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Impact of Credit and Thrift Cooperative Societies on Savings Mobilization and Poverty Status of Farmers in Imo State, Nigeria

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ABSTRACT

The study analyzed impact of credit and thrift cooperative societies on savings mobilization and poverty status of farmers in Imo State, Nigeria. Multistage random sampling technique was used to select 162 members and 162 non-members of credit and thrift cooperatives from whom data were collected with aid of structured questionnaire. Data collected were analyzed using descriptive statistics, poverty indicators, z-test and multiple regression model. Results showed that mean age of the members and non-members were 44 years and 45 years respectively. Mean farm size of the members and non-members were 1.02 hectares and 0.97 hectares respectively, while, mean annual farm income of the members and non-members were ₦210,124.74 and ₦163,412.33 respectively. Members and non-members of credit and thrift cooperatives saved annual mean amount of ₦115,216.68 and ₦70,373.76 respectively. Result showed that farmer cooperators had access to credit facilities (X = 3.86). Also, 33.33% of the cooperators saved on monthly basis. Furthermore, members and non-members of credit and thrift cooperative societies had poverty line of N13,827.35 and N12,814.08 respectively. Also had poverty incidence of 0.3146 and 0.3863 respectively, and poverty gap of 0.4143 and 0.5356 respectively. Result of Z-test analysis showed significant mean difference in annual savings and poverty line of members and non-members at $p<0.05$. The OLS regression analysis with linear function as lead equation posted R^2 value of 0.7031, and showed that number of persons in the group, value of asset, monthly subscription, age, education level and gross income were significant determinants of savings mobilization among credit and thrift cooperatives. There was significant difference in annual savings of members of credit and thrift cooperatives and the non-members. Membership to credit and thrift cooperative society reduced poverty level of farmers. It was recommended that farmers should be encouraged and enlightened by relevant government and non-government agencies on the need and importance of forming and belonging to credit and thrift cooperative societies.

Key words: Credit and thrift cooperatives, farmers, savings, poverty
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INTRODUCTION

The issue of poverty is a global phenomenon that cuts across all nations of the world. Poverty as described by Osen (2007) is a state of involuntary deprivation in which a person, household, community or nation can be subjected to. In Nigeria, adequate agricultural financing has been identified as a major means of reducing poverty (Oluyombo, 2010). This is because agricultural sector is the single largest employer of labour in Nigeria with more than 65% of the country's population earning all or part of their income from agriculture (Oke, Adeyemo & Agbonlahor 2007).

Credit is a key input in every developmental program, because as long as sufficient credit is not provided to the poor segment of the society the goal of development/poverty alleviation programmes cannot be achieved. To ameliorate this situation, many farmers resulted to form and belong to cooperative societies. Cooperative societies are member owned, volunteer-led, self-help democratic institutions that provide material benefits and services to its members (Ekpenyong, 2005). According to Antai and Anam (2015), cooperative societies are voluntary associations of people who work together to promote their economic, social and cultural needs and aspirations.

Members of credit and thrift cooperative societies are expected to save a specific amount of money daily, weekly, monthly or quarterly as is convenient for the group and individual (Vosanka, Simon, Rikwentishe & Alam, 2015).

Savings is important for accumulation of capital required to generate future income, enable future consumption and provide mechanism for managing risks (Ogbonna & Osondu, 2021). Savings mobilization describe the process involved in the sourcing of fund and the saving of funds to boost agricultural activities that are carried out by cooperative societies. Savings mobilization is a key component in any development endeavour as it is believed to be a means of increasing income and boosting productivity in attempt to eradicate poverty. Yet, inability to build appropriate level of institutional capital from members by cooperatives remains a major challenge (Aribaba, 2013).

In light of the foregoing, this study seeks to:

i. describe socio-economic characteristics of members and non-members of credit and thrift cooperatives in the study area.

ii. ascertain level of access of farmer cooperators to micro-credit from credit and thrift cooperative societies.

iii. describe the frequency of savings by members of credit and thrift cooperative societies;

iv. analyze the poverty profile of members and non-members of credit and thrift cooperative societies;

v. determine effect of membership to credit and thrift cooperative societies on savings and poverty profile of farmer cooperators, and

vi. determine factors influencing savings mobilization by credit and thrift cooperative societies.

METHODOLOGY

The Study Area

The study was carried out in Imo State. The state is made up of twenty-seven Local Government Areas (LGAs) clustered within three agricultural zones namely Okigwe, Orlu and Owerri zones. Imo State lies between latitudes 40 45' and 7015' North of the equator and longitudes 60 50' and 7025' East of the Greenwich meridian and the state has a land area of 5,530 sq.km with a population of 3,927,563 people of which 1,951,092 are females and 1,976,471 males (NPC, 2006). The total projected population figure as at 2021 with a 30% rate of increase was estimated to be 353,546,884 with 175,631,173 males and 177,915,711 females. The state is bordered by Abia State to the East, the River Niger to the West, Anambra State to the North and Rivers State to the South. Within the State are numerous registered cooperative societies including credit and thrift cooperative societies.

Sampling Technique

The study adopted multistage random sampling technique in the selection of samples size. First, list of all registered credit and thrift cooperatives was obtained from the ministry of cooperatives. Next, two local government areas (LGAs) were randomly selected from each of the three agricultural zones that make up the State. This gave 6 LGAs. Using the list obtained from ministry of cooperatives as a guide, 9 credit and thrift cooperative societies were randomly selected from each of the 6 LGAs to give 54 credit and thrift cooperative societies. Lastly, 3 cooperators were randomly selected from each of the selected 54 cooperatives to give a total of 162 cooperators.

Similarly, nine farmer non-cooperators were selected randomly from each of the LGAs and communities where the 54 famer cooperators were selected. This gave a sample of 324 respondents

(162 farmer cooperators and 162 farmer non-cooperators). The non-cooperators were included in the survey to provide a veritable baseline or control in order to make effective comparison among cooperators.

Data Collection

Primary and secondary data were used for the study. The primary data were generated through a field survey with the aid of two sets of structured and pre-tested questionnaire. The questionnaire was administered on both farmer cooperators and non-cooperators. The data of interest included personal and household demographics, savings and poverty profile (household consumption/expenditure details in the last one month prior to the survey) and constraints to savings/credit mobilization by farmer cooperators. The secondary data were sourced through the official records of the sampled cooperatives.

Analytical Technique

Descriptive statistics were used to describe socio-economic characteristics of members and non-members of credit and thrift cooperatives (objective i), and frequency of savings by members of credit and thrift cooperative societies (objective iii).

Level of access of farmer cooperators to micro-credit from credit and thrift cooperative societies (objective ii) was analyzed with mean score from 5 point Likert scale. Level of access of farmer cooperators to cooperative micro-credit was assessed using a 5-point Likert scale graded thus: Very high = 5, high = 4 moderate = 3, low = 2 and very low = 1. The values of the responses were added and further divided by 5 to obtain a mean score of 3.0, which was regarded as mean level of access to microcredit from cooperative societies. Farmers with mean score of 3.0 and above were regarded as having access to microcredit from cooperative societies, while those below mean score of 3 were regarded as having no access to microcredit from cooperative societies.

Thus, mean access to cooperative's microcredit = $\bar{X}$

$\bar{X}$ = $\sum$fx/N, (The mean score).

Mean ($\overline{X}$) of each item was computed by multiplying the frequency of positive response to each question with its appropriate Likert nominal value and the sum was divided by the sum of the number of the respondents to the items. This is summarized with the equation below:

$$\bar{X} = \sum fn/N. \quad \ldots \quad (1)$$

Where

$\bar{X}$ = mean score;

$\sum$ = summation sign;

F = frequency or number of respondents who responded positively;

n = Likert nominal value;

N = Number of respondents.

Poverty profile of members and non-members of credit and thrift cooperative societies (objective iv) were analyzed through use of poverty indicators. The following specifications were used to determine poverty level or ratio among members and non-members of cooperatives, in accordance to Osondu, Emerole, Ezeh, and Ogbonna (2015):

$$H=q/n \ldots \quad (2)$$

Where:

H= head count ratio;

q= number of farmers that are poor;

n= total number of farmers;

The poverty gap was calculated as:

$$I= \frac{1}{N} \Sigma(\frac{Z-Y}{Z}) \ldots \quad (3)$$

I = Poverty gap

Z= Poverty line – estimated using two-third mean household expenditure (relative scale)

Y= average per capital household expenditure of poor farmers.

The poverty line was estimated as follows:

$$Z=2/3\ (Y) \ldots \quad (4)$$

Where,

Z= Poverty line measured in Naira (₦)

Y= Mean per capita household expenditure measured in Naira (₦)

Given:

$$\text{per capita} = \frac{\text{expenditure}}{\text{income}} = \frac{\text{Total monthly household expenditure}}{\text{Household size}}$$

$$\text{Mean capita household expenditure} = \frac{\text{Total per capita household expenditure}}{\text{Total number of households}}$$

Z-test was used to determine effect of membership to credit and thrift cooperative societies on savings and poverty profile of farmer cooperators (objective v). The z-test model used is as follows:

$$z = \frac{\bar{X} - \bar{X}}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \quad (5)$$

Where;

z = z-test statistic;

$\bar{X}$ = Sample mean of savings/poverty indicators of farmer cooperators;

$\bar{X}$ = Sample mean of savings/poverty indicators of farmer non-cooperators;

S_1^2 = Sample variance of savings/poverty indicators of farmer cooperators;

S_2^2 = Sample variance of savings/poverty indicators of farmer non-cooperators;

n_1 = Sample size of farmer cooperators;

n_2 = Sample size of farmer non-cooperators;

The z-test was carried out at 5% alpha level

Ordinary Least Square (OLS) multiple regression model was used to analyze factors influencing savings mobilization by credit and thrift cooperative societies (objective vi). The regression model used is implicitly stated as follows:

$$Y = F(X_1, X_2, X_3, X_4, X_5 \ldots\ldots X_{10}, ei) \ldots \quad (6)$$

Where,

Y = Microcredit mobilized (Naira);

X_1 = Number of persons in the group (number);

X_2 = Value of asset (₦);

X_3 = Savings interest rate (%);

X_4 = Monthly subscription (₦);

X_5 = Age (years);

X_6 = Farm size (hectare);

X_7 = Education level (years of schooling);

X_8 = Household size (number);

X_9 = Gross income (₦);

X_{10} = Extension contact (number of contacts);

ei = Error term

RESULTS and DISCUSSION

Socio-economic Characteristics of Respondents

Distribution of the respondents according to socio-economic characteristics is shown in Table 1. 70.37% of the members of credit and thrift cooperatives and 55.56% of the non-members of credit and thrift cooperatives were males. The result indicates that more males than females participated in credit and thrift cooperative societies in Imo State. This result is similar to the findings of a study conducted in Ethiopia by Woldu, Tadesse, and Waller, (2013) This finding also lends credence to results obtained by Awotide, B.A., Awoyemi, T.T. and Fashogbon, A. (20155 and Anigbogu, T.U., Agbasi, O.E. and Okoli, I.M. (2017). among members of cooperative societies in Nigeria. Table 1 also shows that mean age of the members and non-members of credit and thrift cooperative societies were 44 years and 45 years respectively. This indicates that both group of farmers (members and non-members) were still active and energetic and thus capable of withstanding the stress involved in agricultural production. The result compares favourably with finding of Awotide *et al*. (2015) which reported mean age of 43 years among members of cooperative societies and mean age of 45 years among the non-members. Meanwhile, 48.15% of the members of credit and thrift cooperatives and 40.74% of the non-members had secondary school education. Also, 12.96% of the members of credit and thrift cooperatives and 7.41% of the non-members had tertiary school education. The findings of this result indicates that members of credit and thrift cooperatives were relatively more educated than non-members of cooperatives. Educated farmers will be better positioned to appreciate the impact of social capital (benefits of belonging to a group) associated with cooperative membership on their farm business. This could have accounted for the higher percentage of farmers with secondary and tertiary education being involved as members of credit and thrift cooperatives.

As shown in Table 1, 88.89% of the members and 40.74% of the non-members had access to credit. The result is not surprising given the fact that credit and thrift cooperative societies exist mainly to provide savings and credit facilities to members. The few (11.11%) members of credit and thrift cooperatives who had no access to credit could be new members who are yet to get to their turn of accessing micro-credit since cooperative credit were rotated amongst members. It could also be due to neglect on the part of leaders of the cooperatives in ensuring that every member accesses available micro-credit. The higher level of access to credit among the cooperators is an advantage

in increasing farm productivity and reducing poverty level. Furthermore, mean farm size of the members and non-members of credit and thrift cooperative societies were 1.02 hectare and 0.97 hectare respectively. This result supports Awotide *et al.* (2015) assertion that cooperative organizations in rural Nigeria are mostly groups of smallholder farmers who team up together in order to overcome the challenges of smallness. Additionally, mean annual farm income of the members and non-members of credit and thrift cooperative societies were ₦210,124.74 and ₦163,412.33 respectively. The higher the income of farmers, the more likely they can improve their welfare and reduce poverty level (Ijioma & Osondu, 2015). Ibezim, G. M. C., Okoroigwe, L. C. and Ijioma, J. C. (2010). opined that members of cooperatives earned higher farm income than non-members because of their better access to agricultural information and credit. With respect to annual savings, it is seen that the members of credit and thrift cooperatives saved annual mean amount of ₦115,216.68 while the non-members saved annual mean amount of ₦70,373.76, indicating that the members of credit and thrift cooperatives saved more than the non-members.

Table 1: Distribution of the respondents according to socio-economic characteristics

	Members			Non-members		
Variables	**Frequency**	**Percentage**	**Mean**	**Frequency**	**Percentage**	**Mean**
Gender						
Female	48	29.63		72	44.44	
Male	114	70.37		90	55.56	
Age (years)						
20 – 29	6	3.70		9	5.56	
30 – 39	45	27.78		30	18.52	
40 – 49	63	38.89	44.27	72	44.44	45.28
50 – 59	33	20.37		36	22.22	
60 – 69	12	7.41		9	5.56	
70 – 79	3	1.85		6	3.70	
Education Level						
None	18	11.11		30	18.52	
Primary school	45	27.78		54	33.33	
Secondary school	78	48.15		66	40.74	
Tertiary school	21	12.96		12	7.41	
Credit Access						
Yes	144	88.89		66	40.74	
No	18	11.11		96	59.26	
Farm Size (hectare)						
0.1 - 1.0	84	51.85		93	57.41	
1.1 - 2.0	60	37.04	1.02	36	22.22	0.97
2.1 – 3.0	18	11.11		24	14.81	
3.1 – 4.0	0	0.00		9	5.56	
Farm Income (₦)						
< 100,000	33	20.37		57	35.19	
100,000-199999	87	53.70	210,124.74	69	42.59	163,412.33
200,000-299999	42	25.93		30	18.52	
Above 299999	0	0.00		6	3.70	
Annual Savings (₦)						
Less than 50,000	9	5.56		27	16.67	
51,000-100,000	48	29.63	115,216.68	72	44.44	70,373.76
101,000-150,000	66	40.74		45	27.78	
Above 150,000	39	24.07		18	11.11	

Source: *Field survey, 2022*

Level of Access of Farmer Cooperators to Micro-credit from Credit and Thrift Cooperative Societies

The level of access of farmer cooperators to credit from credit and thrift cooperative societies is shown in Table 2. The table shows that 44.44% and 24.07% of the cooperators had high and very high access to micro-credit from their cooperatives respectively, while 18.52% of them had moderate access to micro-credit from credit and thrift cooperative societies. Few of the cooperators (7.41% and 5.56%) had low and very low access to their cooperative credit facilities. The mean

score ($\bar{X}$ = 3.86) for access of cooperators to credit facilities of credit and thrift cooperative societies was greater than the threshold score of 3.0, implying that the cooperators had access to micro-credit from credit and thrift cooperative societies. This shows that credit and thrift cooperative societies played a significant role in enhancing access of its members to credit.

Table 2: Distribution of farmer cooperators according to level of access to micro-credit from credit and thrift cooperative societies in Imo State

Level of access	Very high	High	Moderate	Low	Very low	Total Likert Score	Mean
Cooperative micro-credit	195 (24.07)	288 (44.44)	90 (18.52)	24 (7.41)	9 (5.56)	606	3.74

Source: *Field Survey, 2022*

Decision Rule 3.0 and above = Access; Decision Rule < 3.0 = No access

Figures in parentheses are percentages.

Savings Frequency of Members of Credit and Thrift Cooperatives Societies

The distribution of the cooperators according to their frequency of savings is shown in Table 3. The table shows that 33.33% of the cooperators saved on a monthly basis, while 29.63% of them saved sporadically. Also, 16.67% of the cooperators saved on a weekly basis, while 20.37% of them saved every two weeks. Members of credit and thrift cooperative societies are expected to save a specific amount of money daily, weekly, monthly or quarterly as is convenient for the group and individual (Vosanka *et al.,* 2015). Making cash savings on a regular basis by cooperators is good since members can borrow from the societies' purse at reasonable interest rate without collateral and invest in their farms for improved productivity and income (Mavimbela *et al*., 2010) Table 3 also showed that 29.63% of the cooperators saved sporadically. This means that these cooperators saved as at when they had excess income and do not have a particular pattern of saving. It could also be that apart from the regular savings made by these cooperators in their cooperatives, they made some personal savings, hence the posture of the result.

Table 3: Distribution of members of credit and thrift cooperative societies according to frequency of savings in Imo State

Frequency of Savings	Frequency	Percentage
Weekly	27	16.67
Fortnightly	33	20.37
Monthly	54	33.33
Sporadically	48	29.63
Total	162	100.00

Source: *Field survey, 2022*

Poverty Profile of Members and Non-Members of Credit and Thrift Cooperative Societies

The poverty profile of the members and non-members of credit and thrift cooperative societies is shown in Table 4. The table shows that the poverty line (two-third of mean monthly household expenditure) of the members of credit and thrift cooperative societies was ₦13,827.35, while poverty line of the non-members was ₦12,814.08.

The poverty incidence or head count ratio of the members of credit and thrift cooperatives was 0.3146, while the poverty incidence of the non-members was 0.3863. This implies that 31.46% and 38.63% of the members and non-members of credit and thrift cooperatives in the study area were poor because their expenditure level fell short of the poverty line.

The poverty gap (poverty depth) also known as the income short fall allows for the assessment of depth of poverty among the members and non-members. Table 4 shows that the poverty gap of members of credit and thrift cooperative societies was 0.4143, while poverty gap of the non-members was 0.5356. This implies that the poor members of credit and thrift cooperative societies required 41.43% of the poverty line (₦13,827.35) monthly to get out of poverty, while the poor non-members of credit and thrift cooperatives required 53.56% of the poverty line (₦12,814.08) monthly to get out of poverty. This amounts to ₦5728.67 and ₦6,863.22 required on average by each poor member and non-member respectively to rise above the poverty line. This result indicates that the members of credit and thrift cooperative societies had relatively higher poverty line, but lower poverty incidence and poverty gap. This implies that the cooperative members relatively enjoyed better welfare than the non-members.

Table 4: Poverty profile of members and non-members of credit and thrift cooperative societies in Imo State

Poverty indicators	Members	Non-Members
Mean monthly income (₦)	30,342.41	25,085.60
Mean monthly expenditure (₦)	22,241.03	19,221.12
Poverty line (₦)	14827.35	12814.08
Poverty incidence	0.4146	0.4863
Poverty gap (Poverty Depth)	0.4143	0.5356

***Source**: Field Survey, 2022*

3.5 Effect of Membership to Credit and Thrift Cooperative Societies on Savings and Poverty Profile of Farmer Cooperators

The z-test result of effect of membership to credit and thrift cooperative societies on savings and poverty profile of farmer cooperators is shown in Table 5. The table shows that the mean monthly savings of members of credit and thrift cooperative societies was ₦9,601.39, while the mean monthly savings of non-members was ₦5,864.48. The mean difference between both groups of farmers was ₦3,736.91. The result of the z-test for mean difference (2.360) was statistically significant at $p<0.05$, indicating significant differences in monthly savings of both group of farmers. This implies that being member of credit and thrift cooperative societies exerted significant impact on amount saved by farmers monthly.

Table 5 further shows that the z-test analysis for difference in poverty line of members and non-members of credit and thrift cooperative societies posted z-value of 1.962 which was significant at 5% alpha level, implying that being a member of credit and thrift cooperative society in the study area had significant impact on poverty line.

Table 5: Result of z-test analysis of effect of membership to credit and thrift cooperative societies on savings and poverty profile of farmer cooperators

Variables	Individual mean	Mean difference	Standard deviation	z-value	Critical Z-value
Mean monthly savings of members	9601.39		4213.52		
		3736.91		2.360**	1.96
Mean monthly savings of non-members	5864.48		2254.13		
Poverty line of members	14827.35		4142.21		
		2013.27		1.962**	1.96
Poverty line of non- members	12814.08		3008.57		
Poverty incidence of members	0.3146		0.1045.46		
		-0.0717		-0.749	1.96
Poverty incidence of non-members	0.3863		0.1538.13		
Poverty gap of members	0.4143		0.1204.70		
		-0.1213		-0.483	1.96
Poverty gap of non- members	0.5356		0.1722.61		

Source: Field survey, 2022

*** Significant at 5.0% alpha level*

3.6 Factors Influencing Savings Mobilization by Credit and Thrift Cooperative Societies

The result of OLS multiple regression analysis of factors influencing savings mobilization by credit and thrift cooperative societies is presented in Table 6. All the four functional forms (linear, exponential, semi-log and double log) were significant at given levels, implying that any of the four functional forms could be used for predictive purposes. The linear functional form was chosen as the lead equation based on number of significant coefficients, value of coefficient of multiple determination (R^2) and F-ratio. The linear function posted R^2 value of 0.815 indicating that 81.5%

of variability in savings mobilized by credit and thrift cooperative societies was explained by joint action of the explanatory variables included in the OLS model. The F-ratio value of 31.194 is statistically significant at 1% alpha level, suggesting that the model provided a reasonably good estimate of the dependent variable. The significant variables that explained variation in savings mobilized by credit and thrift cooperative societies were number of persons in the group, value of asset, monthly subscription, age, education level and gross income.

The coefficient of number of persons in the group (7641.099) was positive and significant at 1% alpha level. This implies that the higher the number of persons in the cooperative group the larger the aggregate savings mobilized by the group. This result lends credence to Mwelukidiwa (2001) observation that cooperatives are made up of large group of people of limited means who pull their resources together to achieve commonly identified development needs.

Also, the coefficient of value of asset (0.620) was positive and significant at 5% alpha level, implying that the amount of savings mobilized by cooperatives is directly influenced by asset base of members. This result makes sense as farm household assets can be used to generate income, hence, the higher the asset base the higher the income generated thereby increasing savings. This agrees with Nwankwo *et al.* (2012) assertion that the attraction of farmers to agricultural cooperatives is largely because of its role in helping farmers harness their assets, acquire farm inputs, access credit and improve income earnings.

Monthly subscription had a positive coefficient (0.553) which was significant at 5% alpha level. This result implies that the higher the monthly deposits made by cooperative members in their respective cooperative societies the higher the amount mobilized. Awotide *et al.* (2015) also found that monthly subscription impacted positively on savings mobilization by cooperatives in Nigeria.

The coefficient of age (-523.562) was negative and significant at 10% alpha level, implying that the amount mobilized by the cooperatives decreased as age of members increased. This finding agrees with the life cycle hypothesis of savings, which posits that a person's savings would increase up to a point and then start decreasing as he grows old. It is expected that savings by members of credit and thrift cooperative societies would be diminishing with age as they grow older and become increasingly unable to cope adequately with stress and rigours of farming. Omonona (2009) asserted that at the early stage of life, earnings rise before gradually declining in

later years. He further noted that this is usually the case for households who are into energy sapping occupations like farming and other occupations that have a fixed retirement age. The ability to work large farms with crude implements declines with age (Ogbonna & Osondu, 2021). So as age increases, income shrinks, which automatically reduces savings. This result compares favourably with finding of Mpuga (2008) that age negatively affects farmers' ability to save.

Education level had a positive coefficient (2354.394) that was significant at 5% alpha level. This implies that increase in education level of members of credit and thrift cooperative societies increased amount of savings mobilized by the cooperatives. This is not surprising given the fact that a person's level of educational attainment is likely to affect his/her degree of business alertness and ability to seize business initiatives and advantages (Osondu & Nwadike, 2016). Increase in farmers' education level enable them to be better able to utilize efficiently and effectively available facilities in an area including savings facilities of cooperative societies. This result lends credence to Osondu *et al.*, (2015b) finding in Owerri agricultural zone of Imo State, that education level positively influenced amount saved by farmers.

The coefficient of gross income (0.433) was positive and significant at 5% alpha level. This implies that increase in gross income of members of credit and thrift cooperative societies stirred up increase in amount of savings mobilized by the cooperatives. It is expected that as earnings from all sources increase cooperators will be able to save more funds in their respective cooperatives. This is in agreement with Keynesian postulates that relate income positively to savings. The result indicates that, a Naira increase in gross income of cooperative members resulted to 0.433 Naira increase in savings mobilized.

Table 6: OLS estimates of factors that influenced savings mobilization by credit and thrift cooperative societies in Imo State

	Functional Forms			
Variables	**Linear+**	**Exponential**	**Semi-log**	**Double-log**
Constant	10919.862	10.441	-203642.229	9.028
	(0.452)	(0.070)	(-1.527)	(6.232)
Number of persons in the group	7641.099***	2.210***	53446.788**	0.552***
	(7.515)	(4.887)	(5.234)	(4.973)
Value of asset	0.620**	1.007**	2493.564*	0.034*
	(2.171)	(2.065)	(1.671)	(1.944)
Savings interest rate	1010.235	0.035	-11250.707*	0.052
	(1.477)	(0.573)	(-1.791)	(0.769)
Monthly subscription	0.553**	3.542*	5217.036	0.003
	(2.029)	(1.902)	(0.971)	(0.052)
Age	-523.562*	-2.010**	7666.870	0.034
	(-1.688)	(-2.155)	(0.373)	(1.624)
Farm size	6112.167	0.004	4343.966	0.152
	(0.758)	(0.859)	(0.529)	(0.322)
Education level	2354.394**	0.977*	26687.419**	0.427***
	(1.967)	(1.685)	(2.152)	(3.171)
Household size	-1194.167	-5.301E-006	-16711.923*	-0.130
	(-1.503)	(-0.998)	(-1.828)	(0.839)
Gross income	0.433**	0.462	7840.438	0.067
	(1.983)	(0.747)	(1.066)	(1.314)
Extension contact	99.442	0.048	-5863.485	0.11
	(0.351)	(0.946)	(-0.818)	(0.143)
R^2	0.815	0.752	0.748	0.744
Adjusted R^2	0.786	0.701	0.696	0.690
F-ratio	31.194	16.731	16.183	15.704

Source: *field survey, 2022.*
+ indicates lead equation
***, **, *: indicates variable that are statistically significant at 1.0%, 5.0% and 10% alpha levels respectively.
Figures in parenthesis are t-ratios

CONCLUSION AND RECOMMENDATIONS

The study showed that sex of members of credit and thrift cooperative societies was lopsided with greater number of them being males. Also, members of credit and thrift cooperatives had better access to credit facilities and saved more annually than the non-members. There was significant difference in annual savings of members of credit and thrift cooperatives and the non-members. Also, membership to credit and thrift cooperative society reduced poverty level of farmers. Factors such as number of persons in the group, value of asset, monthly subscription, education level and

gross income positively influenced savings mobilization by credit and thrift cooperative societies, while age negatively influenced savings mobilization by credit and thrift cooperative societies.

Based on findings of this study the following recommendations suffice:

i. Farmers should be encouraged and enlightened on the need and importance of forming and belonging to credit and thrift cooperative societies. To this end, government should through the relevant agencies intensify efforts aimed at sensitizing and encouraging farmers towards forming and belonging to credit and thrift cooperative societies.
ii. Credit and thrift cooperative societies should be gender neutral and give farmers of both gender equal opportunity of joining. Also, female farmers should be specifically encouraged and educated by extension workers to belong to cooperative associations so as to enjoy the numerous benefits emanating from being members of agricultural association.
iii. Policies that will improve group access to formal credit and other logistics that can help assist members of cooperative societies to live above the poverty line should be formulated.
iv. Credit and thrift cooperative societies should encourage members to diversify their income sources as this will impact positively on aggregate savings mobilized in the group.

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