates of 9.09% and 9.25% respectively (Finscope, 2017; WOCCU, 2017). Unfortunately, to the best knowledge of the researchers, studies on determinants of individuals' decisions to participate in SACCOs have received limited attention in Tanzania.

The study intended to fill in the underlining empirical gap by assessing the determinants of individuals' decisions to participate in SACCOs in the study area. The study was guided by a null hypothesis that: "socio-economic determinants do not influence individuals' decisions to participate in SACCOs".

THEORETICAL UNDERPINNING
The Participation Chain Model (PCM) was developed by Birchall and Simmons (2004) to explain determinants of individuals' participation in a co-operative. According to Birchall and Simmons (2004) factors which determine individuals' participation in co-operative have three levels which link in a chain. The first level is resources; the second level is mobilization and the last level is motivation (Figure 1)
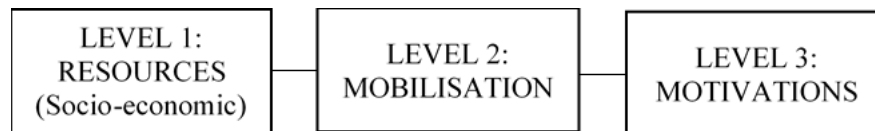
Figure 1: Participation Chain Model

Level one takes into account participants' resources which may influence or restrict participation in a co-operative society. These resources are termed differently by different researchers. For instance, Kadir *et al*. (2016) termed them as individual factors while Habte (2016) called them socio-economic and demographic factors. Generally, these factors include but not limited to educational qualification, ownership of microenterprise, entrepreneurial experience, land ownership, land size, livestock ownership, number of livestock, age, gender, household size, and marital status (Habte, 2016; Kadir *et al*., 2016; Ogunleye *et al*., 2015; Idrisa *et al*., 2007; Birchall and Simmons, 2004). The second level involves how participants were inspired by co-operatives' policies and services to participate in a society. Some people may participate in a co-operative because the society has a good reputation or they have come across awareness campaigns. Others do not participate due to lack of awareness and bad reputation of the society among other factors. The second level generally is termed as institutional factors which may involve policies, innovations, reputations and promotional campaign among other factors (Habte, 2016; Zeller and Meyer, 2002). The third level involves individuals' motivations to participate which include an individual anticipating benefits, opportunities or costs for participation. Although, the three levels are linked in a chain, however, they are non-sequential implying that each level works independently to explain the probability of an individual to participate in a co-operative. This study used the PCM to assess the determinants of individuals' decision to participate in SACCOs. The study focused mainly on participation determinants at level 1, although participation determinants at level 2 and 3 were also explored.

RESEARCH METHODS

The study was conducted in rural areas of Mwanza and Tabora regions because the two regions are among the top six regions in number of SACCOs in Tanzania (TCDC, 2017). In addition, Tabora and Mwanza regions have the highest populations of 80% and 42.4% respectively obtaining agricultural finance from SACCOs. In this regard, obtaining rich data on determinants of individuals' decisions to participate in SACCOs was expected. In Mwanza region, Sengerema and Magu districts were purposely selected because they had the highest per cent of 35.51% and 32.05% respectively of SACCOs in rural areas relative to other districts. Nzega and Igunga districts in Tabora region were selected based on the same criteria as they had the highest per cent of 33.53% and 31.23% respectively of SACCOs in rural areas compared to other districts (URT, 2017a, 2017b).

The study employed a cross-sectional survey of SACCOs' members and non-members which facilitated the assessment of determinants of individuals' participation in SACCOs. The cross-sectional data was appropriate because it could allow data of interest (determinants of individuals' participation in SACCOs) to be collected and examined at once unlike longitudinal survey which could require data to be collected at intervals over the time (Cohen *et al*., 2018).

Purposive sampling technique was used to select regions, districts and SACCOs. In each district, SACCOs with the highest breadth of outreach (number of members) were selected. In Igunga and Nzega districts, Chasigo and UVUMNYA SACCOs were selected respectively. However, in Magu district both Upendo and Victoria were selected because they had almost equal numbers of members. The criterion used in Magu district was also employed to select Nyaluhwa and Uzinza SACCOs in

Sengerema district. Hence, six SACCOs were selected in four districts. Lottery simple random sampling technique was used to select both members and non-members in the study area. Members were selected randomly from register books in respective SACCOs while non-members were selected randomly from lists of villagers provided by VEOs in each village where the SACCOs were located.

The study used a sample size of 500 respondents as recommended by previous studies (Habte, 2016; Henry *et al*., 2003; Comrey and Lee, 1992) in which a 2-to-3 ratio of members to non-members were observed. Thus, 200 members and 300 non-members from six SACCOs in four districts were interviewed. Members were proportionally selected based on numbers of registered members from each SACCOs while non-members in each SACCOs were obtained based on a 2-to-3 ratio relationship of members to non-members. It was necessary to select larger sampling size of non-members to capture a larger variances among non-members with respect to any determinants that existed among members (Henry *et al*., 2003).

Mixed methods approach was employed whereby both quantitative and qualitative data collection techniques and analyses were used. This approach was appropriate because it enabled the researchers to collect data which could give rich information in relation to the focus of the study. Secondly, it helped to neutralize biases inherent in a single technique (Creswell, 2009). In addition, the quantitative technique dominated the qualitative technique, and consequently, qualitative data and information were used to complement those gathered from the quantitative technique. A questionnaire and a Key Informant Interview (KII) guide were used to collect primary data. The questionnaire was designed to collect data from both members and non-members on determinants of individuals' decisions to participate in SACCOs. The KII guide was used to collect qualitative data from 12 key informants of whom six were VEOs and six were SACCOs' managers.

Before actual data collection, the research instruments were calibrated by conducting a pilot survey to 30 respondents (10 members and 20 non-members based on the recommended 2-to-3 ratio of the two groups) to evaluate consistency, reliability and clarity of the instruments. Efforts were also done to test internal consistency (reliability) of ten items using statistical measures whereby Cronbanch's alpha coefficient was used for that case, and the result indicated a good internal consistency alpha coefficient of 0.914 which is above the reliable threshold of 0.7 (Cohen *et al*., 2018). Furthermore, the study guaranteed construct and content validity by conducting extensive theoretical and empirical reviews on the area under investigation to ascertain essential theories, models and empirical works on determinants of individuals' decision to participate in SACCOs. Second, experts of SACCOs were consulted, and their opinions were accommodated to ensure that tools could capture extensively and accurately the main determinants of individuals' decisions to participate in SACCOs.

Logit and Probit models are normally used to analyze binary responses when the dependent variable has a dichotomous nature, taking 1 or 0 values for 'yes' or 'no' response respectively in a given set of independent variables. Both logit and probit models yield almost similar prediction results on whether an individual or household will participate in an event or program using certain independent variables (Cox and Snell, 2018). This study adopted the logit model over the probit model because the former has simple ways of computation and estimation of maximum likelihood relative to its counterpart (Linden, 2016). It was hypothesized that the decision of individuals to participate in SACCOs is determined by socio-economic factors. The logit regression model specifications adopted from Habte (2016) can be presented as follows:

$$P(Y = 1|X) = \frac{e^{\beta'X}}{1 + e^{\beta'X}} \ldots \ldots \ldots .1$$

$$P(Y = 0|X) = 1 - \frac{e^{\beta'X}}{1 + e^{\beta'X}}$$

$$= \frac{1}{1 + e^{\beta'X}} \ldots \ldots 2$$

Where $Y = 1$ individual is a participant in a SACCOs, $Y = 0$ individual is a non-participant in SACCOs, X is a vector of explanatory variables representing individuals' socio-economic factors. β is a vector of regression coefficients to be estimated, $P(Y)$ is the probability of Y occurring and e is the base of natural logarithms. The coefficient of the logit regression model is an output which explains which direction the outcome variable (Y) changes to when an independent variable (X)

changes. However, the logit coefficient could not tell by how much percentage the probability of (Y=1) changed when independent variable (X) changed by one unit, hence marginal effects were computed for that purpose. The magnitude of marginal effects was computed by taking derivatives of cumulative standard of logit regression as presented below:

$$\frac{\partial E(Y_i|X_i)}{\partial X_i} = F(\beta'X)[1 - F(\beta'X)] \ldots \ldots 3$$

Where: i are coefficients and F is a probability distribution function of logit. Based on literature (Habte, 2016; Kifle *et al.*, 2013; Anjugam and Ramasamy, 2007), the study used the observable explanatory variables (X) presented in Table 1.

Table 1: List of independent explanatory variables used in logit model

Variable Category	Variable name (X-covariates)	Variable Type	Variable Description	Expected Sign
Socio-economic factors	Age	Continuous	Age of respondent (in years)	+
	Gender	Binary	Gender of respondent (1=male, 0=female)	+/-
	Household size	Continuous	Household size (in numbers)	+
	Marital status	Binary	Marital status of client (1=married, 0=otherwise)	+/-
	Educational qualification	Continuous	Education of respondent (in years)	+
	Ownership of microenterprise /business	Binary	Ownership of microenterprise (1=yes, 0=no)	+
	Entrepreneurial experience	Continuous	Entrepreneurial experience (in years)	+
	Land ownership	Binary	Land ownership (1= yes, 0=no)	+
	Land size	Continuous	Land size (acres)	+
	Livestock ownership	Binary	Livestock ownership (1= yes, 0= no)	+
	Size of livestock	Continuous	Number of livestock respondent	+

The goodness of fit test for logit regression in this study was tested by using the log likelihood chi-square test, Hosmer-Lemeshow tests, variance inflation factor (VIF) and data classification test as presented in Table1. The log likelihood chi-square test assesses whether the model as a whole is statistically significant by predicting well

whether or not respondents in the sample are likely to participate in a program (Cox and Snell, 2018). The log likelihood chi-square in this study had a p-value of 0.000, indicating that the logit model as a whole was statistically significantly predicting well whether or not the respondents in the sample were likely to participate in SACCOs. In

addition, the Hosmer-Lemeshow tests assesses whether data fit the logit model reasonably. A larger or insignificant p-value suggests that the model fit the data reasonably (Habte, 2016). In this study, the Hosmer-Lemeshow p-value was 0.955 suggesting that the data fit the model reasonably. The study also tested whether the model suffered from multicollinearity problem using Variance Inflation Factor (VIF). A VIF less than 10 indicates that multicollinearity is not a problem (Cohen *et al.*, 2018). The test of the multicollinearity of the model had a mean VIF of 1.33 which is less than 10, which proved that the model was free from the multicollinearity problem. The model also was tested to find if it classified data between two groups correctly by using classification test. The classification for data for two groups should be 50% and above (Linden, 2016). The results from the test indicated that the model classified both groups correctly by 83.4%. Thematic analysis technique was used to analyze qualitative data. In this case, data from field notebooks and voice recorders were transcribed, categorized and coded and afterward grouped into different themes as per objectives of this paper. Themes were further interpreted into meaningful information.

FINDINGS AND DISCUSSION
Socio-economic characteristics of respondents: Table 2 indicates a summary of socio-economic characteristics of members and non-members of SACCOs in the study area. The aim of Table 2 was to give an overview of the distributions of socio-economic features of respondents across the two groups, since the main discussion of this paper was on socio-economic factors influencing individuals' participation in SACCOs. The Table 2 indicates that the mean age of members was older (50.36 years old) compared to non-members (45.90 years old). Moreover, only 24% of male were members of SACCOs. This shows that few males participated in SACCOs in the study area.

In addition, SACCOs' members were more married (85%), more educated (7.45 years), had a larger household size (6.0), owned more land (90.50%), possessed more acres of land (8.995), owned more microenterprises (71.50), had more years of entrepreneurship experience (5.665), owned more livestock (69.0%) and had more numbers of livestock (15.0) compared to their counterparts.

Table 2: Distributions of socio-economic characteristics of respondents

Variables	Non-members (n=300)	Members (n=200)
Age (mean, yrs)	45.90	50.39
Male (%)	70.62	24.00
Female (%)	29.33	76.00
Married (%)	72.00	85.00
Single/divorced/widow (%)	28.00	15.00
Education in years (mean yrs)	5.13	7.45
Household size (median)	5.0	6.0
Land ownership Yes (%)	76.00	90.50
Land ownership No (%)	24.00	9.50
Land size (mean, acres)	1.999	8.995
Microenterprise ownership Yes (%)	19.33	71.50
Microenterprise ownership No (%)	80.67	28.50
Entrepreneurship experience (mean, years)	0.8408	5.665
Livestock ownership Yes (%)	36.67	69.00
Livestock ownership No (%)	63.33	31.00
Number of livestock (median)	4.0	15.0

Determinants of individuals' participation in SACCOs: In the first place, the study investigated whether individuals' participation in SACCOs is determined by socio-economic factors using logit regression. The independent variables that were used in logit regression were: age of household head in years, gender of household head (male or female), marital status of household head (married or not), household size (number of household members), education levels in years, land ownership, land size in acres, microenterprise ownership, livestock ownership, number of livestock and entrepreneurship experience in years. The dependent variable was participation in SACCOs where '1' meant individual participates and '0' means otherwise. Table 3 present the determinants of individuals' participation in SACCOs.

Table 3: Logit regression results on determinants of individuals' participation in SACCOs

Dependent variable: Individuals' Participation in SACCOs (1=yes, 0=otherwise)				
Independent variables	**Estimated Coefficients**	**Standard Error**	**P-value**	**Marginal Effects (at mean values)**
Age	0.0353309	0.0106748	0.001***	0.0086961
Gender	-0.7380775	0.3748804	0.049**	-0.182159
Marital Status	0.9113996	0.4369101	0.037**	0.2112887
Education levels	0.2708468	0.0551476	0.000***	0.0666644
Household size	0.0529131	0.059697	0.375	0.0130237
Land ownership	-0.0955709	0.401322	0.812	-0.0236026
Land size	0.2126766	0.048535	0.000***	0.0523468
Microenterprise ownership	1.990262	0.3386287	0.000***	0.4599264
Entrepreneurship experience	0.0589519	0.0352255	0.094*	0.01451
Livestock ownership	0.8250521	0.3154331	0.009***	0.2004476
Number of livestock	0.0035377	0.0131378	0.788	0.0008707
Goodness-of- fit tests				
Number of observations	500			
LR chi2 (11)	302.30			
Prob > chi2	0.0000			
Pseudo R2	0.4492			
Model to data fit check (Hosmer-Lemeshow P-value)	0.9544			
Multicollinearity Check (Mean VIF)	1.33			
% of correctly classified individuals	0.8340			
* = Significant at 10%, **= Significant at 5%, ***= Significant at 1%				

Table 3 presents the determinants of individuals' participation in SACCOs. The results in the table indicate that out of eleven independent variables used in the study, eight of them had a significant relationship with the decision of individuals' participation in SACCOs. The details of each factor are presented below.

i) Age: The results in Table 3 indicate that the age of an individual had a positive and significant relationship with participation in SACCOs at a one per cent significant level ($p < 0.01$). This implies that as the age of an individual increases, he or she is more likely to participate in SACCOs provided that other things remain constant. The reason as to why

the increase in years influences the participation in SACCOs was noted from one male key informant at Kishinda village in Sengerema district as follows:

"Aged people are tightly occupied with family responsibilities, unlike young ones…. You have to ensure that your family has enough food and everything they want…" (Interview, Sengerema, 12th May 2018).

The above qualitative information indicates that younger families bear little life's responsibilities in the early stages of marriage or before marriage and therefore they are less likely to participate in SACCOs compared to their counterparts. Similar results were found by Habte (2016) that the age of an individual positively influences participation in microfinance programs in order to stabilize household livelihood as age increases. Moreover, it has been argued that participation in microfinance such as SACCOs increases from intermediate ages (the 40s), but it reaches a "U shape" turning point as years advance (Habte, 2016; Ferede, 2012; Chen and Chivakul, 2008; Mpuga, 2008).

ii) Gender: The results indicated that there was a negative and statistically significant relationship between the gender of an individual and participation in SACCOs at the five per cent significant level (p < 0.05). This implies that there is more likelihood for female-headed households to participate in SACCOs compared to their counterparts. One male key informant at Simbo Village in Igunga district revealed why females were more likely to participate in SACCOs relative to male:

"Women participate more in SACCOs because they have membership in informal groups. Once the informal group join SACCOs, individuals in a group tend to acquire membership in SACCOs as well" (Interview, Igunga, 13th March 2018).

The above information from a key informant indicates that women participate in SACCOs through their informal groups, unlike men who participate little in informal groups which results in little participation in SACCOs. Women are also actively engaged in small businesses; therefore, they need more financial services from SACCOs relative to their counterparts.

iii) Marital status: Table 3 indicates that being married had a positive and significant relationship with participation in SACCOs at the five per cent significant level (p < 0.05). It means that there is more possibility of married individuals engaging with SACCOs relative to single, widowed or separated ones. One male key informant at Kisamba Village in Magu district reasoned why married individuals were more likely to participate in SACCOs relative to their counterparts as follows:

"Usually, married people have responsibilities of taking care of their children…. you must have a plot of land where you can cultivate paddy or maize for the family" (Interview, Magu, 15th April 2018)

The above qualitative information indicates that married individuals are tightly responsible to take care for their families. This might result into habits of being less mobile and may have accumulated enough assets which may be used as prerequisites for joining SACCOs such as compulsory savings and other contributions relative to single or widowed individuals. The finding is consistent with findings of a study by Iregui (2017) who observed that married individuals in Colombia were more likely to participate in microfinance relative to their counterparts. Also, Mwangi and Kimani (2015) found that married households have high likelihood to participate in microfinance in Kenya.

iv) Education level: The study revealed that education level of individuals had a positive and highly significant relationship with participation in SACCOs at the one per cent significant level (p < 0.01). This means that individuals with more years of schooling have more chances to participate in SACCOs compared to their counterparts, probably because they have more exposure to the

external environment with more confidence and skills to use financial services like loans from SACCOs to establish income generating activities. This study confirms previous studies' results by Habte (2016), Rasheed *et al*. (2016) and Chen and Chivakul (2008) conducted in Eritrea, Pakistan, and Bosnia and Herzegovina respectively who had the same findings.

v) Land size: The results indicated that there was a positive and highly statistically significant relationship between individuals' land size and participation in SACCOs at the one per cent level of significance ($p < 0.01$). The results signify that those individuals with large land size are more likely to engage in SACCOs compared to their counterparts, probably because large land size demands more money for farm inputs which cannot be financed by household alone. Alternatively, they have to seek credit from SACCOs to finance farm inputs. Another reason is that large land size can be used by a household as a collateral when seeking a loan from SACCOs. Similar findings have been found in Ethiopia by Ferede (2012) who noted that individuals with large farm size were likely to engage in microfinance programs because the land is used as a collateral during loan application. In addition, studies by Rasheed *et al*. (2016) and Akpan *et al*. (2013) in Pakistan and Nigeria, respectively, found that households with large farm sizes had the incentive to seek more credit from microfinance institutions in order to sustain farm productivity relative to their counterparts.

vi) Microenterprises: The results indicate that microenterprise ownership had a positive and highly significant relationship with participation in SACCOs at the one per cent significant level ($p < 0.01$). This implies that individuals who own micro-business have more probability to participate in SACCOs compared to their counterparts. The following caption from a male key informant at Simbo Village in Igunga District explained why this happened:

> *"Most of our SACCOs' members who frequently take loans are the ones who own microenterprises"* *(Interview, Igunga, 14th March 2018).*

The above caption from a key informant publicized that participation in SACCOs is more likely to happen among individuals who own micro-businesses because such individuals may want temporary savings facilities to save their cashflows and seek credits from SACCOs in order to establish or expand their businesses. This study finding corresponds with findings of a study conducted by Sekyi (2017) who found that individuals who were engaged in enterprise activities were more likely to participate and access credit from microfinance than individuals in other occupations.

vii) Entrepreneurship experience: Table 3 indicates that entrepreneurship experience in number of years has a positive and significant relationship with participation in SACCOs at the ten per cent significant level ($p < 0.1$). The implication is that individuals with increased numbers of years in entrepreneurship activities have more possibility to participate in SACCOs relative to their counterparts. The reason behind this occasion was that those individuals with experience on how to run businesses such as small shops, cooked food vending (*umama lishe*), vegetables vending, and so on, may have a wish to acquire financial services from SACCOs so as to expand their businesses. This study's finding corresponds with findings of a study done by Habte (2016) in Eritrea who found that individuals with business experience had more probability of participating in microfinance institutions.

viii) Livestock ownership: The results indicated that livestock ownership had a positive and highly significant relationship with participation in SACCOs at the one per cent significant level ($p < 0.01$). This implies that there is a more likelihood for individuals with more livestock to participate in SACCOs compared to their counterparts, probably because individuals with livestock may wish to join SACCOs so as to acquire financial services for health services and coping with difficult problems such as drought and diseases. A similar finding was

reported by Ferede (2012) who observed that participation in microfinance is attributed to livestock ownership in Ethiopia.

The above discussion was guided by the coefficients and levels of significance of a logit regression model which indicated whether the independent variables had positive or negative significant relation with the probability of participating in SACCOs. However, the coefficient of logit regression cannot indicate to what extent the dependent variable will change if an independent variable change by one unit. Therefore, marginal effects were computed to eliminate this limitation. Marginal effects results are also presented in Table 3. The interpretations of the marginal effects were explained from the highest to the lowest marginal effect, as follows: If an individual own a microenterprise would increase the probability of participation in SACCOs by 45.9%, if a respondent is married would increase probability of participation in SACCOs by 21.12% and, if an individual owns a single livestock would increase the probability of participating in SACCOs by 20.04%. Furthermore, the marginal effect for

education level indicated that a year increase of schooling of a respondent would increase the probability of participation in SACCOs by 6.66%; a one acre increase in an individual's land would increase the probability of participation in SACCOs by 5.23%; a year increase of a respondent would increase the probability of participation in SACCOs by 0.87%; and if an individual is a male would decrease the probability of participation in SACCOs by 18.21%. The results from marginal effects imply that the top three predictors of participation in SACCOs were ownership of microenterprises, followed by being married and ownership of livestock while being a male negatively predicted participation in SACCOs.

So far, the socio-economic factors which influenced positively or negatively participation in SACCOs have been discussed. However, the study went further to seek other factors which impeded non-members to participate in SACCOs. Table 4 presents the perceived factors which hindered non-members to participate in SACCOs.

Table 4: Perceived factors for non-participation in SACCOs (n=300)

Perceived factors for non-participation in SACCOs	Number of Responses	Per cent of cases
Lack of awareness	271	90
Lack of prerequisites fund like savings and other contributions	30	10
Having alternative sources of finance like VICOBA, etc	9	3
Fear of being liquidated in case of loan default	7	2.3
Total responses and per cent	**317**	**105.3**

The results in Table 4 indicate that lack of awareness on operations of SACCOs was the major reason (90%) which hindered non-members to join SACCOs, followed by lack of prerequisites fund (10%) while having alternative sources of finance and fear of being liquidated were the least important impediments which were said by 3% and 2.3%, respectively, of the respondents. The results imply that the majority of non-

members of SACCOs lack understanding on the basic operations of SACCOs and whether there are benefits which can be accrued out of participation in those institutions. The lack of awareness was partly contributed by poor mobilization campaigns conducted by leaders of SACCOs. This reason, was confirmed by one male key informant at Kitongasima Village in Magu district who reported that:

"Many people do not understand what SACCOs is all about. If we got someone to educate my village members on benefits of these institutions, I think SACCOs members would increase tremendously in my village" (Key Informant Interviewee, Magu, 29th April 2018).

This finding is consistent with findings of some other studies, for example by Finscope (2017) and Ajagbe *et al*. (2012) who reported that the major reason for non-participation of respondents in microfinance was lack of information. The finding is also in line with findings of a study conducted in Ethiopia by Ferede (2012) who found that poor mobilization campaign caused non-participants to be less informed on microfinance programs.

THEORETICAL IMPLICATIONS

The Participation Chain Model (PCM) postulate that determinants of individual's participation in co-operative have a three level which links in a chain. These are: resources, mobilization and motivations. The findings of this study hold theoretical claims true since socio-economic (resources), mobilization and motivations were found to affect positively or negatively individuals' decisions to participate in SACCOs. In socio-economic factors (resources): age, marital status (being married), level of education, land size, microenterprise ownership, entrepreneurship experience and livestock ownership were factors that positively influence participation in SACCOs while gender (being male) influence negatively. In mobilization level, the study found that lack of awareness on SACCOs' operations hindered non-members to participate in SACCOs. In motivation level, the study found that some non-members were less motivated to participate in SACCOs since they had alternative source of finance particularly Village Community Banks (VICOBA).

CONCLUSION & RECOMMENDATIONS

The study assessed the determinants of individuals' participation in SACCOs. It was found that individuals' decisions to participate in SACCOs are likely to be affected by numbers of determinants including socio-economic, institutional and motivational factors. The socio-economic factors which affect positively the likelihood to participate in SACCOs were: age, marital status (being married), level of education, land size, microenterprise ownership, entrepreneurship experience and livestock ownership while gender (being male) influence negatively. Micro-enterprise ownership contributes highly to the probability of participating in SACCOs relative to other determinants.

Moreover, the study found that lack of awareness on the operation of SACCOs on the other hand was perceived highly as a hindering factor impeding non-members to participate in SACCOs. Lack of awareness of SACCOs operation was contributed by low mobilization campaigns done by SACCOs' leaders. Therefore, it is concluded that determinants for participating in SACCOs were determined by both demand or individuals' factors (socio-economic) and supply factors (lack of awareness due to poor mobilization campaign at SACCOs level) in the study area. Thus, the study rejects the hypothesis which guided the study that which stated "socio-economic determinants do not influence individuals' decisions to participate in SACCOs".

Since the determinants of participating in SACCOs were explained by both demand and supply factors, therefore, it is recommended that the socio-economic factors (including age, marital status, education level, land size, microenterprise ownership, entrepreneurship experience and livestock ownership) which positively influence the likelihood of individuals' decision to participate in SACCOs should be considered by the SACCOs' leaders particularly during the formation process of SACCOs. The areas where the big population

of people own and run micro-enterprises should be given first priority for consideration of establishing SACCOs because there is high chance of people to participate in SACCOs activities. Second, it is recommended that SACCOs' leaders should put more efforts to mobilize non-members who are not aware of the operations of SACCOs. This can be done through the dissemination of SACCOs' education in village meetings and other social gatherings, especially male since the findings showed that few of them participated in SACCOs.

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