

Determinants to cooperative societies access to government agricultural inputs intervention program in Anambra State, Nigeria.

Factores determinantes para el acceso de las sociedades cooperativas al programa gubernamental de intervención sobre insumos agrícolas en el estado de Anambra, Nigeria.

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ABSTRACT

The determinant factors to cooperative societies access to government agricultural production intervention programs in Anambra State, Nigeria. Multi stage random sampling technique was used to select one hundred and twenty cooperative societies for detailed study. Primary data were obtained through use of structured questionnaire and informal or oral interview of the respondents. Percentage responses, Logistic regression and Factor analysis models were employed to address the objectives of the study. The result of the socioeconomic characteristics shows that most of the respondents were youthful (57.5%), males (54.2%) married (66.7%), educated (93.3%), experienced in farming (70%) and had poor extension to services (66.7%). On the result of the cooperative type and sources of income shows that most of the respondents were members of multipurpose, thrift(75%) and savings(66.7%), followed by production(63.3%) and marketing cooperatives(57.6%). The sources of income for the respondents were loan (74%), levies (66.7%), registrations (63.3%), sales(51.7%). The result of the benefits of cooperative to the members was educational and training (75%), easily access to credit (73.3%), access to farm input (70%), improved farm output (66.7%), improved livelihood (65%) and added value to agricultural product (56.7%). Besides, the farm inputs intervention available to the farmers were access to land (81.7%), fertilizer

(75%), loan (65%), cassava cutting(64.2%), tractor services (58.3%) and storage equipment (53.3%). Additionally the farmers' socioeconomic characteristics that affected their access to government agricultural inputs and interventions were household size, extension services, educational of the respondents, off farm income and membership of organization. The constraints to cooperative activities were poor government support (0.406), poor education and training (0.403), corruption (0.422), lack of membership commitment (0.432), over-control and regulation by government (0.407), lack of clear guide and involvement in politics (0.441). The following recommendations were proffered; there is need to enhance farmers' access to credit from formal institution at low interest rate, need to expose the farmers to educational programs and improve farmers' access to improved farm inputs at reduced or subsidized costs.

Keyword; Determinants, Cooperative Societies, Access, Government, Agricultural, Inputs, Intervention Program. Logistic Regression Model

*RESUMEN

Los factores determinantes para el acceso de las sociedades cooperativas a los programas gubernamentales de intervención en la producción agrícola en el estado de Anambra, Nigeria. Se utilizó un procedimiento de muestreo aleatorio de etapas múltiples para seleccionar ciento veinte sociedades cooperativas para un estudio detallado. Los datos primarios se obtuvieron mediante el uso de cuestionarios estructurados y entrevistas informales u orales a los encuestados. Se emplearon los modelos de respuestas porcentuales, regresión logística y análisis factorial para abordar los objetivos del estudio. Los resultados de las características socioeconómicas muestran que la mayoría de los encuestados eran jóvenes, dominados por hombres, casados, con un alto nivel de educación, experiencia agrícola moderada y escaso alcance de extensión. Sobre el resultado del tipo de cooperativa y las fuentes de ingresos se evidenció que la mayoría de los encuestados eran miembros de usos múltiples, ahorro y ahorro, seguidos de las cooperativas de producción y comercialización. Las fuentes de ingresos de los encuestados fueron préstamos, gravámenes y registros. El resultado de los beneficios de la cooperativa para los miembros fue una mejor producción agrícola, acceso a insumos agrícolas, fácil acceso a insumos agrícolas, educación y capacitación, mejores medios de vida y valor agregado al producto agrícola. Además, la intervención de insumos agrícolas a disposición de los agricultores para los agricultores fue el acceso a la tierra, fertilizantes, préstamos, equipos de corte y almacenamiento de yuca.

Además, las características socioeconómicas de los agricultores que afectaron su acceso al gobierno fueron el tamaño del hogar, los servicios de extensión, la educación de los encuestados, los ingresos no agrícolas y la pertenencia a una organización. Las limitaciones a las actividades cooperativas fueron las intervenciones del gobierno, la educación y la capacitación deficientes, la corrupción, la falta de compromiso de los miembros, el control y la regulación excesivos por parte del gobierno, la falta de una guía clara y la participación en la política. Se ofrecieron las siguientes recomendaciones; Es necesario mejorar el acceso de los agricultores al crédito de la microfinanciación y los bancos comerciales, es necesario exponer a los agricultores a la educación para adultos, seminarios y talleres y mejorar el acceso de los agricultores a insumos agrícolas mejorados a costos reducidos o subvencionados.

Palabra clave; Determinante, Factores, Cooperativa, Sociedades, Acceso, Gobierno, Agropecuario, Insumos, Intervención, Programa.

INTRODUCTION

The contributions of agriculture in economic growth of most countries in Africa are well documented (Federal Ministry of Agriculture and Rural Development (FMARD), 2012, Food Agriculture Organisation, (FAO), 2013; Nwosu, Okon, and Onuoha, 2014). Agriculture is source of food security, employments, source of income generation, foreign exchange and raw materials for industry (World Bank, 2007; FAO, 2014). In this region, The farming population is primarily smallholders and characterizes of an average holding of about 1.54 hectares, limited access to improved technologies, poor access to agriculture information, operates under high costs of production, limited access to credit facilities and market (Ajah, 2015; Ume, *et al*; 2016). The aforesaid scenario is complicated by lack of productive, technical, and managerial skills and lack of commitment by all tiers of governments to implement the right policies (Okafor, 2009; Ume and Kaine, 2017).

In Nigeria, in order to alleviate the problems of the farmers and improve the food security of the nation, successive governments in the country have formulated numerous programs and policies but to no avail, as prices of food stuff continue to escalate and malnutrition and other disease related illness continued unchecked, especially among vulnerable groups (FAO; 2012). Cooperative formation has been advocated by literatures as avenue for agricultural transformation as witnessed in many countries of the world, included Britain, United States of America (USA), India and Turkey (Ambbruster, 2001). Cooperative

meaning varied among authors, and to Abrahamsen, (2005), it is “local institutions”, taking “local needs”, utilizing “local talent” and led by “local leaders”. International cooperative alliance (2013) definition is widely accepted and stated as “an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.” The key features of cooperative as asserted by Hermberger, (2007) and Nnadozie, Oyediran, Njoku and Okoli, (2015) are share-downership, shared-control and shared-benefit by users, and it is founded on the values of self-help, responsibility, democracy, equity and solidarity.

Cooperatives help in development of agriculture through enhancing farmers’ access to credit, dissemination of information on improved technologies to the farmers, provision of education and skills thereby raising local management capacity, reduce migration of labour and concentration of capital to urban area and encourage members’ interpersonal relations (Hermida, 2008; Nduaguba, Ademu and Alufohai; 2014). In the same vein, Adeyemo, (1994) and Agbo, (2009) reported that cooperatives persuade individuals in pooling of their resources collectively so as to solve personal desires that might not be determined individual taking cognizes of their inadequate finances.

The successive Nigeria governments have boosted agricultural productivity in several occasions through among others inputs provision to the farmers. These inputs could be through infusing credit through Nigeria Agricultural banks and other commercial banks, improved production inputs such as fertilizer, agrochemicals, improved seeds (maize and rice), cassava cuttings and farm implements from Agricultural Development Programme(ADPs) and Ministry of Agriculture, land from ministry of lands, storage equipment (silos)and grain driers, processing equipment from PRODA and tractor services from tractor hiring unit (Federal Ministry of Agriculture and Rural Development (FMARD), 2012).The farmers have always encouraged to form or join cooperative for ease of access to the credits. Studies in the State showed that numerous cooperatives societies gained access to these government interventions, since the introduction of scheme more than a decade ago by the Federal and States governments (Nweze, 2002,; Ogbe, 2004 and Ibitoye, 2006, Nnadozie, *et al;* 2015). It is pertinent to state that cooperative society members’ socio-economic characteristics according to studies (Adeyemo, 1994; Agbo, 2009, Ajah, 2015) affected their access to the interventions. For instance, the findings of Agbo and Chidebelu, (2007) and Manap & Tehrani, (2014) on access to the services of the Nigerian Agricultural Cooperative and Rural Development Bank by cooperative members, found that membership size, sex of cooperative members, the age of the cooperative society and the type of cooperative affected

their access. Also, in related study by Ajah, (2015) in Federal Capital Territory (FCT) Abuja, Nigeria, reported that age of the cooperative members, educational level possessed by cooperative members, as well as the quality of cooperative management available affected their farmers' access to farm inputs. This study seek to investigate the factors influencing participation of cooperative societies in accessing government farm input intervention program, as there is no related published work to that effect by the best knowledge of the authors. This study could contribute to the understanding of the factors affecting smallholder farmers' participation in program. Furthermore, it is believed that the findings of this work will help to enhance cooperative societies productivity in addressing the problem of non-participation in the program, add to the existing information on cooperative societies' access to farm inputs as made available to the government and could also serve as a reference point to national and international agencies who are championing the course of cooperative societies in Nigeria and beyond. To effectively address the study, the following questions were addressed

* What were the socio-economic characteristics of the respondents?

*What were types of cooperatives, activities performed and sources of revenue of the cooperatives?

*What were the benefits derived by members by being a cooperator?

*Identify the government farm inputs interventions available to the cooperatives?

*what were the effect of the cooperatives members' socio-economic characteristics on their access to the interventions?

* What were the problems limiting cooperative societies operations/ activities in the study area?

Specifically, the objectives are to;

- i. describe the socioeconomic characteristics of the farmers.
- ii. identify the type of cooperative and sources of income of the cooperative.
- Iii. identify the benefits of cooperative society to the members.
- iv. identify the government agricultural input interventions available to the cooperatives.
- v. determine the effect of the cooperatives members' socio-economic characteristics on their access to the interventions.

- Vi. identify the problems facing cooperative society's activities in the study.

MATERIALS AND METHODS

Anambra State of Nigeria is the study area. It is located between latitude $5^{\circ}38'$ and $6^{\circ}47'E$ of equator and longitude $6^{\circ}36' - 7^{\circ}21'N$ of Greenwich meridian. The state is bounded in the south by Imo State, in the east by Enugu state, in the north by Kogi state and in the west by River Niger and Delta States. Anambra State has 21 Local Government Areas (LGAs) with Awka as the capital. It has population figure of 4.184 million people (NPC, 2007) and land area of 248Km^2 . The State has annual rainfall range of 1600mm – 1700 mm with mean temperature of 27°c . Anambra state is divided into four agricultural zones (Awka, Anambra, Onitsha and Aguata), is agrarian (producing crops such as yam, cassava, maize, egusi, mellon etc, while animals like goat, sheep, pig, poultry, local cow setc) and engages in other economic activities such as hunting, vulcanizing, mechanic, petty trading and barbering.

Multi-stage random sampling techniques were used to select Agricultural zones, Local Government Areas (LGAs) towns and respondents. In stage 1, three agricultural zones; Aguata, Onitsha and Otuocha were purposively selected because of large numbers of cooperative societies in the areas. In the second stage, two Local Government Areas were purposively selected from each zone. This gave a total of six Local Governments Areas. The LGAs were Orumba North and South from Aguata zone, Idemili North and Nnewi LGAs were selected from Onitsha zone, while Anambra East and Anambra West from Otuocha zone. In the third stage, ten communities were selected from each LGA and this brought to a total of one hundred and twenty communities. Finally, a cooperative society from the lists of cooperative societies provided by the Anambra State Cooperative societies was selected from each of the communities. This brought a total of one hundred and twenty cooperative societies were selected for the detailed study.

The information to be used for this study was collected through the use of structured questionnaires and informal or oral interview. The objectives I, ii, ii and iv were addressed using descriptive statistics such as percentage responses. The objective v was achieved using Logistic regression model and objective vi was through use of Factor analysis.

MODEL SPECIFICATION

1. The Logistic regression model (LRM)

It is used to assess the effect of the cooperatives members' socio-economic characteristics on their access to the interventions. This involves a dichotomous (binary choice variable) which takes values of "yes" or "no" type. The linear probability model (LPM), the

logistic regression, and probit are used in determining dummy dependent variable regression models and may possibly be applied in various field of knowledge. (Maddala, (1983) reported that Logistic LPM is a simple and obvious, but cannot be used to determine dichotomous reliant variables. It is found on the postulation that the likelihood of an incident happening, p_i , is linearly linked to a set of descriptive variables X_{2i} , X_{3i} , X_{ki} . This model is predictable using Ordinary Least Square(OLS) method. One of the econometric drawbacks of LMP is that it creates odds that that lie within the range of 0 or 1 outside. This require maneuvering of the chances at 0 or 1 leading to lots of annotations for which the anticipated prospects are precisely zero or one. As well, , it is simply and not reasonable to propose that odds is exactly zero or one.

Logistic regression and probit are non-linear models and could be anticipated using maximum likelihood (ML) method (Bhuyan, 2007). The two aforesaid models are proficient in surmount the drawbacks of the LMP by employing a function that efficiently convert the regression model, hence the fixed principles are enclosed within the (0, 1) gap. Furthermore, Basher, (2007) opined that equally logistic regression and probit models give the assurance that the likely chances stretch out among the logical boundary of 0 and 1. Owing to these merits, the logistic regression and the probit models are commonly used by researchers when the reliant variable occurs to be dichotomous (Maddala, 1983). The logistic regression and probit models are alike in mainly purpose. However, the striking disparity amongst the two models is the nature of their allotment, which is determined by Cumulative Distribution Function (CDF). Probit has a usual distribution, while logistic regression t has a slightly flatter tails. Consequently, the option of the use of probit versus logistic regression in research is a function of the distribution assumption as generated by the researcher. Due to its comparative Nevertheless, the mathematical ease, countless researchers have employed the logistic regression model. Andrew, (2006) stipulated that logistic regression is prevailing, handy and supple and frequently preferred where the reliant factors is of definite outlook and/or it is not usually dispersed. Several of the forecaster variables in the objectives of the study are definite, hence this study will use binary logistic regression model to identify the factors that influence access to government interventions amongst cooperative members. Maddala (1983), specified the cumulative logistic probability model as:

$$P = f(Z_i) = \frac{1}{1 + e^{-Z_i}} \dots\dots\dots (1)$$

Where, P_i is the odd that cooperative societies members having access to government interventions, given X_i .

x_i =symbolizes the i th explanatory variables

e = indicates the base of natural logarithms,

... α and β_i are parameters to be determined vital to the application of logistic regression is the logit alteration of p given by Z . To linearity the model, we represent the natural logarithms of odds ratio equation (1), whose outcome in the logit model is given as:

$$Z_i = \ln \left(\frac{p_i}{1-p_i} \right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \dots \dots \dots (2)$$

Where Z_i is the indicator of access to government interventions, or not, p is the likelihood of the event's happening, X_i is a vector of cooperative members' socio-economic characteristics. B_0 is a recurrent, β_i is harmonizing vectors of regression and ϵ is disturbance term.

$$Z(1/0) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 \dots + \beta_n X_n + \epsilon \dots \dots \dots (3)$$

X_1 = Gender (Dummy), X_2 = Marital status (Dummy), X_3 = Age (years), X_4 = Education (Yrs), X_5 = Farming Experience (Years), X_6 = Farm Size (Ha), X_7 = Extension Services(Access; I otherwise; 0), X_8 = Distance from farmer's house to the intervention arena(Kg)

2. Factor analysis Model

Factor analysis was used to classify the limiting factors to cooperative activities/operation in the study area. Principal component factor analysis with varimax – rotation and factor loading of 0.4 was used. The restraints reported by cooperative farmers that impaired their functions were grouped into three factors using varimax rotation and factor loading of 0.40. The principal component factor analysis model is stated thus

$$D_1 = b_{11} f_1 + b_{12} k_2 + \dots + b_{1n} k_n \dots \dots \dots (4)$$

$$D_2 = b_{21} f_2 + b_{22} k_2 + \dots + b_{2n} k_n \dots \dots \dots (5)$$

$$D_3 = b_{31} f_3 + b_{32} k_2 + \dots + b_{3n} k_n \dots \dots \dots (6)$$

$$D_n = b_{n1} f_1 + b_{n2} k_2 + \dots + b_{nn} k_n \dots \dots \dots (7)$$

Where

$D_1 = d_n$ = observed variable /constraints in the functioning of cooperative as reported by the respondents p_{dt}s, $b_1 = b_n$ = factor loading or correlating coefficients, $k_1 = k_n$ =unobserved underlying challenging factors facing cooperative operations in the study area

RESULTS AND DISCUSSION

Table 1, reveals that 54.2% of the cooperative members were males, while the remaining 45.8% were females.

Table 1: Distribution of Respondents According Socioeconomic Characteristics

Variable	Frequency	Percentage
Gender		
Male	65	54.2
Female	55	45.8
Age		
<29	17	14.2
30 – 39	52	43.3
40 – 49	41	34.2
>50	10	8.3
Marital Status		
Single	22	18.3
Married	80	66.7
Divorced	8	6.7
Widower	10	8.3
Educational Level		
No formal education	8	6.7
Primary Education	13	10.8
Secondary Education	52	43.3

Tertiary Education	47	39.2
Farming Experience		
1 – 10	36	30
11 – 20	60	50
21 – 30	13	10.8
31 -40	11	9.2
Farm Size		
0.01 -1.00	40	33.3
1.01- 200	30	25
2.01 -3.00	18	15
3.01 – 4.00	15	12.5
4.01 – 5.0	12	10
< 5	5	4.2
Extension Services		
Contact	40	33.3
None	80	66.7
Dist. to intervention		
>20	2	1.7
20.1 – 40	20	16.7
40.1 – 60	88	66.7
80.1 and above	10	8.3

Source; Field Survey, 2018

This implies that cooperatives that are males dominated, have more likelihood of having more access to productive inputs such as land and funds to enhance their production, processing and marketing potentials (Nnadozie; *et al*; 2015). Furthermore, 57.5% of the cooperative members were below 40 years of age, while 42.5% were above 40 years of age. The implication is that most of the cooperative members are youthful, adoptive and able-

bodied individuals, and could easily access information and material resources needed in carrying out cooperatives functions from government and non-governmental organization no matter the level of drudgery involved in order to achieve their various cooperatives objectives (Ambruster, 2001). In addition, 66.7% of the cooperative members were married, 18.3%; single, 6.7%; divorced and 8.3%; widower. However, married people according to Nwaru, (2006) supposed to have children, who will help to serve as source of family labour especially at the peak of farming season in order to reduce cost of production in cooperatives programs. The insinuation is that cooperatives whose household members are married are rest assured of family labour availability, hence could source farm inputs from government intervention in order to improve their welfare.

Besides, 93.3% of the total respondents had formal education, with secondary education (43.3%) topping, while the least was primary education, 10.8%. Education and training as asserted by Onyeagocha, (2008) are important factors that could enhance farmer's capacity to know, acknowledge and appraise new novelty or interventions for high output to accrue. The table above also shows that 80% of the cooperative members had farming experience of less than 21 years, whilst above 21 years had farming experience of 20 years. Long years of farming experience as observed by Ibitoye, (2006) enhances the farmer's capacity of optimizing their outputs and profit at minimal cost, hence the probable of failure in the use of government intervention to boost their productivity and welfare is ruled out. Furthermore, Moreover, 33.3% of the total respondents had access to extension services, while 66.7% had not. This indicates poor extension outreach and this scenario is capable of adversely affecting dissemination of innovation or government interventions sources and the technical assistants to the farmers, hence affecting their productivity. The finding of Ezeano, *et al* (2017) concurred to this assertion. They were of the opinion that extension services aids in extending of relevant agricultural information to people, farmers inclusive in order to enhance their socioeconomic conditions through improving their production efficiency, income, and welfare. Besides, most of the respondents (66.7%) travelled about 40.1 – 60 kilometre (km) to get access to the government intervention sources. The least of the respondents (1.7%) made on about less than 2km to have access to sources of government interventions. This infers that the more the respondents travel far from their homes to have access to the interventions, the more possibility of jettisoning the idea especially where there is need for several visits by the respondents for the approval to that effect could be made (Ajah, 2015).

The types and sources of income of cooperative societies in the study area is shown in
Table 2

Table 2; Distribution of Respondents according to Types of Cooperative Societies and Sources of their income

Types	Frequency	Percentage
Multi purpose	90	75
Production	76	63.3
Marketing	68	56.7
Thrift and Savings	80	66.7
Sources of Income		
Loan	84	74
Levies	80	66.7
Monthly dues	76	63.3
Sales	62	51.7
Registration	45	37.5
Rentals	38	31.7
Capital investment(Share stock)	12	1.0

*Multiple Responses

Source; Field Survey, 2018.

Table 2 shows that most of the respondents were members of multipurpose cooperatives as indicated by 75%. The large number of members of the cooperative society in the study area allows for social interactions or connections in other spheres of lives beyond cooperative matters (Arua, 2004). .Moreso, 56.7% of the respondents belonged to marketing cooperatives. The marketing cooperative as asserted by Nweze, (2002) is highly needed in Nigeria nowadays especially with the dissolution of the commodity marketing boards by the government in order to ensure efficiency in marketing of members' produce aimed in among others improving their income and welfare . In addition, 63.3% of the sampled cooperative farmers were members of production cooperatives. Studies showed that production cooperatives sell their finished products to retail societies and divide the surplus between their workers and customers (Ogbe, 2004). Furthermore, Birchall and Simmons, (2013) reported

that production cooperatives enables the members to obtain machinery and equipment in order to modernize their various productions, thus enabling the members not only to be self-reliance but also provide job opportunities for many of our young school leavers. Moreover, thrift and saving cooperative membership was reported by 67% of the total respondents. This cooperative agency is source of credit for agricultural development in most developing countries and even the developed countries are not left behind. For instance, In the developed countries of United States of America, Britain, France and Canada, many of their credit unions are basically savings organizations that depend entirely on the thrift of the members as their resource for lending (Andrew, 2006; Manap & Tehrani, 2014).

From the Table, among the sources of income by the cooperative societies, loan source was the highest as it accounted for 74% of the total respondents. Loan is needed to pay for hired labour, reduce the cost of hire purchase, pay for maintenance cost and purchase other farm inputs needed in the production process (Igwe, *et al*; 2001 and Ibezim, *et al*; 2010). Studies on cooperatives in most developing countries indicated that credit in form of loan is one major source of their income (Nnadozie, *et al*; 2013). Furthermore, 67% of the sampled cooperative societies opined that they sourced their income through donation /levies. The donated money is repaid to members concerned at the end of the business with the interest accruing to it (Ijere, 1997; Ogbe, 2004, Nnadozie, *et al*. 2015). The least of the source of the income of the cooperative societies in the study area was through share stock. The reason could be perhaps due to the fact that virtually all the cooperatives in the study area are still in the primary stage of formation.

The cooperatives Members Benefits from Cooperative Societies in the Study Area is shown in Table 3

Table 3: Membership Benefits from Cooperative Societies in the Study Area

Benefits	Frequency	Percentage
Improved farm output	80	66.7
Increased income	58	48.3
Access to farm input	84	70
Easy access to credit	88	73.3
Educational and training	90	75
Improved livelihood	78	65
Employment	45	37.5
Value addition	68	56.7

*Multiple Responses

Source: Field Survey, 2018

Table 3 shows that 73.3% of the sampled cooperative member farmers had increase in their access to credit. Cooperative assists in boosting small holder farmers' access to credit at reduced interest rate and collateral free. This has indeed saved this farming class the predicaments in sourcing of farm credits from formal financial Institutions, which involves lots of beaurocratic procedures, time consuming, provision of collateral, high interest rate and tedious repayment method (Ijere, 1997, Onyeagocha, 2008). Furthermore, 56.7% of the respondents enjoyed the gains of value addition to their farm produce. Ebonyi & Jimola, (2002) opined that such value addition in farm produce helps in reducing the level of spoilage of farm produce and also increase their products, enhance the shelf lives of products and to handle packaging and marketing networking in easier and achievable manners.

In addition, 66.7% of the respondents benefited from improved farm output. Cooperatives according to Ume and Kaine, (2017) helps in making available to farmers improved farm inputs, avenues for input distribution (fertilizers, agro-chemicals, credits, seeds, and seedlings) and dissemination of agricultural innovations to the farmers which will facilitate output of members. Moreover, members benefited from improved livelihood as result of being member of cooperative and this accounted to about 65% of the total respondents. Livelihood is any set of economic activities through which a household meets

its basic needs and earns some cash income. In the rural area of most developing countries, Nigeria inclusive agriculture is their major source of livelihood. Literatures revealed that cooperative has enhanced the production and productivity of the agricultural sector through efficient marketing of agricultural produce, timely availability of farm inputs to the farms, credit accessibility at low interest rate and at no collateral, dissemination of improved production technologies and among others (Ambruster, 2001; Okafor, 2009; ;Nduaguba, *et al*;2014).More so, 75% of the farmers interviewed benefitted from education and training in various field of agriculture and beyond. The education of cooperative members as asserted by Kurimoto, (2002) and World Bank, (2007) could be formal training in schools and informal through workshops, seminars and conferences.

The Cooperative Farmers' Access to Farm Inputs in the Study Area is shown in Table 4

Table 4: Cooperative Farmers' Access to Government intervention in form of Farm Inputs

Farm inputs	Frequency	Percentage
Land	98	81.7
Labour	60	50
Herbicides	50	41.7
Storage equipment	64	53.3
Fertilizers	90	75
Processing equipment	50	41.7
Loan	78	65
Tractor services	70	58.3
Improved Varieties and breeds	77	64.2

*Multiple Responses

Source: Survey Data, 2018

Table 4 shows that most of the cooperative societies (81.7%) had access to land. The reason could be the readiness and willingness to allocate land to farmers particularly cooperative farmers for farming by the government of Nigeria especially during National

Agencies Land Development Authority(NALDA) era (Federal Government of Nigeria (FGN), 2013). Furthermore, cooperatives could easily gain access to land for farming business through members volunteering to merge the nearby lands in temporary basis to form large areas of land for the purpose of having economics of scale (Bhuyan, 2007; Manap & Tehrani, 2014). In addition, most of the cooperative societies had access to fertilizer as reported by 75% Of the total respondents. The high proportions of cooperatives having access to fertilizer could be linked to during the era of Federal Government of Nigeria Fertilizer Subsidy Policy, as cooperative farmers were given preferential treatment over fertilizer allocation compared to individual farmers (Federal Ministry of Agriculture and Rural Development (FMARD), 2012). Additionally, 65% of the respondents had access to loan. This could be perhaps due to the ability of cooperatives to bargain for loan for the members at low interest rate and zero collateral through commercial and microfinance banks as authorized by the Federal Government of Nigeria (Ume and Kaine, 2017).

Furthermore, 65% of the respondents had easily access to improved varieties of crops, breeds of animals and fingerlings. These improved farm inputs often come from government and government agencies like Research institutes, Universities and Ministry of Agriculture for multiplication for onward distribution to other farmers for use (Federal Ministry of Agriculture and Rural Development (FMARD), 2012). Additionally, 70% of the respondents had access to tractor services from tractor hiring units of the State Ministry of Agriculture and headquarter of the Local Government Area of the State. This could help the farmers to boost their production frontier through expanding their farming horizon as land is a limitless factor in achieving the quest (Ume, *et al*; 2018). As well, 50% of the respondents had access to labour. The cooperatives could use the able-bodied members in subverting labour limitations in agricultural development and associated poverty among the farming population in the rural areas. Also, 53.3% of the respondents had access to improved storage equipment. The improved storage equipments could be use of cribs and silo for storing grains (FMARD, 2012).

The factors influencing Cooperative Farmers' access to government Interventions (Farm inputs) are shown in Table 5:

Table 5: Determinant factors influencing CooperativeFarmers' access to government Interventions (Farm inputs).

Variable	Coefficient	Standard Error	Z - ration	p>IZI
Constant	4.653	1.234	3.771***	0.540
Age	- 4.654	2.230	- 2.086*	0.108
Marital status	0.276	0.376	0.734	0.008
Gender	0.654	0.765	0.854	0.026
Off farm income	0.456	0.362	1.260*	0.005
Educational Level	4.074	1.045	3.897***	0.340
Farming Experience	3.006	1.027	2.927**	0.135
Extension Services	4.112	1.432	2.872**	0.430
Household size	3.132	1.112	2.817**	0.027
Distance to intervention	4.654	2.230	2.872**	0.348

Log likelihood	-118.4378
Wald chi2	(12) 36.02
Pseudo R2	0.1317
Cases predicted correctly (%)	73.6

Source: Field Survey, 2017,

***, **, * Significant at 1.0%, 5.0% and 10.0% levels respectively

The coefficient of age of the respondents was negative in line with a *priori* expectation and significant at 5.0% alpha level. The implication is that as the rspondents start advancing in age, their productivity and attitude towards intervention programs decline. In contrary, Onuoha, (2002) and Onyenweaku, *et al* (2010) were of the view that youthful farmers are innovative and motivational, therefore could seek to participate in programs that could improve their productive efficiency for enhanced income and wellbeing. Moreover, the years of farming experience of the respondents had direct relationship with the dependent variable

and significant at 10% risk level. Nduaguba, *et al*; (2014) Ume, *et al*.(2017) stated that the more experienced a farmer is, the more efficient he/she will be in decision-making processes and could willing as well to take risks associated with the acceptance of innovations/interventions that are productive. Furthermore, coefficient of the distance to the source of the interventions was positive and significant at 5% alpha level. The distance to the source of the interventions from the members' cooperatives affects the transaction cost of transporting the farm inputs and the awareness of the existence and services of the agency. Cooperatives with members resides vry close to source of interventions are likely to be favoured more in having access to the government interventions, leading to enhanced welfare through higher farm productivity than the counterpact. (Nwosu, *et al*; 2014). In addition, the coefficient of level of educational attainment of the respondents had direct relationship with the sources of the interventions, implying that cooperative societies with more educated members have high propensity of accessing the intervention programs. Studies show that higher educational attainment could also favour higher awareness of government programs and on how best to access them (Onuoha, 2002; Andrew; 2007, Karagu & Okibo, 2014). In addition, education produces a positive intellectual intuition for the acceptance of improved innovations as provided by the government and other developmental agencies (World Bank, 2007). Furthermore, education is capable of delineating farmers' ability to make precise and important management decisions and in alleviating the dilemma in accessing and employing improved farm inputs (Ajah, 2015).

The results in Table 6 shows varimax rotated factors militating against cooperative operation in the study area.

Table 6: Varimax-Rotated factors militating against cooperative operation in the study area.

Variable	Factor 1	Factor 2	Factor3
Financial problem	0.432	0.123	0.025
Poor communication	0.412	0.011	0.234
Failure to fulfill economic needs	0.431	0.213	0.094
High costs of Transportation	0.124	0.409	0.421
Inadequate government support	0.406	0.009	0.123
Over-control and regulation by government	0.407	0.214	0.034
Problem of corruption	0.141	0.068	0.422
lack of commitment	0.009	0.042	0.432
involvement in politics and religious activities	0.123	0.204	0.441
Low Membership enrolment	0.389	0.179	0.432
High competition	0.432	0.429	0.178
lack of education and training	0.403	0.241	0.117

Source: computed from SAS 2018

Three factors were extracted based on the response of the respondents, Factor 1= economic/institutional factor, Factor 2 = infrastructural factor and Factor 3 = socio-financial factor (Ume, *et al* 2016). The factors that had loading factor above 0.40 at 10% were considered as serious factors impinging against cooperative members' activities, while those that were below, where considered as not being important factors. Variables that loaded more than one factor such as high costs of Transportation and high competition were discovered. In identifying the factors, Nwosu, *et al*; (2014) stated that each factor is given a denomination based on the set of variables or characteristics it is consist of. Restraint under the economic /institutional factor were financial problem (0.432)., poor communication (0.312), failure to fulfill economic needs (0.431), inadequate government support(0.406) and over-control and regulation by government (0.406).Financial problem is also one of the problems of cooperatives especially during the early cooperative formative and in training of her members.

Birchal & Simmons, (2013) reported that one of the ways cooperative could source for fund is through the use of revolving fund. In addition, poor communication among cooperative members and the leaders was very common in most developing countries, hence declining the principle of passiveness of the members to cooperative activities but only interested on information as relates to when to share their dividends (Nweze, 2001, Kurimoto, 2002). Additionally, poor government support could be in form of access to credit, improved agricultural inputs (fertilizer, agrochemical, improved cassava cuttings, pesticides, rice seed, maize hybrid etc), land, non-exclusion of cooperative business centres and among others have resulted among the reasons for failure to thrive of many cooperative societies in sub-Saharan Africa (Onuoha, 2001; Ibitoye, 2006, Karagu & Okibo, 2014). Also, co-operatives are often subject to more burdensome regulations than other private sector players with high cost and time burdens associated with setting up a co-operative by the government (Ebonyi & Jimolu, 2002).

The variables that loaded under factor 2 (infrastructural factor) were high cost of transportation (0.409) and problems of competition (0.329). Besides, high cost of transporting of cooperatives inputs and outputs is a very serious problem especially for cooperative societies located in rural areas where the roads are not renovated and impassable during rainy season, with only few vehicles plying there (Aja, 2015). In addition, as pertains to competitions among cooperatives, several studies (Ibitoye, 2006, Okafor, 2009, Nwosu, *et al*; 2014) show that cooperatives are in competitions with each other's in relation to factors of productions (land, labour and capital in form of credits), markets and customers

The variables that loaded under factor 3 (Socioeconomic factor) were problem of corruption (0.422), lack of commitment (0.432), lack of education and training (0.403), involvement in politics and religious activities (0.441). Cooperative management particularly in developing countries are saddled with corruption in form of embezzlement of fund, falsification of figures and improper book keeping, inadequate year to year audit and other corruption practices to the detriment of the cooperative concerned (Igwe; *et al*. 2001). The wrong idea of many cooperative management staff in accepting office are for political, personal business or social advantage that may accrue from them, rather than for the growth and development of the organization (Nweze, 2002; Kehinde, *et al* 2009, Olayinka, 2014). Furthermore, lack of member's commitment is peculiar to this modern cooperative and this could be shown through members' lukewarm attitude toward cooperative activities, hence leading to failure of many cooperative organizations. These activities, included non-

attendance to meeting, poor participation in any farming activities of the organization and surface only during sharing of dividends and election of cooperative leadership.(Audu, *et al*;2010, Aniodoh, 2018).

Moreover, poor training and education of their members are variously reported among literatures as hindering cooperative development in Nigeria. Therefore, there is need to upgrade the members' skills through workshops, seminars, maintain educational field force, conduct study class and correspondence extension courses is very obligatory (Famoryo, 1995; Arua, 2004; Onije, 2003; Aniodod, 2018).As well, Studies show that many cooperative operations are no longer devoid of political neutrality as one of the principles of cooperative. For instance, in recent time, most cooperative societies are rally point for some political office holders especially during political campaign (Ijere, 1997; Hermida, 2008. Omeje, 2014). Furthermore, many cooperatives in the developing countries have religious affiliations as against non-sectarian view towards religion as one of the principles of cooperative connotes (Bhuyan, 2007, Gweyi, 2013, Virendra, *et al*; 2015).

CONCLUSION AND RECOMMENDATION

The result of the socioeconomic characteristics show that most of the respondents were youthful, male dominated, married, highly educated, had moderate farming experience and had poor access to extension services. In addition, on the results of the cooperative type and sources of revenue showed that most of the respondents were members of thrift and savings, followed by production and marketing cooperatives. Also, the sources of revenue for the respondents were monthly dues, levies and registrations. More so, the result of the benefits of cooperative to the members were improved farm output, access to farm input, educational and training, improved livelihood and added value to agricultural product. Additionally the farmers' socioeconomic characteristics that affected their access to government inputs interventions were household size, extension services, educational level, off farm income and membership of organization. As well, the constraints to cooperative activities were government interventions, poor education and training, corruption, lack of membership commitment, problem of corruption and involvement in politics.

Based on the results, the following recommendations were proffered;

(1) There is need for human resource development through formal and informal training of cooperative members in order to update their knowledge and skills by the cooperatives by relevant government agencies.

(2) Government intervention programs offices should be sited close enough to cooperative societies since distance was found to have affected the access of cooperative societies to the program in this study.

(3) Government through its relevant agencies and non-Governmental Organizations (NGOs) should provide the cooperative societies with capital/loans at subsidized interest rates.

(4) Government should make appropriate policies and legislations that would make it easier for cooperative societies to secure land and other farm inputs for agricultural activities without difficulties.

(5) The extension services should be motivated appropriately through payment of their allowances and training their different specialties in order to improve their effectiveness and efficiency in discharge of their duties.

(6) Experienced and novice farmers should be encouraged to remain in cooperatives through making improved farm inputs available to the farmers timely and at subsidized cost.

(7) There is need to enhance the farmers' access to credit through microfinance, commercial banks and other lending organizations at reduced interest rate by appropriate government agencies

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