Assessment of farmers' participation in agricultural cooperative society in Kogi state, Nigeria.

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ABSTRACT
Despite the fact that majority of the rural farmers are registered members of agricultural cooperative societies in Nigeria , they are still not enjoying the associated benefits of large scale production because of some identifiable constraints such as, low capital base, gender inequality, high interest rate on loan, ineffective government supervision, inadequate storage facilities, poor transportation facilities, poor information and communication, member's dissatisfaction, disloyalty and poor commitments. The study therefore assessed the level of farmers' participation in agricultural cooperative society in Kogi State, Nigeria. Multi staged sampling techniques was used in selecting three hundred and fifty two (352) respondents from six villages in three agricultural zones in Kogi State and structured questionnaires were used to elicit information from the respondents. Data were analyzed using descriptive statistics such as frequency tables, percentages, mean, standard deviation and ranks and Ordinal logistic regression model (proportional odds ratio) and the level of farmers' participation in agricultural cooperative activities was analyzed using participation index formula which was further categorized into low, moderate and high. The Ordinal logistic regression model showed that socioeconomic factors such as gender, year of education, household size, marital status, annual income years of farming experience and years of cooperative experience influenced the level of farmers participation in agricultural cooperative society. The research therefore recommends that agricultural cooperative society should carry out activities that are in line with the needs of the farmers and should engage private extension services to educate her members so as to bridge the gap of inadequate extension agents from the government.

Key words: Agricultural Cooperative Society, Participation, Cooperative Activities
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1   INTRODUCTION

Cooperatives portray themselves as a powerful and trustworthy economic alternative formed to protect and meet rural farmers' mutual needs by addressing the incapability and unease caused as a result of their poor economic status which makes it difficult to change their lives and results in poverty (Amin & Uddin , 2014). In Nigeria, about 39.1 % of the populace live below the international poverty line while majority of the poor (84.6%) are rural people (World Bank, 2021). The rural poor are farmers who practice agriculture as their main occupation, but faced with many agricultural challenges they can't solve alone (Adefila & Madaki, 2014). Cooperative society stands as the only institution that addressees all economic, democratic and social dimension of poverty reduction (Tanko, 2002), a panacea to poverty eradication by fostering an increase in production and thereby transforming the socio-economic life of the rural poor (Garandi & Hassan , 2020) Cooperative society is not an entirely new concept however, the modern cooperative got its model from the Rockdale Pioneers (Van, 2012) and has grown exponentially, spanning the globe and encompassing all economic sectors (Coops, 2021).

In Nigeria, cooperative societies existed traditionally as an ageless activity practiced with different names among various tribes (Nigeria Real Estate Hub (NREH), 2014) , and is commonly classified based on the interest of the people (Dogarawa, 2005). There are various types of cooperative in Nigeria, however, agricultural cooperatives should naturally take precedence over all others because of the agro economic nature of the country (Effiom, 2014).

Agricultural Co-operative is a type of cooperative where farmers pool their resources together (Wikipedia , 2022), Many development organizations , agribusinesses , governments and international development organizations encouraged farmers to form agricultural cooperatives as a policy initiatives (Olagunju, Ogunniyi, Oyetunde-Usman, Omotayo, & Awotide, 2021) due to its role in empowering the rural farmers' economically, socially and enabling sustainable rural development.

In Nigeria the prominent types of agricultural cooperatives are agricultural producer cooperatives, agriculture marketing cooperatives, agricultural cooperatives for credit and thrift, consumer agricultural cooperatives and multipurpose agricultural cooperatives (Nnadozie, Oyediran, Njouku, & Okoli, 2015). However, rural development can only be achieved by active participation of farmers in their agricultural cooperatives. (Akpomedayo, 2017)

Participation should not be assumed as something that happens naturally or given (Rokpe, 2003). The level of members participation in agricultural cooperative determines how much money is contributed , how much is saved for cooperative capital needs, members involvements in decision making activities from planning to evaluation stage of cooperative programmes (Hidayat, Suharyono, Kumadji, & Solimum, 2014).

Onuche & Oladipo, (2021) Farmers in Kogi State are bedeviled with poverty and about 84.1% of the farming household live below the poverty line, despite the fact that there are several cooperative societies in Kogi State, many small holder farmers are still not enjoying the associated gains and benefits of cooperative membership. (Ibitoye, 2012).

It is against the backdrop of the forgoing that it is imperative to critically assess farmers' participation in agricultural cooperative society.

Research Objectives

The general objective of the study is to assess farmer's participation in cooperative society in Kogi State, Nigeria. Specifically, the study seeks to:

1) Describe the demographic characteristics of farmers' engaged in Agricultural cooperative society.
2) Determine the level of farmers participation in Agricultural cooperative activities

Hypotheses of the study

1) $H_{01:}$ There is no significant relationship between selected demographic characteristics and the level of farmers' participation in agricultural cooperative society

2. METHODOLOGY

2.1. Study Area

Kogi State is situated in the North Central geopolitical zone of Nigeria and is located on coordinates 7.30 ^{o} E and 6.42 ^{o} E. The is bordered in the west by Kwara and Ekiti States, Benue State borders it to the east , while it is bordered to the south by Anambra State and to the north by Niger and FCT (Wikipedia , 2022) .

The state has a land mass of about 75,000 square kilometers, however, about 20% of the land mass is inhabited by humans, rivers and streams takes about 5% ,mountains and hills occupies about 7% and the larger percentage 68% is used for cultivation (Ibitoye,2012)

There are about 2,422,559 males and 2,327,557 females with an estimated total population of 4, 750,115 in the state (Nigerian Investment Promotion Commission, 2022), from various ethnic groups. Majority of the people lives in the rural area and are majorly farmers. (Agbamu, 2015).

The State climate is classified into wet (rainy)and dry seasons, with the rainy season starting from, April to October and the dry season starting from November to March .However, farmers are members of different types of cooperative societies in Kogi State but agricultural cooperative is the most prominent among farmers' (Ibitoye, 2012).

2.2. Data Collection Procedure

A list of agricultural cooperative societies in the state was collected from the Ministry of Commerce and Industry, Kogi State to get the sample size of 352 respondents, a multi-stage sampling procedure was used. The first staged involved purposive sampling of three agricultural zones (Zone A, Zone C and Zone E) from five agricultural zones. Second stage involved purposive sampling of two local government area (LGA) from each agricultural zones to get a total of six LGAs. Third stage involved purposive sampling of six villages; one village each from the six LGA based on the high level of coordination of cooperators in those villages, while the fourth Stage involved 10% random sampling of the respondents based on the number of cooperators in each selected cooperatives from the six villages to make-up for a total number of 352 respondents. Data were obtained through structured questionnaire and information were obtained from farmers by asking questions on their demographic characteristics, while , for level of participation in cooperative activities: the level of farmers' participation in cooperative activities, Participation Index formula was applied to get an index value ranging between 0 and 1. Farmers were asked to pick from a list of selected cooperative activities, a rating scale ranging from 0-4 was used in measuring the level of farmers' participation in the listed cooperative activities in percentages as

Follows:

$$Sc_i \approx \frac{\sum M_i P_i}{4k}$$

Where

Sc_i= Cooperative participation Index

M_i=Farmers' Membership in the cooperative society

P_i = Level of participation in cooperative activities; which takes on values from 0-4

0= if members does not attend /participate in cooperative activities

1= if members attends or participate in cooperative activities< 30%

2= if member attends or participates between 30 - <50% in cooperative activities

3=if members attends or participates between 50 -<70% of cooperative activities

4= member attends or participates in all cooperative activities 70% and above

K =Number of cooperative types covered in the survey

(Ologbon, Idowu and Oyebanjo, 2013)

2.3. Data Analysis

Descriptive statistics such as frequency, percentages and mean were used in analyzing the demographic characteristics of farmers, frequency ,percentages , means and rank were used in analyzing the activities carried out in the cooperative, Participation index formular was used for the level of participation while ordinal logistic regression (proportional odds ration) was used in analyzing the relationship between demographic characteristics and level of participation in cooperative activities.

3. RESULTS AND DISCUSSION

3.1. Demographic characteristics of the respondents

Table 1: Demographic distribution of the respondents

Characteristic	Frequency	Percentage%	Mean	S.D
Age (Years)				
< 20	3	0.9	45.20	11.15
20-30	22	6.3		
31-40	73	20.7		

41-50	152	43.2		
51 and above	102	28.9		
Total	352	100		
Gender				
Male	218	61.9		
Female	134	38.1		
Total	352	100		
Marital Status				
Single	31	8.8		
Married	275	78.1		
Divorced	22	6.3		
Widowed	24	6.8		
Total	352	100		
Level of Education				
Non-formal	83	23.6		
Primary	86	24.4		
Secondary	130	36.9		
Tertiary	53	15.1		
Total	352	100		
Household Size				
< 5	75	21.3	7.54	4.30
5–9	192	34.5		
10–14	64	18.2		
15–19	12	3.4		
20 and above	9	2.6		
Annual Income (₦)				
< 100, 000	5	1.4	455,234.80	277,037.08
100,000-300,000	121	34.4		
301,000-500,000	129	36.6		
501,000-700,000	46	13.1		
701,000 and above	51	14.5		
Total	352			
Annual Savings				
< 50,000	214	60.8	72,824.59	71,626.08
50,000-100,000	68	19.3		
101,000-150,000	41	11.6		
151,000-200,000	12	3.4		
201,000 and above	17	4.8		
Total	352	100		
Years of Farming				
1-10	80	22.7	19	9.69
11-20	135	38.4		
21-30	98	27.8		
31-40	25	7.1		
40 and above	14	4.0		
Total	352	100		
Agricultural Enterprise				
Mixed Farming	36	10.2		
Crop Farming	143	40.6		
Livestock Farming	28	8		
Produce Marketer	70	19.9		
Agro Processor	44	12.5		
Farm Input Marketer	31	8.8		
Total	352	100		
Years of Coop. Membership				
<5				
5-9	87	24.7	9.67	4.80
10-14	96	27.3		
15-19	107	28.7		

20 and above	55	15.6		
Total	13	3.7		
	352	100		
Type of Agric. Cooperative				
Agric. Producer Coop	118	33.5		
Agric. Marketing Coop	71	20.2		
Agric. Consumer Coop	12	3.4		
Thrift and Credit	20	5.7		
Multipurpose Coop.	132	37.2		
Total	352	100		

Source: Authors' Field Survey, 2022

Data analysis in Table 1 shows that 43.2% of the respondents participating in agricultural cooperative society in Kogi State falls in the modal age group of 41-50 years. The mean age of the respondents was 45 years. The age group where the farmers are expected to be full of energy, wisdom, initiatives and highly productive, it is believed that they will use their strength and agility in participating actively in cooperative society, analysis in Table 1 also revealed that majority of the farmers' participating in cooperative Societies were male farmers' (61.9%) while female respondents were (38.1%).The dominance of male over female is as a result of male farmers' having larger farms than female and are saddled with more responsibilities to meet the needs of their families. The results analysis also, revealed that a larger percentage of the respondents were married (78.1%), while (6.3%) of respondents were divorced. This implies that since majority of the respondents were married, this possibly supports the fact that they were matured and responsible to be engaged in higher participation in agricultural cooperatives society. Also ,the results of data analysis in Table 1 further showed that (36.9%) had secondary school education while (15.1%) of the respondents had tertiary education. The implication of the finding is that a few of the farmers had secondary education and many of them had Primary and Tertiary education level that are low as well; this could be as a result of many of them assisting their parents from youth and maintaining the farm work till adulthood. This is in line with the result of farmland ownership, where land owned by majority of the farmers were inherited. Any level of education will not only assist in increasing productivity but will increase farmers' ability to understand and respond positively to participating actively in agricultural cooperative society. Table 1 also shows that (34.5%) of the respondents had between 5 and 9 household members eating from the same pot while (2.6%) of respondents had 20 and above household members .Then the mean household size of the respondent was 8 ± 4.30. This implies that large farmers' household size means more people eating from the same pot, which will affect the level of farmers' participation in the cooperative society. Table 1, revealed the average yearly income of the respondents was ₦ 455, 235.80 ± ₦ 277037.08, (36.6%) of the respondents earns between 301,000- 500,000 naira annually while, (1.4%) earns less than 100,000 naira annually. This implies that smallholder farmers are poor and live below the $1.90 poverty line per person per day. And this will affect their capacity to save and therefore farmers will not be able to participate effectively in agricultural cooperative society. Results of data in Table 1 shows that the average annual savings of the respondents was ₦ 72,846.59 ± ₦ 71,626.08. Majority of the respondents (60.8%) saves below ₦50,000, annually while (3.4 %) saves between ₦ 151,0000- ₦ 200,000 annually. This implies that majority of the respondents had low savings in their cooperative society this could be as a result of their low income, and therefore their participation in cooperative society will be low. The Result in Table 1 revealed that the mean year of farming experience of the respondents' is 19 ± 9.6 and farmers' while farmers' with 11-20 years farming experience were the majority (38.4%) and farmers with 41 and above (4.0%) farming experience were the lowest. This implies that majority of the farmers had many years of on-the-job experience, which signifies farmers' competency and skill acquisition that prompt their participation in agricultural cooperatives in other to address their challenges. Data result in Table 1 also revealed that (40.6%) respondents engaged in crop production while (8%) of the respondents engaged in livestock farming. This implies that majority of the farmers were into crop production may be because of the agrarian characteristic of the state. This could help farmers to participate in agricultural cooperative so as to access loans and input for production. As indicated by data result in Table 1, the mean year of cooperative experience is 19±9.69, many of the respondents (28.7%) had 10-14 years cooperative experience and (3.7%) had 20 years and above years of cooperative experience. This implies that majority of the farmers' had been members of their cooperative for a long time and this means that the longer the years the better their understanding of their cooperative benefits and this will influence their participation in their cooperative society.

The Result in Table 1 further revealed that (37.2%) of the respondents in the study area are agricultural multipurpose cooperative society members, while (3.4%) of the respondents were members of agricultural consumer cooperative. The implication is that farmers engage in agricultural multipurpose society because agricultural multipurpose societies combine many activities together as their main functions such production, processing, marketing, thrift and credit together. Results in Table 1 also revealed that more than half of the respondents (58.8%) in the study area agreed that their status (Position) in the cooperative affects their level of participation in their cooperative activities, while (41.2%) of the respondents' disagreed and said their level of participation in the cooperative is not determined by their cooperative status. This could be because farmers that are in one committee or the other, executives in the cooperative tends to take decisions that favor's them and this will make them participate more while non-executive members and non - committee members will participate less. The above result shows that meetings are held at different interval of days. Less than half of the cooperatives in the study area (42.3%) held their meetings monthly, while only (3.4%) had quarterly meetings. The implication of this result is that farmers will be able to plan ahead and coordinate themselves better since they have some week's interval before the next meeting. Results in Table 2 shows that majority of the respondents (60.5%) attend their cooperative meetings regularly, while (20%) never went for meetings.

This could be because of the sanctions and punishments given to members when they are absent from meetings and also the benefits they derived from their cooperative. The greater percentage of members going for meetings regularly means better participation to cooperative activities.

3.2 Level of farmers' Participation in Agricultural Cooperative society Activities.

Table 2: Distribution of respondents' by Agricultural Cooperative Activities Participated in

S/n	Activities	0% Freq(%)	1- <30% Freq(%)	30 - <50% Freq(%)	50 - <70% Freq(%)	70% and above Freq(%)
1.	Attendance	-	10(2.8)	12(3.4)	131(37.2)	199(56.5)
2.	Group Farming	2(0.6)	32(9.1)	73(20.7)	137(38.9)	108(30.7)
3.	Farm Input	11(3.1)	62(17.6)	77(21.9)	114(32.4)	88(25)
4.	Processing of Farm Produce	4(1.1)	40(11.4)	94(26.7)	117(33.2)	97(27.6)
5.	Savings	9(2.6)	71(20.2)	92(26.1)	92(26.1)	88(25.0)
6.	Marketing of produce	12(3.4)	63(17.9)	100(28.4)	92(26.1)	85(24.1)
7	Sales of Essential Commodities	28(8.0)	68(19.3)	81(23.0)	89(25.3)	86(24.4)
8.	Extension Services	16(4.5)	56(15.9)	89(25.3)	108(30.7)	83(23.6)
9.	Transportation	8(2.3)	38(10.8)	79(22.4)	119(33.8)	108(30.7)
10.	Storage Facility	7(2.0)	39(11.1)	112(31.8)	107(30.4)	87(24.7)

Activities P.I (Mean) 0.71
Activities S.D 0.18

Source: Authors' Field Survey, 2022

Table 2 used the formular below in arriving at the participation index value

$$Sc_i \approx \frac{\sum M_i P_i}{4k}$$

Where

Sc_i= Cooperative participation Index

M_i=Farmers' Membership in the cooperative society

P_i = Level of participation in cooperative activities; which takes on values from 0-4

0= if members does not attend /participate in cooperative activities

1= if members attends or participate in cooperative activities< 30%

2= if member attends or participates between 30 - <50% in cooperative activities

3=if members attends or participates between 50 -<70% of cooperative activities

4= member attends or participates in all cooperative activities 70% and above

K =Number of cooperative types covered in the survey

(Ologbon, Idowu and Oyebanjo, 2013)

Table 3: Level of Farmers' Participation in Cooperative Activities

Level of participation	Frequency	Percentage (%)
Low (< Mean –SD)	45	13
Moderate (Mean –SD to Mean + SD)	243	70.2
High (> Mean + SD)	58	16.8

Source: Author's Field Survey, 2022

Table 3 used (Tadesse, Woldetsadik and Senbeta, 2017) categorization model. And the result depicts majority of the respondents in the study area (70.2%) participated moderately in cooperative activities, while (16.8%) respondents participated effectively high in their cooperative activities and (13%) had low participation in their cooperative activities.

The implication is that the respondents are not harnessing the full benefits associated with cooperative society possibly because of the challenges confronting them as cooperative members.

3.3 Ordinal Logistic Regression Result of the Relationship between Selected Demographic Characteristics and Level of Participation

Table 4: Model Fitting Information for Selected Socioeconomic Characteristic

Model	-2 Log Likelihood	Chi-square	Df	Sig.
Intercept Only	586.311			
Final	524.117	62.194	17	.000

Source: Author's Field Survey, 2022

Table 4, shows the value of the model fitting information to be (P<0.05) this shows that the model fits the data.

Table 5: Goodness – of –Fit

Variable	Chi-square	Df	Sig.
Pearson	722.949	685	.153
Deviance	524.117	685	1.000

Source: Authors' Field Survey, 2022

Table 5, shows that Pearson Chi Square (X^2 (685) = 722.949, P = 0.153) and Deviance is (X2(685) = 524.117, P = 1.000.) Therefore, we reject the null hypothesis because they are both not significant and conclude the model is a good fit

Table 6: Pseudo R^2

Cox and Snell	0.146
Nagelkerke	0.279
McFadden	0.128

Table 6, shows that 27.9% of the dependent variables were explained by the independent variables as expected because there are still many unconsidered demographic characteristics not considered in the model.

Table 7: Test of Parallel Lines for demographic Characteristics and Level of Participation in Cooperative Activities

Model	-2 Log Likelihood	Chi-square	Df	Sig.
Null	524.117			
Hypothesis General	498.323[b]	25.794[c]	17	0.78

Source: Author's Field Survey, 2022

The result shows that (P = 0.78) the result is not significant. That is the slope coefficients are not the same across the response categories, different variables measured as demographic characteristics had varying degree of levels of participation in the cooperative activities.

Table 8: Ordinal Logistics Regression Result between Selected Demographic Characteristics and Level of Participation in Cooperative Activities

Variable	Estimate (β)	Std. Error	Df	Sig.	Exp. (β)
Age	-0.005	0.005	1	0.277	0.995
Gender (Male) (Female)	-0.142 0[a]	0.617	1	0.022	0.868 1
Year of Education	0.26	0.007	1	0.000	1.027
Household Size	0.112	0.434	1	0.010	1.118
Marital Status (Single) (Married) (Divorced) (Widowed)	0.242 0.309 0.332 0[a]	0.154 0.114 0.152	1 1 1	0.115 0.007 0.029	1.274 1.362 1.394 1
Years of Farming (1-10) (11-20) (21-30) (31-40)	0.708 0.542 0.587 0.717	0.274 0.260 0.247 0.230	1 1 1 1	0.010 0.037 0.017 0.002	2.029 1.719 1.799 2.048

41 and above	0^a				1
Annual Income	1.355E-006	5.675E-007	1	0.017	1
Years of Cooperative Membership	0.026	0.007	1	0.000	1.027

Significant at 5%
Source: Authors' Field Survey, 2022

Results in Table 8, shows that Age (P = 0.27, β= -0.005), marital status 1 (single) (P= 0115, β=0.242) and year of farming experience 1(1-10years) (P= 0.109, β=0.708) do not have significant relationship with the level of farmers' participation in agricultural cooperative society activities. This infers that they are not relative predictor in this model and they do not affect the level of farmers' participation in cooperative activities.

However, gender (male) is found to be negatively significant (P = 0.022, β = -0.142 and OR = 0.868) and female (1) is the reference category. The result shows that the odds of participating high in cooperative society activity for male farmers is (-0.142) times less than that of female farmers. The odds ratio (0.868) indicates that male farmers are less likely to fall into a higher level of participation compared to female farmers in the study area, when all other independent variable are held constant.

This may be because of the zeal of the women farmers to meet their needs in other to have increased farm production.

Table 8, also revealed that year of education (P = 0.000,β = 0.26 and OR = 1.027) has a positive significant relationship. That is, for every one unit increase in the year of education, there is an expected increase in the log odds (0.26) of farmers participation in cooperative society activities while, the cumulative odds of participating in the higher level of cooperative society activities was 1.027 times more likely compared to participating in the lower category when all other variables are held constant.

The implication of the above result is that education will make farmers' to be better informed and make good decisions therefore an increase in education will increase farmers' participation in their cooperative activities.

Table 8 further showed that household size of the farmers was also found to be significant (β = 0.112, P = 0.010 and OR = 1.118).This indicated a positive significant relationship and for every one unit increase in household size there is a predicted increase of (0.112) in the log odds of a farmer participating in cooperative society activities, and the cumulative odds of participating in the higher level of cooperative society activities was (1.118) more likely compared to the lower category, when all other independent variable are held constant. This implies that the more the household size of the farmer the higher his level of participation.

This could be because farmer with higher household sizes has more hands available for labor and can participate more in cooperative activities without hindrances.

Also Table 8 showed that marital status (2) married (P= 0.007, β =0.309 and OR = 1.362).That is farmers that are married are 1.362 times more likely to be in high level of participation compared to those that are widowed, when all other independent variable are held constant

Marital Status (3) divorced (P= 0.029, β = 0.332, and OR = 1.394). That is farmers that are divorced are 1.394 times more likely to be in high level of participation compared to those that are widowed when all other independent variable are held constant.

However, the result shows that the odd ratio of divorced farmers (marital status 3) is higher than the odds ratio married (marital status 2) that means farmers that are divorced in Kogi State participated more in agricultural cooperative activities than their married counterpart and this could be because divorced farmers had more responsibilities to carry than married farmers and they tend to be more involved in cooperative activities so as to harness its benefit and also, farmers that are not in a marriage contract takes decision faster and solely than their married counterpart.

As shown in table 8, year of farming experience 1(1-10years) is not significant however, year of farming experience 2(11-20 years) shows a positive significant relationship with level of participation (P= 0.037, β = 0.542, and OR = 1.719).That is farmers with 11-20 years farming experience are 1.719 times more likely to be in high level of participation compared to those with 41 years and above farming experience when all other independent variable are held constant

Years of farming experience (3) "21-30" years" shows that there is a positive significant relationship with level of participation (P = 0.017, β = 0.587 and OR = 1.799).That is farmers with 21-30 years farming experience are 1.799 times more likely to be in high level of participation compared to those with 41 years and above farming experience when all other independent variable are held constant

Also, data obtained from Table 8 shows that year of farming experience (4) "31-40" years" shows that there is a positive significant relationship (P= 0.002, β = 0.717 and OR = 2.048).That is farmers with 31-40 years farming experience are 2.048 times more likely to be in high level of participation compared to those with 41 years and above farming experience when all other independent variable are held constant.

However, years of farming experience (4) (31-40 years) shows the highest odds rating which depicts that the farmers who have had longer years between 31 to 40 years farming experience participated more in cooperative society activities this could be because they have acquired more knowledge and skills over the years and they will adopt innovation that will help boost their production than farmers that do not have longer years of farming experience.

Furthermore result in table 8, shows that annual income is found to be significant. It has a positive relationship with the level of participation in cooperative activities (β = 1.355E-006, P = 0.017 and OR = 1). Annual income log ratio (1) indicates that an increase in income does not influence the level of participation in agricultural cooperative activities in the study area. Farmers can either participate higher in cooperative activities when farmers' income is as a result of the benefit enjoyed in the cooperative or farmers can participate in the lower level especially when their annual income is not generated via cooperative benefits but from other means or when there is low disbursement of loans to farmers.

Finally, Table 8, shows that years of cooperative members with (P= 0.000, β = 0.026, OR = 1.027). has a positive significant relationship, therefore, for every one year increase in the year of cooperative experience there is a predicted increase of (0.026) in the log odds of a farmers participating high in cooperative society activities and the odds ratio of participating in the higher category is (1.027) times more likely compared to the lower category when all other independent variable are held constant. This implies that the higher the years of cooperative membership the higher the level of participation because being in the cooperative for longer years the farmer already has emotional attachment and the farmer also understands the cooperative structure and benefits well.

1. CONCLUSION

The main objective of the study was to assess farmer's participation in cooperative society in Kogi State, Nigeria. However the specific objective of the study were to describe the demographic characteristics of farmers' engaged in Agricultural cooperative society, determine the level of farmers' participation in Agricultural cooperative activities,

The hypothesis of the study was stated in null form, multistage sampling technique was used in selecting the study population. Frequency tables, percentages, means, standard deviation and ranks were used as descriptive statistics in analyzing the data, while inferential statistics such as ordinal logistic regression (proportional odds ratio) were used in testing thee hypothesis.

The result obtained revealed that the respondents mean age was 45years, (61.9%) of the respondents' were male farmers, (36.9%) had secondary education, while the major agricultural enterprise engaged by farmers is crop production (40.6%). The mean income and savings of the respondent were ₦455, 235.80 and ₦ 72,824.59respectively. The mean household size was 8, while (38.4%) of the respondents' had between 11 – 20 years farming experience.(37.2 %) were members of agricultural multipurpose cooperatives. The result also showed that majority of the farmers' had moderate participation in cooperative activities (70.2%).

The ordinal Logistic regression analysis for the hypothesis shows there was no significant relationship between age and marital status 1 (single)and year of farming experience 1(1-10years) .However there was negative significant relationship between gender and level of farmers' participation in cooperative activities while year of education, household size, marital status 2 and 3, year of cooperative experience had a positive relationship. For high participation, agricultural cooperative societies in Kogi State should engage in activities that will align with farmer's needs. Agricultural cooperative societies should partner relevant governmental and non –governmental agencies for continuous training and education of her members. There should be continuous sensitization of farmers on the benefits of agricultural cooperative society irrespective of their years in farming.

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