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RESEARCH PAPER

Impact of socio-economic factors on members' sales volume to cooperative societies: The case of selected districts of Southwest Shewa Zone, Oromia National Regional State, Ethiopia

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Abstract

Multipurpose Agricultural cooperatives are believed to play a crucial role in curbing the lack of modern inputs and access to markets by providing services ranging from making credit and modern inputs available to creating market opportunities and selling members' output. This study aimed to identify demographic, social and economic factors that affect members' Sales Volume in Multipurpose Agricultural Cooperative Societies. This research was conducted in two selected Districts of the Southwest Shewa Zone of Oromia National Regional State to identify the Impact of socioeconomic Factors on Members' Sales Volume in Multipurpose Agricultural Cooperative Societies: In Some Selected Districts of the Southwest Shewa Zone. The main participants/target populations of the study were Members of Multipurpose Agricultural Cooperative Societies found in Bacho and Waliso districts. For the sake of achieving the objectives of this study, different-stage sampling procedures were followed to select four Multipurpose Cooperative Societies and a total of three hundred fifty-one (351) respondents. A random sampling technique has been used to select a sample of respondents. A multiple linear regression model and descriptive statistics were used to analyze the data. The result of this study indicated that the sales volume of members of Multipurpose Cooperative Societies was significantly influenced by educational level, family size, duration of membership, household land size, agricultural inputs credit and production capacity. Therefore, the study recommended that cooperatives should not set the purchase prices below the market prices, they should try to follow the market price every time and create awareness for members about engagement in other agricultural activities and the advantages of selling their products to cooperatives.

Keywords: Agricultural cooperative; member sales volume; multipurpose cooperative

Introduction

According to Stefano and Cornelis (2010), one would expect that members also supply their products to their cooperative and non-members to private processing companies. However, an extensive dataset on Italian farmers and cooperatives shows that this is not automatically the case. Some cooperative members do not deliver their products to their cooperative, whereas non-members are delivering their products to cooperatives.

As pointed out by Ernita *et al* (2014), the participation of members consists of several kinds, namely participation in business activities (buying and selling/loan and saving), participation in the capital of fertilization (consciousness members in meet their obligation, that is paying the major deposits, mandatory deposits, and voluntary deposits), participation members in make decisions and participation members in monitoring.

Farmers' commitment to cooperatives is increasingly important as a result of increased encouragement to enter the market through them. In Sub-Saharan African countries,

farmers face high transaction costs which prohibit their access to better-paying markets and worsen their poverty level (Barret, 2008). Lack of information on prices, lack of linkages between farmers and other market actors, credit constraints and other market imperfections lead peasants to sell their crops at the farm gate to intermediaries, often at a low price, and to not take advantage of market opportunities (De Janvry *et al*., 1991, Fafchamps and Vargas-Hill, 2005).

Lack of information on prices, lack of linkages between farmers and other market actors, credit constraints and other market imperfections lead peasants to sell their crops at the farm gate to intermediaries, often at a low price, and to not take advantage of market opportunities (De Janvry et al., 1991, Fafchamps and Vargas-Hill, 2005).

Muthyalu's (2013) study in Adwa District, Ethiopia shows Farmer member's active participation in agricultural input and output marketing in Multipurpose Cooperatives is influenced by various demographic, socioeconomic and institutional factors. To the best knowledge of the researcher, no studies have been conducted on the impact of socio-economic factors on members' sales volume to cooperative societies in which they are members in developing countries in general and in Ethiopia in particular. In this circumstance, the researcher conducted a study on the impact of socio-economic factors on members' sales volume in cooperative societies. In view of the problems, the central question of this study was: what is the impact of socio-economic factors on members' sales volume to the cooperative societies at the selected districts of Southwest Shewa Zone? Hence, the present study is unique and it makes an attempt to bring forth regarding the impact of socio-economic factors on members' sales volume to cooperative societies in selected districts of the Southwest Shewa zone of Oromia National Regional State. This study aimed to identify demographic and economic factors that affect members' Sales Volume in Multipurpose Agricultural Cooperative Societies.

The findings of this study will help members of Multipurpose Agricultural Cooperative Societies found in Woliso and Becho districts in general and those who are the members of the sampled Multipurpose Agricultural Cooperative societies in the study area in particular by pinpointing the impact of socio-economic factors on members' sales volume to cooperative societies. In addition, it serves as literature for other researchers. Furthermore, it may help cooperative promoters, cooperative managers, committees of cooperatives and employees of cooperatives to provide appropriate support to solve the actual challenges of Multipurpose Agricultural Cooperative Societies by revealing areas of deficiency.

Materials and methods

Description of Study Areas

The study was conducted on the impact of socio-economic factors on members' sales volume to cooperative societies in selected districts of the Southwest Shewa zone of Oromia National Regional State, Ethiopia. According to the Census conducted by the Central Statistical Agency of Ethiopia (2007), this Zone has a total population of 1,101,129, of whom 556,194 are men and 544,935 women. 149,878 or 13.61% of the population are urban inhabitants. A total of 233,916 households were counted in this Zone, which results in an average of 4.71 persons per household, and 227,102 housing units. The Oromo (87.08%), Amhara (6.16%), and Gurage (5.06%) were the three largest ethnic groups in Southwest Shewa according to reports; the remaining ethnic groups comprised 1.7% of the total population. Afaan Oromo was spoken as a first language by 84.85%, 8.41% spoke Amharic and 5.57% spoke Guragiegna; the remaining 1.17% spoke all other primary languages reported.

For the purpose of the study, a descriptive research design was employed to identify the impact of socioeconomic factors on members' sales volume in cooperative societies. Qualitative and quantitative approaches were employed by the researcher to investigate the

impact of socioeconomic factors on members' sales volume in cooperative societies.

According to the Southwest Shewa Zone Cooperative Agency Bureau representative (2020) orally said, all Multipurpose Agricultural Cooperatives were not equally engaging and many of them were not engaged in the purchase of farmers' agricultural outputs. This was the reason for selecting Multipurpose Agricultural Cooperatives found in the Becho and Waliso districts among the Cooperatives found in eleven districts of Southwest Shewa Zone. Southwest Shewa was selected purposefully due to it being near the residence of the researcher.

Sampling techniques and size

For the study, four multipurpose agricultural cooperative societies with a total of 2,862 members as the target population were selected through criteria-based sampling (that is, those actively engaging in the marketing of farmers' agricultural outputs). Such cooperatives are Tullu Katta Multipurpose Agricultural Cooperative Society, which has 340 total members; Nano Soyama Multipurpose Agricultural Cooperative Society, which has 846 total members; Daka Guda Multipurpose Agricultural Cooperative Society, which has 530 total members; and Badessa Koricha Multipurpose Agricultural Cooperative Society, which has 1,146 members (Data obtained from each Cooperatives Society during the study 2022/23).

To meet the objectives of the study, different stages of sampling procedures would be adopted to select the sample of respondents. In the first stage, four Multipurpose Cooperative Societies found in two districts were selected due to these cooperatives actively engaging in purchasing agricultural outputs.

In the second stage, the sample size for the all-target population would be determined by a statistically representative sample size determined by (Yemane, 1967).

Finally, to have a number of respondents from each Multipurpose Agricultural Cooperative Societies, probability proportionate to sample size (PPS) was used. Then a random sampling technique was used to select a sample of respondents. Because employing a random sampling technique eliminates biases in having a sample of individual respondents.

A variety of factors should be considered in determining sample size. Budget and time available, statistical methods used, variability of the population characteristic under investigation, and the level of confidence desired in the estimate and degree of precision desired in estimating the population characteristic were the usual parameters.

Finally, the sample size was determined by statistically representative sample size determining the methodology for a large population as follows:

$$n = \frac{N}{1+N\,(e^2)}$$ (Yemane, 1967)

Where:

n= Sample Size

N= total population

e= is the desired level of precision required which is (0.05)

$$n = \frac{2862}{1 + 2862\,(0.05^2)}$$

$$350.95 = 351$$

After having the sample size for the whole population, further calculation was needed to decide the number of respondents to be taken from each of the four Multipurpose Agricultural Cooperative Societies by using proportional allocation.

In this study, while employing probability proportionate to sample size (PPS) care was taken by the researcher to represent all four cooperative members in the total sample. So, each respondent contributed to the sample a number that was proportional to its size in the

population. To determine the sample size in each of the four cooperatives, the following formula was used.

$$n_k = (\frac{n}{N})N_k$$

Where:

n_k= the sample size for k^{th} Cooperative,

N_k=the population size of k^{th} Cooperative,

N= the total population size, n=the total sample size

Accordingly; 42, 104, 65, and 140 sample respondents were taken from Tullu Kata, Nano Soyama, Daka Guda and Badessa Koricha Multipurpose Agricultural Cooperative Societies respectively.

Data type, sources and methods of data collection

The study employed both primary and secondary sources of data for collecting the crucial data that were necessary to accomplish the research. Primary data involves surveys that were collected from the members through structured questionnaires (close-ended and some open-ended questionnaires). Secondary data was collected from both published and unpublished documents of Multipurpose Agricultural Cooperative Societies, district, regional, Federal Cooperative Agency, CSA, government policy documents and other relevant organizations to collect sufficient information about members' participation in Multipurpose Agricultural Cooperative Societies which supplemented the primary data. Since secondary data was gathered from existing sources, it saved time and costs for the researcher. Besides, there would be the possibility of collecting vast data that was relevant for the researcher.

For data collection, the questionnaire was prepared in English language and then translated into 'Afaan Oromo' language to address the varied educational and language backgrounds of the respondents. It was pilot-tested for reliability and validity via scale by Cronbach's Alpha before their actual use. Data enumerators would generate data using close-ended and some open-ended questionnaires by joining the respondents at their residences as the work plan of the researcher. Secondary sources like past studies, journals and documents of cooperatives were accessed from various databases like Business Source Premier, and office documents in order to obtain some reliable literature and empirical findings that can be applied to have a better understanding of members' sales volume in Multipurpose Agricultural Cooperative Societies.

Data analysis would be carried out by descriptive statistics (frequency, percentage, average, minimum and maximum) and Multiple Linear Regression analysis model through Statistical Package for Social Science (SPSS) Version- 20windows. This helped to test the influence of the explanatory variables on the dependent variable (members' sales volume).

Descriptive analysis would be used to reduce the data into a summary format by tabulation (the data arranged in a table format) and measure of central tendency (mean).

Before running the model for all variables that were entered into the model, multi-collinearity problems were checked using variance inflation factors (VIF) and normality problems were checked for all the hypothesized variables. Multi-collinearity refers to the existence of more than one exact linear relationship among explanatory variables, and co-linearity refers to the existence of a single linear relationship (Gujarati, 2004).

Thus, the VIF stated as,

$$\text{VIF (Xi)} = \frac{1}{1 - \text{Ri}^2} = \frac{1}{\text{Tolerance}}$$

Ri^2= It is the multiple correlation coefficients between Xi and other explanatory variables. The largest value of Ri^2 will result in a higher

value of VIF (Xi) which causes higher co-linearity among the variables.

Most of the time as a rule of thumb for continuous variables values 1< VIF< 5 specify that the independent variables are moderately correlated to each other (Shrestha, 2020) and Tolerance greater than 0.10 is taken as a signal for the existence of multi-collinearity in the model (Gujarati, 2004). In respect to this, table 1 indicates the value of VIF < 5 which indicates independent variables were moderately correlated and the value of tolerance > 0.10 which implies there was a signal for the existence of multi-collinearity in the model. However, it has no series multi-co-linearity problem.

According to Ghasemi (2012); when testing for normality, probabilities > 0.05 indicate that the data are normal. When it is < 0.05, probabilities indicate that the data are not normal. Hence, the result of the test for normality in Table 2 depicts that the data were normal due to the values of probabilities (statistic) > 0.05.

Model specification

The process of deciding which independent variables to include or leave out of a regression equation is known as model specification. A multiple regression model is, in fact, a theoretical statement about the causal relationship between one or more independent variables and a dependent variable (Sirika, 2013). Ernita et al. (2014) have used the Multiple Linear Regression model to investigate Factors Affecting the Members' Participation in Cooperatives in North Sumatera. So, for this study, since multiple independent variables were related to a dependent variable and the sample respondents that would be used as primary sources were homogeneous. The researcher employed Multiple Linear Regression to identify the factors affecting Members' Sales Volume in Multipurpose Agricultural Cooperative Societies.

According to Gujarati (2004), the model was specified as follows:

$$Y= \beta0 + \beta1\ X1i + \beta2\ X2i + \beta3\ X3i + \ldots + \beta nXni + \varepsilon i \quad (1)$$

Where:

Y - is the value of the dependent variable (in the case of this study members' sales volume);
β_0– the intercept that shows the average effect on Y if all variables are excluded from the model;
The parameters β_1, β_2 …β_n are the regression coefficients of parameters
i= the i^{th} observation

ε = the total error of prediction (residual)

X = independent variable
X_i= f (Age (Ag), Marital Status (MS), Educational Level (EL), Family Size (FS), Duration of Membership (DM), Household Land Size (LS), Number of oxen (NO), Price (P), Annual Income (AI), Agricultural inputs credit (AgIC), Production Capacity (PC)).

The dependent variable is members' sales volume which refers to the act of members engaging in the marketing activities of a multipurpose agricultural cooperative society through supplying outputs of agricultural products. This engagement in marketing activity is considered as members' participation. According to Dejane (2014), members' participation refers to the tendency of the members to actively associate in planning, executing monitoring and evaluating activities related to cooperatives. For this study, the researcher has measured sales volume participation based on the quintals of agricultural outputs members supplied to cooperatives which is continuous. The selected independent variable was sex (X1) – which is a dummy variable that takes a value of 1 for males and 2 for females. Members' participation may vary based on sex differences. In this study, it was assumed that male members have more exposure and access

to resources and information regarding the importance of active participation in multipurpose agricultural cooperatives than female members. Thus, the male member was taken as a reference variable and expected to participate more than female members, age (X2) - this is a continuous variable and defined as the number of years the member completed up to the time of the interview. So, it was assumed positively or negatively influences members' sales volume in cooperative, level of education (X3)-it is a continuous variable and refers to the number of years of formal schooling the member attended. Thus, in this study, it was expected that those who are literate and have at least some education were better able to participate in the cooperative, duration of membership (X4)– is a continuous variable that refers to years of experience/membership duration in cooperative by the member in cooperatives. Thus, longer or shorter duration of membership has been assumed to positively or negatively influence members' sales volume in cooperatives through, family size (X5). This is a continuous variable and it refers to the total number of members of families who are living together in one home. Therefore, family size has been assumed to positively or negatively influence members' sales volume in cooperatives, household land size (X6) - is a continuous variable that is one of the major and key assets for farmers and members of multipurpose agricultural cooperative societies everywhere. Thus, the decision made by any member to sell more is positively or negatively influenced by their land holding size, and the number of oxen owned by members (X7**)** - many of our country's farmers are cultivating their farmland by oxen. It is a continuous variable. For this study, it was expected that those who have more oxen were better able to sell in cooperatives, price (X8) – is a continuous variable that indicates the price of agricultural products at cooperatives and is to be compared with the market price. In this study, the price would be assumed to positively or negatively influence members' sales volume in a multipurpose agricultural cooperative society. The annual income of members (X9) - is a continuous variable and it would be deemed to positively or negatively influence the sales volume of members in a multipurpose agricultural cooperative society, transportation service (X10) – is a dummy variable that indicates the facilitation of transportation service by the cooperatives to distribute agricultural inputs for its members. The variable was assumed to positively influence the sales volume of members in the cooperative, access to combiner service (X11) – indicates that the members of the cooperative have a way to acquire combiner service. Hence, it was assumed that positively influences the participation of members in cooperative, distribution of agricultural inputs (X12)– is a dummy variable that shows the provision of improved seeds, fertilizer and herbicides by Cooperatives for its members on time. Hence, the variable was assumed to positively influence the sales volume of members in the cooperative, agricultural inputs credit service (X13)-This reveals the provision of agricultural inputs by the cooperative through arrangement for deferred payment for the price of inputs. It is a dummy variable that would be assumed to positively impact members' sales volume in cooperative, production capacity (X14)-this indicates the production capacity of the members in the production year. It is one of the continuous variables that would be hypothesized to affect members' sales volume positively.

Validity and reliability of the instrument

The ability of an instrument to measure consistently is what reliability is all about. One of the most significant dependability estimates is Cronbach's Alpha. It is a reliability coefficient that indicates how the item in a set is positively correlated to one another. It measures internal consistency (reliability) by determining the degree to which instrument items are homogeneous and reflect the same underlying construct(s) (Field, 2008). It detects whether the indicators of a construct, also known as variables have an acceptable fit on a

single factor. The test of the coefficient of a Cronbach α for the economic and demographic factor variables output indicates 0.714 and 0.70 respectively which shows both of them are reliable. Hence, the closer alpha values to 1, the higher the internal consistency. Whereas the furthest the value of alpha from 1 the lower internal consistency and stability among the answers of the respondents. As per the regulations' interpretation proposed by Scheepers et al. (2008), 0.7 indicates an acceptable level of internal reliability. If the value is lower than 0.5 the internal reliability is questionable and if the value is 0.8 or more the internal consistency is sound. As indicated in the above, it appears that the values of all the variables were above 0.7, which is in the range of very good. This implies that sample respondents of Multipurpose Agricultural Cooperative Societies answered the whole questions consistently.

Results and discussions

Before the result of data was estimated the necessary diagnostic tests were conducted. Accordingly, the model has no serious multi-multi-collinearity and no normality problem (Table 1 and 2 below respectively).

Table 1. Coefficients table of Multiple Linear Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.616	.425		3.799	.000		
Age	.010	.084	.016	.122	.903	.429	2.330
Marital status	-.002	.045	-.004	-.042	.966	.846	1.182
Educational level	.43	.050	.063	.86	.0476**	.908	1.101
Family size	-.034	.020	.069	1.70	.000*	.564	1.773
Duration of membership	.051	.049	.112	1.040	.0352**	.488	2.051
Land size	-.030	.019	-.059	-1.57	.00546*	.742	1.348
Number of oxen	.001	.059	.001	.012	.990	.961	1.041
Price of cooperative	.056	.047	.007	.080	.00937*	.963	1.038
Annual income	-.042	.059	-.061	-.711	.478	.967	1.034
Agricultural inputs credit	-.19	.137	-.006	-1.386	.0946***	.953	1.049
Production capacity	-.067	.040	-.072	-1.675	.0402**	.957	1.045

a. Dependent Variable: Average amount of teff supplied to Cooperative in between 2020 – 2022/23 production years. *Significant at1%, ** significant at less than 5% and*** significant at less than 10% probability level respectively.
Source: Survey result, 2022/23

Table 2. Tests of Normality

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Age of respondent	.358	351	.000	.703	351	.000
Marital Status	.474	351	.000	.515	351	.000
Educational level of respondent	.286	351	.000	.805	351	.000
Family size of respondent	.386	351	.000	.670	351	.000
Duration of membership in cooperative	.242	351	.000	.842	351	.000
Land size owned by member	.282	351	.000	.854	351	.000
Number of oxen owed by member	.426	351	.000	.669	351	.000
Members' three Production years (2018/19/ and 2020) Annual Income from selling of crops and other products	.387	351	.000	.671	351	.000

a. Lilliefors Significance Correction,
Source: Survey Data Model Output, 2022/23 df = Sample Size

Demographic factors

As far as demographic factors are concerned, the output of descriptive statistics indicated in the study area, the majority of the members of the cooperative were male which accounted for 84 percent and the majority of members aged ≥ 46 years accounted for 52.26 percent. As the output of the multiple linear regressions model in Table 1 above indicated even though age and members sales volume have a positive relationship, it was insignificant. The majority of sample member respondents can read and write and as per the output of the multiple linear regression model depicted in Table 1 above, the educational level has a positive relationship with members' sales volume. The highest percentages of members of Multipurpose Agricultural Cooperative Societies in the study area were characterized by large number family size. Besides, the output of the multiple linear regression model in Table 1 above indicated family size and members' sales volume were inversely related. As per this study, members of cooperatives who had large families' supplies fewer quintals of their product to cooperatives due to they were feeding their families. The output of the multiple linear regression models in Table 1 revealed that the duration of membership and members' sales volume have a positive relationship.

Economic factors

Table 3. Land size owned by sample respondents

Land Size	Frequency	Percent	Mean	Std. deviation	Minimum	Maximum
< 1 Hector	70	20.0	2.2533	0.92095	0.25	8.00
1 - 3 Hectors	166	47.3				
3.5- 4 Hectors	71	20.0				
> 4 Hectors	44	12.7				
Total	351	100.0				

Source: Survey Result, 2022/23

Moreover, as economic factors, Table 3 shows that majority of the respondents that accounted for 47.3 percent had 1-3 hectors of land, and the minimum and maximum land size owned by member households were 0.25 hectors and 8 hectors respectively. Hereof, this indicated that members of cooperatives who had large land sizes supplied less quintals of their product to cooperatives because they were selling their products to merchants at their home. The result of the survey indicates the majority of the members sample respondents which accounts for 89.74 percent produce more teff than wheat and other crops (Survey Result, 2022/23).

Table 4. Consecutive three years members teff production (2020 – 2022/23)

Range of Production (Quitals)	2020		2021		2022/23	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
10 – 20	63	17.95	70	20.0	63	17.95
25 – 30	171	48.71	117	33.30	159	45.30
35 – 40	72	20.51	92	26.20	94	26.78
45 – 50	45	12.82	72	20.50	35	9.97
Total	351	100.0	351	100.0	351	100.0

Source: Survey Result, 2022/23

Table 4 shows in the past three consecutive production years (2020 – 2022/23); out of three hundred fifty one (351) sample member respondents, the majority of them which accounts for 48.7 percent, 33.3 percent of them and 45.3 percent produced 25 – 30 quintals of teff.

Table 5. Three consecutive Production years Members Sales Volume to Cooperatives

Range of Teff Sales Volume (Quitals)	2020		2021		2022/23	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 - 5	262	74.64	279	79.49	299	85.18
6 - 10	54	15.38	35	9.97	31	8.83
11 - 15	24	6.84	26	7.41	10	2.85
16 - 20	11	3.14	11	3.13	11	3.14
Total	351	100	351	100	351	100

Source: Survey Result, 2022/23

Table 6: Members sales volume to merchants in the past three production years

Range of Teff Sales Volume (Quitals)	2020		2021		202223	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 - 5	16	4.56	9	2.56	7	2.0
6 - 10	50	14.25	35	9.97	58	16.52
11 - 15	74	21.08	82	23.36	96	27.35
16 - 20	211	60.11	225	64.10	190	54.13
Total	351	100	351	100	351	100

Source: Survey Result, 2022/23

Table 5 shows that sample member respondents reported only 3.14 percent of them sold large quantities of teff (16 – 20 quintals) to cooperatives in the past three years (2020 – 2022/23). Table 6 indicates in the past three consecutive production years (2020 – 2022/23); out of the total sample respondents, a greater number of them which accounts for 60.11 percent, 64.10 percent and 54.13 percent sold many quintals (16 – 20 quintals) teff to merchants.

Table 7. Three consecutive years average price of cooperatives and market (2021-2022/23)

Price Ranges of Cooperative (ETB)	Respondents		Price Ranges of Market (ETB)	Respondents	
	Frequency	Percent		Frequency	Percent
2,800 - 3,000	168	47.86	3,000 - 3,200	103	29.34
3,200 -3,300	173	49.29	3,400 - 3,500	154	43.87
3,500 -3,600	10	2.85	3,600 - 3,800	94	26.78
Total	351	100	Total	351	100

Source: Survey Result, 2022/23

As Table 7 depicts merchants kept higher price advantages for suppliers than cooperatives. This study depicted that due to the prices of cooperatives being less than the market price cooperative members were not interested in supplying their products to cooperatives.

Table 8. Services areas of cooperatives to their members

Degree of Agreement	Services areas of Cooperatives to their members								
	Priority giving during agricultural input distribution			Giving Mechanization			Agricultural inputs provision		
	Freq.	%	Mean	Freq.	%	Mean	Freq.	%	Mean
SDA	196	56		152	43.3		318	90.6	
DA	155	44		115	32.76		33	9.4	
N	-	-		49	13.96		-		
Ag	-	-	1.44	35	9.97	1.9067	-		1.0933
SA	-	-		-	-		-		
Total	351	100		351	100		351	100	

Source: Survey Result, 2022/23 Note: SA= Strongly Disagree, DA= Disagree, N= Neutral, Ag= Agree, SA=Strongly Agree

Table 8 depicts that out of three hundred fifty one (351) sample cooperative member respondents, 56 percent and 44 percent of them strongly disagree and disagree with the statement that priority is given to members during agricultural inputs distribution respectively. This study indicated that cooperatives were not giving priority to members during agricultural inputs distribution. The above table shows that the average response of sample respondents was 1.9067 which is very much related to disagreeing responses in the context of this study with the statement cooperatives provide mechanization services for their members. This study depicted that the cooperatives did not provide mechanization services for their members. The same table reveals that the average responses of all sample respondents was 1.0933 which is very much related to strongly disagree responses with cooperatives providing agricultural inputs credit for its members. This indicates that cooperatives were not providing agricultural inputs credit for their members and agricultural inputs were directly sold to members and non-members of cooperatives on cash. Besides, the output of the multiple linear regression model in Table 1 shows there was an inverse relationship between agricultural inputs credit and members' sales volume. Finally, the output of the multiple linear regression model in Table 1 depicted that the production capacity of members and their sales volume have a

negative relationship. This indicates that those who had the capacity for production, supplied less quantity to cooperatives because they are selling their products to merchants at their homes.

Explanation of significant explanatory variables on dependent variable

The maximum likelihood estimation of the multiple linear regression model showed that education level, family size, duration of membership, household land size, price of cooperatives, agricultural inputs credit and production capacity were important factors affecting members' sales volume in Multipurpose Agricultural Cooperative Societies in the study areas.

Age: is one of among continuous variables that would be hypothesized to affect members' sales volume positively or negatively. The output of the multiple linear regression model in Table 1 shows that even though age and members' sales volume have a positive relationship, age was not significant.

Educational Level: is a continuous variable and refers to the number of years of formal schooling the member attended. Thus, for this study, it was assumed those who are literate and have at least some education were better able to participate in cooperatives. The output of the multiple linear regression model in Table 1 indicates that a positive relationship exists between the education level of members and their sales volume. This shows that a unit change in education level increases members' sales volume by unstandardized coefficients of beta at 0.43 quintals. This is statistically significant at a 5 percent probability level (P = 0.0476). This implies that members of the cooperatives who are literate supply their product to cooperatives more than illiterate members because they have more awareness than illiterate members.

Family size: is one of among continuous variables that would be hypothesized to affect members' sales volume positively or negatively. The output of the multiple linear regression model in Table 1 reveals that family size and members' sales volume have a negative relationship. This implies that a unit change in family size decreases sales volume by 0.034 quintal. This is statistically significant at a 1 percent probability level (P = 0.000). This indicates that those who had large family sizes supplied fewer quintals of their product to cooperatives because they were feeding their families.

Duration of membership: is a continuous variable that refers to years of experience as a member of a cooperative. Thus, longer or shorter duration of membership has been assumed to positively or negatively influence members' sales volume in cooperatives. The output of the multiple linear regression model in Table 1 reveals that the duration of membership and members' sales volume have a positive relationship. This implies that a unit change in duration of membership increases sales volume by 0.051 quintals. This is statistically significant at a 5 percent probability level (P = 0.0352). This indicates that those who had a longer duration of membership sold greater quintals of their product to cooperatives due to experience with the benefits of a greater supply of products to cooperatives.

Land size: is one of the continuous variables that would be hypothesized to affect members' sales volume positively or negatively. The output of the multiple linear regression model in Table 1 depicts land sizes and members' sales volume having an inverse relationship. This implies that a unit change in land size decreases sales volume by 0.030 quintals. This is statistically significant at a 1 percent probability level (P = 0.00546). This indicates that those who had large hectors of land supplied fewer quintals of their product to cooperatives because they are selling their products to merchants at their homes.

Number of oxen: is one of the continuous variables that would be hypothesized to affect members' sales volume positively. The output of the multiple linear regression model in Table 1 indicates even though a number of oxen owned and members' sales volume has a positive relationship, it is statistically not

significant due to its probability level (P = 0.990).

Price: is a continuous variable that indicates the price of agricultural products at cooperatives and to be compared with market price. In this study, the price would be assumed to positively or negatively influence members' sales volume in a multipurpose agricultural cooperative society. The output of the multiple linear regression model in Table 1 indicates price and members' sales volume have a positive relationship. This implies that a unit change in price increases sales volume by 0.056 quintals. This is statistically significant at less than 1 percent probability level (P = 0.00937). This indicated that when the price of cooperatives rose, members supplied to cooperatives. However; due to prices of cooperatives being less than the market price, cooperative members were not interested in supplying their products to cooperatives. The reason was cooperatives set prices on the meetings of committees whereas merchants' prices fluctuate depending on the market situations.

Annual income: is one among continuous variables that would be hypothesized to affect members' sales volume positively or negatively. The output of the multiple linear regression model in Table 1 shows that even though annual incomes and members' sales volume have a negative relationship, it is statistically not significant because of the probability level (P = 0.478).

Agricultural inputs credit is a dummy variable that would be assumed to positively impact members' sales volume in cooperatives. In contrast, the output of the multiple linear regression model in Table 1 shows there was an inverse relationship between agricultural inputs credit and members' sales volume. This implies that a unit change in agricultural inputs credit decreases sales volume by 0.009 quintals. This is statistically significant at a 10 percent probability level (P = 0.946). This implies that members of the cooperatives had no access to agricultural inputs credit or services from their cooperatives.

Production capacity: is one among continuous variables that would be hypothesized to affect members' sales volume positively. By contrast, the output of the multiple linear regression model in Table 1 depicts that production capacity and members' sales volume have an inverse relationship. This implies that a unit change in member production capacity decreases sales volume by 0.067 quintals. This is statistically significant at less than a 5 percent probability level (P = 0.402). This indicates that those who had production capacity /produced many quintals/ supplied less to cooperatives because they are selling their products to merchants at their homes.

Conclusions

The study was conducted on the impact of socio-economic factors on members' sales volume to cooperative societies in selected districts of Southwest Shewa Zone of Oromia National Regional State.

The result of this study indicated that the sales volume of members of Multipurpose Agricultural Cooperative Societies was significantly influenced by educational level, family size, duration of membership, household land size, agricultural inputs credit and production capacity.

Given the descriptive statistics (frequency, percentage, mean, Standard Deviation, minimum and maximum) and multiple linear regression analysis results for the purpose of enhancing members' sales volume in Multipurpose Agricultural Cooperative Societies, the following recommendations are made: it is recommended that as cooperatives conduct market assessment especially at the local market and they should not set purchase prices below market price, as well as they should try to follow the market price every time, it is important if the cooperatives give priority for the members, it is crucial if the cooperatives render agricultural inputs credit services for its members, it is suggested that the cooperatives should distribute dividend for the members every year after the audit was conducted, it is vital if the cooperatives perform awareness creation on those who have

a large family sizes to use family planning and for members who had a large land sizes regarding to advantages of selling their products to cooperatives.

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