Effects Of Membership Of Cooperative Organisations And Determinants On Farmer-Members' Income In Rural Anambra State, Nigeria

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ABSTRACT: The study examined the effect of membership of cooperative societies on the economic activities of farmers as well as the determinants of their income in rural Nigeria, focusing on Anambra State. Data from 2506 members, selected through multi-stage stratified random sampling were analyzed. The study found among others that members' incomes are dependent upon their socio-economic profile such as age, marital status, and membership or otherwise of cooperative societies, education, cooperative marketing, credit, gender and business expertise. Also respondents depend largely on farming related activities for generation of income in the study area. Furthermore, it was found that the major challenge of the farmer-members is inadequate fund, poor education and illiteracy among most members, conflict among members and lack of access to farm input. The Nigerian government is advised to formulate policies that will incorporate information from the local level that can support planning, implementation and evaluation of programmes that can enhance farmers' income; this however, will influence the pattern of agricultural growth in ways that can change income level of rural farmers to grow fast. The study recommends that cooperatives should intensify their education of members to gain more benefits, and that government, non-governmental organizations and international development agencies should show interest in supervising and providing development support to Farmers Cooperative Societies in rural Nigeria.

Keywords: Farmer-members' income, Membership of cooperative organizations, Rural, Socio-economic profile.

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INTRODUCTION

Cooperatives have long been recognized to play important roles in society that translate into the improvement of living conditions of their members, particularly the low-income earning cadres of the population; the rural people and the urban poor. Cooperatives aggregate people, resources and capital into economic units. Being voluntary, democratic and self controlled business organizations, cooperatives offer the institutional framework through which local communities gain control over the productive activities from which they derive their livelihood, [22]. Cooperatives provide the opportunity for farmers in the rural areas to raise their incomes. They are democratic organizations empowering people to find their own solutions. They increase financial security for the members, and contribute directly and indirectly to gender equality, [3]. Cooperatives for years had been dedicated to conducting business in a way now acknowledged as the most effective route to transformational development: putting people in-charge of their own destinies and helping to bring services to their communities; increase decision making trust and accountability through democratic participation; provide a profitable connection to private sector; build and protect assets at the community level; and, limit the role of government and working together to resolve problems OCDC, [19]. Co-operatives are sometimes the only providers of services in rural communities, given that

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traditional companies often find it too costly to invest in these areas. Co-operatives improve living conditions, solve specific socio-economic problems which include income generating; support rural development and preserve viability of rural communities,[10],[12].

STATEMENT OF THE PROBLEM

Rural farmers in Nigeria are still in the subsistence class. Their produce is barely for the family. Subsistence agriculture is characterized by extremely limited capital resources, use of traditional methods of production and low land and labour productivity. These characteristics tend to perpetuate the existing situation whereby agriculture produces barely enough for survival and cannot therefore make a substantial contribution to economic growth in terms of food security within the state, export and technology growth, while farmers too are inevitably poor and their income profile remain stagnant,[17]. The individual farmers are comparatively powerless against market forces and unable to obtain economies of scale by their effort. All over Nigeria, the small family farm with little output dominates agriculture. Hereditary laws and customs in many cases have led to continuous fragmentation and thus reduced the majority of farms to small and often scattered holding. Most of these farmers are near or even below the economic viability. Due to its size, the individual farm cannot influence the market on its own. The farmer cannot afford the necessary means to increase his productivity by expansion or intensification by modern farming methods; mechanization, pest control, seed selection and adequate marketing. The farmer cannot supply facilities out of his own resources, leading to lower productivity, underemployment, low income, low savings, low investment in farm and low yield,[5]. It does appear therefore, that rural farmers may not get out of their present predicament without positive external intervention. Cooperatives play a vital and direct role in social and economic development. Indeed, if one is looking for an organization that will be responsive to community needs, stimulate economic growth and raise people's income, cooperatives should be an

obvious choice, [7],[5]. Cooperatives represent a unique third way of social organizations that spring to life when the other two forms fail; that is when the markets and government fail to provide inputs, social goods or services effectively. Cooperatives, can therefore, be considered as ideal arrangement for income enhancement and hence pivotal to economic development. We deem it appropriate to examine the socio-economic profiles of the members of farmers' cooperatives in rural Nigeria focusing on Anambra State. The study explores the benefits of membership of cooperatives and examines how such socio-economic factors as education, age, marital status, business experience, family size, farm size, duration of membership of cooperative society, gender, access to farm input, and credit access determine the income of members. This paper seeks to empirically analyse the proximate determinants of income of farmer-members of cooperative societies in rural areas in Anambra state, Nigeria.

OBJECTIVES OF THE STUDY

The broad objective of this paper is to appraise the effects of membership of cooperative society on members' economic activities as well as the factors that determine farmer-members income in rural Nigeria. Specifically, the objectives are to:

i. examine the socio-economic profile of members;
ii. ascertain the effects of membership of cooperative societies on their economic activities;
iii. determine the factors that affect the income of members;
iv. identify the challenges farmer-members of cooperative societies face; and,
v. suggest ways of enhancing the income of members based on the findings.

Research Hypothesis

$H_{O1:}$ The income of members of FCS is not significantly dependent on their socio-economic profiles of age, gender, marital status, duration of membership of cooperative societies, household size, input obtained, cooperative marketing, processing obtained and credit access.

LITERATURE REVIEW

Income Concept and Cooperative
Income is crucial if basic needs are to be met in a sustainable manner. Yet income is generated by individuals who have an opportunity to take part in economic activities, and it is possible to save only if there is an adequate level of income,[8]. Income, therefore, is the consumption and savings opportunity gained by an entity within a specified time frame, which is generally expressed in monetary terms. However, for household and individuals, income is the sum of all the wages, salaries, profits, interest payments, rents and other forms of earnings received in a given period. For firms, income generally refers to net – profit, what remains of revenue after expenses have been subtracted. According to Yadollahi, et al.[23], income represents a flow of resources over a period of time, while wealth captures the stock of assets at a given point in time, and thus economic reserves. Income is the engine that drives the individual and entire economy because it is the only way to create demand. There is an emerging consensus among many actors, including the United

Nations (UN), the International Labour Organization (ILO), the International Cooperative Alliance (ICA) and the European Union (EU), that the cooperative enterprise is one of the few forms of organization that met all dimensions of poverty, raising members' income. The broad argument according to Wanyama et al.[22], is that cooperatives have the advantages of identifying economic opportunities for the poor, empowering the disadvantaged to defend their interests and providing security to the poor by allowing them to convert individual risks into collective risks, marketing farmers' produce and as avenues for saving and credit facilities as the informal financial institutions are mostly preferred by farmers due to easy accessibility, smallness of scale and informal nature of transactions. Cooperatives, therefore, represent one of the few options that farm entrepreneurs have for surviving in a more concentrated and integrated global agricultural environment. A primary motive for farmers to form and participate in agricultural cooperatives is to increase their income. Ghosh and Maharjan[9] believe that in agrarian developing country, cooperatives acts as an effective and efficient instrument to bring positive socio-economic changes for the masses.

REVIEW OF EMPIRICAL STUDIES ON COOPERATIVES AND INCOME GENERATION

According to ILO[12], over 100 million jobs have been generated by cooperative societies around the world. Agriculture remains the major source of income and employment in rural areas and the majority of the cooperatives are found in the agricultural sector. About 90,000 people in the agricultural sector of Ethiopia are estimated to generate their livelihood from their cooperatives[1], while in Egypt, about 4 million farmers could have gone without an income had they not been members of agricultural cooperatives,[4]. Olawepo [17] examined the determinants of rural farmers' income in the Afon district of Kwara State, in Nigeria, using data obtained from 268 farmers in the rural community. The stepwise multiple regression analysis method was adopted to empirically evaluate the determinants of income from farming production within a farming season. The findings show amongst others that output/yield per ton, cost of farm input and implements, accessibility to credit facilities and transport costs were the main determinants of farmers' income in the area studied.

MATERIALS AND METHODS

This study targeted members of farmers' cooperative societies in rural Nigeria, focusing on Anambra State, in the south-eastern region of Nigeria. Anambra State was created on 27th August, 1991 from the old Anambra State. It derives its name from the Anambra River, which is a tributary of the River Niger. The state occupies a landmass of 4416 square kilometers. The state has 177 communities in 21 Local Government Areas (LGAs). The population of the state is about 4,182,032 with an estimated annual growth rate of 2.8%,[2]. In selecting the respondents, multi-stage stratified random sampling, involving three stages was employed. Stage one involves a purposive selection of four LGAs that are predominantly rural and agrarian from each of the three geo-political zones that form Anambra State, namely; Anambra North, Anambra South and

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Anambra Central. There are a total of 440 FCS in the three zones of the state (Department of Cooperatives, Anambra State). To determine the number of FCS to be included in the study, Taro Yamane sample size determination formula

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

was adopted, giving us a total of 210 as sample FCS, with a total membership of 19,047 in the three zones. Again, applying the sample size determination formula to the number of members in each LGA yields the desired sample size per LGA which sums up to a study sample size of 3409. Stated below in table 3.1 are the communities in Anambra State. From which the sample was sourced.

Table 1: Distribution of Membership Selection from Selected FMCS.

LGA	Total No. of FMCS	No. of Selected FMCS	Total Membership in Selected FMCS	Sample of Membership from Selected FMCS
Anambra Central				
Anaocha	43	39	2841	351
Dunukofia	9	9	357	189
Idemili North	60	52	3354	357
Idemili South	40	36	1444	313
Anambra North				
Ayemelum	46	41	740	259
Onitsha North	24	23	419	205
Onitsha South	7	7	98	79
Oyi	50	44	2011	334
Anambra South				
Orumba North	66	57	2462	344
Orumba South	38	35	2965	352
Aguata	36	33	3076	354
Ekwusigo	21	20	847	272
Total	440	210	19047	3409

Source: Field Survey, 2014.

The second stage involved the selection of respondent members from each of the FCS, in the zones, using a proportionality factor such that the number of respondent members from each FCS was proportional to the population of members in the FCS. The third and last stage involved a random selection of respondents from the list of members in each of the selected FCS. This was done through the use of random table corresponding to the serial numbers of the names of the members in the membership register. Also, in order to ensure that adequate and accurate information was obtained, two members of management committee in each FCS were included in the sample. Data was collected through the administration of two sets of questionnaires;

one was for the members of management committee and the others for ordinary members. Also, secondary data was sourced from journals, published books, magazines and unpublished works. A total number of 2,506 questionnaires out of 3409 were returned, giving a return rate of 73.5%. Analysis of data was accomplished using descriptive statistics to describe the socio-economic variables. Multiple regression technique, using the ordinary least square (OLS) was employed to test the impact of socio-economic characteristics of members and some cooperative organisation related variables on income. The functional specification of the model is of the form:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12})$$ ………………… (1)

Three functional forms, viz linear, semi-log and double-log forms were fitted to the data. Where:
Y = Members' income in (in Naira)
X_1 = Formal education (number of years spent in school)
X_2 = Age (in absolute number)
X_3 = Marital Status (Dummy variable = single = 1, married = 2)
X_4 = Members' business experience (number of years in business)
X_5 = Family size (number of children)
X_6 = Farm size (in hectares)
X_7 = Cooperative experience (duration of membership)
X_8 = Gender (Dummy variable = Male = 1, Female = 2)
X_9 = Input obtained (in kilogram)
X_{10} = Cooperative marketing (in Naira)
X_{11} = Processing obtained (in Kilogram)
X_{12} = Credit (in Naira)

Aprior Expectation
Income is used as a dependant variable to represent the total influence of members characteristics on their economic enterprises.
- Formal Education (X_1): It was assumed that formal education would positively affect the income of members to enable them adopt new technologies on farm management.
- Age of Members (X_1): Age of members is expected that the more mature a member, the better understanding of co-operative benefits. Thus age of members was assumed to have positive effect on income.
- Marital Status (X_3): It was expected that married members would be more dedicated to their enterprises, therefore supposes positive relationship.
- Years of Members Experience (X_4): It was expected that the greater the number of years in operating an enterprise, the higher the income.
- Family Size (X_5): More family size will positively relate to income, as more labour will be supplied. It also highlights the likelihood of high poverty level among the farming household.
- Farm Size (X_6): It was expected that large farm size will be positively related to income.
- Co-operative Experience (X_7): More co-operative experience affects income as access to regular loan and finances and other inputs from the society can be obtained.

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- Gender (X_8): Gender of members is expected to be positive as no barrier exists on members' potentials to usurp opportunities.
- Input Obtained (X_9): Input obtained is expected to relate positively to income as members are supplied with unadultered farm inputs from the cooperative.
- Cooperative Marketing (X_{10}): Cooperative marketing is expected to have a positive on income as direct marketing activities by the cooperatives adds value and bridges middlemen.
- Processing Obtained (X_{11}): Processing obtained is expected to relate positively to income as accurate weights of produce are received by members.
- Credit (X_{12}): Credit is expected to have a positive sign on income as farmers who are not credit constrained have unlimited abilities to generate more income through farm investment.

RESULTS AND DISCUSSION

This section deals with the analysis of the data collected from the field survey. For the purpose of discussion, it is divided into three major sections; namely, socio-economic profile of members, effect of membership of cooperative societies on members' socio-economic status and the determinants of members' income.

SOCIO-ECONOMIC PROFILE OF FCS MEMBERS

A summary of the socio-economic profiles of the members is shown on Table 4.1. We note from the table that the average age of the respondents was 39years. This may indicate that members are mostly in their active age, which is advantageous to the physical demands of farming business. Most (67.50%) of the respondents are male, an indication that farming is still largely viewed as a male occupation. A good number of them (48.44%) attended primary school. Education, in this study meant the ability to read and write. Education according to Lu[14] affects farmer's level of susceptibility to the adoption of innovations and modern farming techniques, positively as it is human capital investment that enhances income. In terms of the main occupation, majority of the respondents (77.61%) are full-time farmers, indicating that the respondents depend heavily on farming and farming activities for generation of income. As regards the secondary occupation of our respondents, it is evident that most of them engage in either petty trading(28.7%) or apprentice jobs (25.30%).This is followed by those who are civil or public servants (16.7%), church teachers (15.3%) and artisans (14%). These statistics confirm that respondents engage in-and-off farm income activities. The responses indicate that 81.70% of the respondents are involved in commercial farming, 16.30% are producing at subsistence level, and 2% are involved in either plantation or animal husbandry. This implies that farming activities by members of the FCS in the study area is beyond the subsistence level. The distribution of types of crops grown shows that the respondents were engaged in the cultivation of various crops (root, legumes, grains, vegetable and fruits). They therefore, practiced a system of mixed cropping. The average farm size holding of the respondents was 1.01 hectare of land. The farm size is rather small; however, this is not uncommon in rural Nigeria, particularly in the study area because of its

communal land holding system. The average duration of membership of cooperatives society was found to be 4 years. This is considered adequate in driving the economic activities of members. The farmers' average agricultural output of 2.34 tons per hectare as well as their monthly average earned income of ₦27, 013.00, are considered poor. This is not surprising as previous studies by Ibekwe [11] had obtained similar findings, attributing it to weak farm management and land improvement systems, non exposure of farmers to extension programme and their lack of access to agricultural technology. We find also that the agricultural services engaged in by the farmers through their membership of cooperatives societies include input supply, processing, marketing, credit access and extension services. Specifically, two types of farm input were available to the farmers and these include fertilizer and improved seedlings.

Table 2: Distribution of Socio Economic Profile of Members

Variable Frequency		Percentage
Age (years)	(N – 2506)	(%)
0 – 20	0	0
21 – 30	473	18.87
31 – 40	881	28.71
41 – 50	974	38.86
51 – 60	160	6.38
> 60	18	7.18
Mean ( ) $\overline{X}$	39	
Gender		
Male	1692	67.50
Female	814	32.50
Educational Status		
No Formal Education	15	0.60
Primary Education	1214	48.44
Secondary	955	38.11
Technical	56	2.23
University	266	10.62
Main Occupation		
Full time farming	1945	77.61
Part – time farming	561	22.39
Secondary Occupation		
Petty Trader	719	28.70
Artisan	351	14.00
Apprentice	634	25.30
Civil/Public Servant	419	16.70
Religious Vocation	383	15.30
Farming System Practiced		
Subsistence	409	16.30
Commercial	2047	81.70
Plantation	50	2.00
Animal Husbandry	0	0
Types of Crops Grown		
Root Crops	2506	*100
Legumes	2506	*100
Grains	2506	*100
Vegetables/Fruits	2506	*100
Farm Size (hectares)		
0 – 0.5	334	13.34
0.6 – 0.9	835	33.32
1.0 – 1.5	585	23.34
> 1.50	752	30.00
Mean ( ) $\overline{X}$	1.01	

Cooperative Experience (years)

0 – 2	833	33.24
3 – 5	955	38.10
6 – 8	700	21.48
> 8	18	7.18
Mean ( ) $\overline{X}$	4	

Agricultural Output (Tonnes)

0 – 1.00	435	17.35
1.01 – 2.00	435	17.35
2.01 – 3.00	835	33.32
3.01 – 4.00	592	23.65
> 4.00	209	8.33
Mean ( ) $\overline{X}$	2.34	

Total Income (Naira)

0 – 10,000	301	12.01
10,001 – 20,000	619	24.70
20,001 – 30,000	534	21.33
30,001 – 40,000	265	10.57
40,001 – 50,000	469	18.71
Above – 50,000	318	12.68
Mean ( ) $\overline{X}$	27,013.10	

Agricultural Services

Input Supply	2506	*100.00
Processing	2255	*90.00
Marketing	2506	*100.00
Credit(Loan) facilities	2087	*83.30
Extension Services	2087	*83.30

Types of Farm Input

Fertilizer	2255	*93.00
Pesticide	584	*23.30
Seedlings	2138	*85.30
Insecticides	0	*0
Herbicides	0	*0
Cassava Cuttings	0	*0

*Multiple Responses
Source: Field Survey, 2014.

EFFECT OF COOPERATIVES ON MEMBERS' ECONOMIC ACTIVITIES

Table 3: indicates the assessment of members' perception of the economic effects of their membership of cooperative societies using a five-point Likert type scale; strongly disagree, disagree, indifferent, agree and strongly agree rating. The responses suggest that membership of cooperative society has significantly improved members' total income with a mean value of 3.276 and a standard deviation of 0.589. This mean value is slightly above the neutral point on the positive side of the Likert scale. This indicates that the respondents in the study area have a near unanimous view that their income improved significantly on account of membership of cooperative societies. The respondents agreed that their membership has made it possible for them to enjoy amongst others, profitability, with a mean value of 3.425, high quality input (3.729), (3.746) credit (loan) without collaterals, (3.261) processing of produce at effective cost and better prices (3.218). This shows that cooperative societies increased the success of farming for members in the study area within the time covered by this study.

Table 3: Perception of Members on Effect of Cooperative on Their Economic Activities

S/N	ITEM	N	MEAN	STD DEVIATION	REMARKS
I.	Cooperative membership has significantly improved members' total income	2506	3.276	0.589	Agreed
II.	Cooperatives have brought about an increase in members agricultural profitability	2506	3.425	0.514	Agreed
III.	Input supply from Cooperative are of high quality and are cost effective	2506	3.729	0.502	Agreed
IV.	Members of Cooperative obtained their input at the beginning of the season	2506	3.197	0.446	Agreed
V.	Members obtain credits(loans) at favourable interest payments	2506	2.946	0.864	Disagree
VI.	Members obtain credits (loans)without collaterals	2506	3.261	0.628	Agreed
VII.	Quality of produce of members has been enhanced through cooperative processing	2506	2.720	0.521	Disagree
VIII.	Cooperative processing of members produce is cost effective.	2506	3.746	0.465	Agreed
IX.	Better prices were obtained for members through Cooperative processing.	2506	3.218	0.506	Agreed
X.	Members are able to access favourable markets through Cooperative marketing	2506	2.919	0.366	Disagree

Source: Field Survey.2014.
Likert-Rating:
< 3.0 = Disagree, ≥ 3.0 = Agree

SOCIO-ECONOMIC DETERMINANTS OF MEMBERS INCOME

A total of 12 predictors were included in the model and the regression output is shown in Table 4. The result indicated that nine out of the twelve variables, namely age, marital status, cooperative experience, education, cooperative marketing, processing obtained and credit had significant impact on members' income, while gender and business expertise were negatively signed and significant at 5% alpha level of probability. The adjusted coefficient of determination (R^2) value is 0.659 indicating that about 66.0% the variations in income was explained by the independent variables. The F-statistics show that the model passed the test of overall significance at the 1% level. This implies that all the explanatory variables taken together had a significant impact on income. The Durbin-Watson value is approximately equal to 2, indicating the absence of autocorrelation in the estimated model. The coefficient of respondents' age is positive and significant implying that a farmer's income increases with age. We can thus infer that as the members in the study area become older in farm work, the more the experience and resources will be accumulated which when re-invested into large and improved farming can yield more income. The coefficients of marital status, cooperative experience, education, cooperative marketing, processing obtained and credit were positive and significant at the 5% and 1% significant levels. A possible explanation for the positive and significant nature of the education variable may be that education is significant in the life of an individual; it helps to shape attitudes, values and behaviour, promoting inquisitiveness and innovations in the process. It grooms the mind and makes it receptive to technological innovation and managerial skills. Cooperative processing add value to members' farm produce, enabling diversity of marketable products as well as enhanced income sources, while credit facilities makes available investment funds for farm business. All these taken together serve to promote better income for farmers-members of cooperative societies. Further analysis of the result shows that the coefficient of gender, household size and business expertise are negatively related to but significant determinant of farmers' income. The coefficient of farm size and input obtained on the other hand shows negative relationship and not statistically significant.

Table 4: Regression Estimates (Income Determinants)

Variables	Co-efficient	Standard error	+ Statistics	Level of Significance
(Constant)	195685.014	12157.905	16.095	0.000
Age	1949.065	283.693	6.870	0.000**
Gender	-89849.144	3935.049	22.833	0.000**
Marital Status	13611.968	3920.898	3.472	0.001**
Cooperative experience	8971.44	1612.974	5.562	0.000**
Household	-1750.638	940.553	-1.861	0.063
size				
Education	2221.018	1150.592	1.930	0.054**
Business expertise	1399.109	585.764	-2.389	0.017*
Farm size	-2092.129	1448.477	-1.444	0.149
Input obtained	0.227	0.174	1.307	0.191
Cooperative marketing	0.088	0.017	5.173	0.000*
Processing obtained	0.963	0.193	5.003	0.000*
Credit	0.365	0.020	18.309	0.000*
F-statistic	354.8	.000ᵃ		
R^2	0.659			
R^2 (Adjusted)	0.657			
Durbin Watson Statistics	1.902			

Dependent Variable (Income).
Source: Field Survey,2014.
 (** significant at 1% level,   * significant at 5% level).

TESTING OF HYPOTHESIS

The model passed the test of overall significance at the 1% significance level. This implies that the variance taken together significantly determines the behaviour of the income of the members of the FCS surveyed. We accordingly, accept the hypothesis that membership of FCS and their socio-economic profiles that were empirically examined do indeed have an impact on their income.

CHALLENGES OF MEMBER ARE OF FARMERS' COOPERATIVE SOCIETIES.

The study examined the challenges faced by members of the Farmers Cooperative Societies. The findings which are reported in table 5 indicate the key constraints include inadequate funds, poor education and illiteracy of members, farmers' access to farm input, poor extension services and conflicts among members.

Table 5: Distribution showing challenges of Members of FCS

S/N	Identified Constraints	Frequency (N – 2506)	Percentage (%)
1	Inadequate fund	2506	100.00
2	Lack of access to farm inputs	2450	98.00
3	Poor education and illiteracy of member farmers	2380	95.00
4	Ineffective leadership	306	12.21
5	Lack of external support	802	32.00
6	Poor attendance of meeting	251	10.21
7	Disunity among members	153	6.10
8	Conflict(Disputes) among	1980	79.01

	members		
9	Lack of modern business technology	767	30.60
10	Poor extension service	2350	93.77

*Multiple Responses
Source: Field Survey,2014.

SUMMARY AND CONCLUSIONS

The research examined the economic benefits of farmers being members of cooperative societies and the socio-economic determinants of income among members of farmers' cooperative society in rural Nigeria, with Anambra State as a case study. The study revealed that farmers' cooperative societies perform such activities for members as input supply, processing, marketing, credit access and extension services. The members are mostly men with an average age of 39 years. Majority of the farmers had either primary or secondary school exposure. Their main occupation is farming on a commercial scale though with minimal landholding, while their farming system constituted more of mixed cropping spread across leguminous, grains, fruit and vegetable crops. Noteworthy is the fact that the FCS members were involved in other secondary occupation of petty trading and artisanal engagements. The study revealed that the farmers' average farm size is 1.01 hectares, while their co-operative experience is 4 years. The FCS members had an average agricultural output of 2.34 tons per hectare and average annual income of₦27, 013.10. The study also revealed the positive effect of cooperatives as perceived by the farmer members in respect of such economic benefits as increase in their income level, increase in their agricultural productivity, and access to quality input, credit access without collateral and better price obtained through value addition (processing) of their farm products. The regression analysis revealed that age is a major socio-economic determinant of income. This finding is consistent with those of Yadollani, et al. [23], Ibekwe, [11] and Sharma, et al.,[20]. Cooperative experience, cooperative marketing, processing and credit are also found to be predictors of income. The findings with respect to these variables are consistent with the works of Mishra et al.[15] and Olawepo, (17).The empirical results also showed that education is a determinant of income. This finding is in agreement with those by Lu,[14], Van Praag ,[21], Davidson, [6] and Adekunje and Hanson, [4]. Household size was found to be predicator of income, but this was in contrast with findings by Sharma, et al., [20] and Nwankwo, [16]. The key challenges faced by the members at the time of study were inadequate funds, poor education, lack of access to farm inputs and conflict among members. In conclusion, we note that the present effort of the Nigerian government to advance the development of the agricultural sector may not be significantly complemented by activities of farmers' cooperative societies. This should be a good basis to advocate resurgence in the formation and activities of cooperative societies. We, accordingly, recommend as follows:

- Government should articulate clearly implementable policies that will make credit facilities and extension services accessible to rural farmers. The focus of the policy would be to promote sound, profitable farming activities and to regenerate the environment in the overall context of sustainable agriculture.
- Cooperative Societies should sensitize farmers on the importance of membership participation and cohesion in cooperative societies. This will go along way to establish good relationship and reduce conflict among farmer members as well as improve their agricultural production.
- Government, non-governmental organizations and international development agencies, should increase the tempo of their supervisory and support-service to the activities of Farmers' Cooperative Societies in view of their importance in Nigeria's quest for agricultural transformation and food security.

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