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Assessment of Cooperative Credit and Farmers Poverty Status in Ogun State, Nigeria

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Abstract

This study assessed cooperative credit and farmers' poverty status in Ogun State, Nigeria. The issue of whether or not a household is poor is widely recognized as an important, though crude indicator of a household's well-being. This is reflected in the central role the concept of poverty plays in analysis of social protection policy. The majority of the rural populace in the study area depends entirely on farming and farming activities for survival and generation of income, as well as using the activities to supplement their main source of income. A total of 120 respondents were selected through a multiple stage random sampling techniques. The study revealed that majority of the respondents in the study area was male 80.8per cent. Larger percentage of 95.0per cent of the respondents was married. Respondents who reached secondary level of education had a greater percentage of 35.8per cent. A larger percentage of 27.5 per cent earned between ₦200,000 and ₦300,000 per month. The study showed that the poverty incidence (P0) was discovered to be 30per cent the poverty depth/gap (P1) was found to be 6.18per cent and the poverty severity (P2) was 2.07per cent. Size of household of the respondents was significant at 1per cent which indicated that it had great importance in determining poverty in the study area and was positive implying that the higher the household size the higher the probability of being poor. Farm size, formal education, and off-farm income were also significant at 1level and the three were negative implying that the higher the off-farm income of the household the lower the probability of being poor in the study area. The study recommends poverty alleviation programmes should focus on building up the human capital of the entire farming population and land use decree should be reviewed to encourage appreciable increase in the size of farm holdings

Keyword: Poverty, Land Use, Credit, Cooperative, Farming

JEL Classification: I32, Q13, C21, Q15

Introduction

Agricultural growth in Nigeria is increasingly recognized to be central to sustainable economic development. The sector plays a very significant role in addressing food insecurity, poverty alleviation and human development challenges. However, in more recent years, there has been a marked deterioration in the productivity of Nigeria's agriculture (Amaza and Maurice, 2005). Many reasons have been advanced for the declining agricultural productivity in Nigeria. One of the factors attributed to the declining productivity of the sector is farmers' limited access to credit facilities (Manyong *et al.*, 2005). Most of the Nigerian farmers are small holder trapped in vicious cycle of poverty. It has been argued that when agricultural credits are made accessible to farmers it will go a long way in breaking this cycle of poverty and liberating the farmers to improve their adoption of modern farm technologies which could enhance productivity and farmers' income. Adebayo and Adeola (2008) observed that agricultural credit enhances productivity and promotes standard of living by breaking vicious cycle of poverty of the

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resource poor farmers. Similarly, Nwaru *et al* (2006) observed that credit facilitates adoption of innovations leading to increased farm productivity and income, encourages capital formation and improves marketing efficiency.

Cooperative societies have been identified to be a better channel of credit delivery to farmer in term of its ability to sustain the loan delivery function (Alufohai, 2006). ICA (1995) defined cooperative society as an autonomous association of persons who unite voluntarily to meet their common economic and social needs and aspiration through a jointly owned and democratically controlled enterprise. Cooperatives are established by like-minded persons to pursue mutually beneficial economic interest to provide services like provision of farm input, farm implements, farm mechanization, agricultural loans, agricultural extension, members' education, marketing of members farm produce and other economic activities and services rendered to members (Qureshi et al., 1996; Zeller and Sharma, 1992).

However, regular and optimal performance of these roles is crucial for the delivery of these services in order to accelerate the transformation of agriculture and rural economic development. Poverty is a problem for both developing and developed countries all around the world. Poverty is a plague afflicting people all over the world and it is considered one of the symptoms or manifestations of Underdevelopment. "Poverty is a situation where people have unreasonably low living standards compared with others; cannot afford to buy necessities, and experience real deprivation and hardship in everyday life." (McClelland, 2000). Alamu (2005) observed that until recently, poverty was understood largely in terms of income or a lack of money. To be poor meant that one could not afford the cost of providing a proper diet or home. But poverty is about more than a shortfall in income or calorie intake. It is about the denial of opportunities and choices that are widely regarded as essential to lead a long, healthy, creative life and to enjoy a decent standard of living, freedom, dignity, self-esteem and the respect of others. Poverty is a vicious cycle that keeps the poor in a state of destitution and utter disillusionment. Okuneye (2001) pointed out that the social dimension of poverty is largely a gender issue since the greatest weight of poverty is borne by women household heads and children from poor homes. However, Okuneye (2001) further explained that the conventional notion depicts poverty as a condition in which people are below a specified minimum income level and are unable to provide or satisfy the basic necessities of life needed for an acceptable standard of living.

Poverty is one of the greatest menaces challenging many African countries (Okunmadewa *et. al*., 2010). In Nigeria, poverty is a policy and economic problem. Various programmes initiated by the governments have stressed the need to either permanently eradicate poverty or to alleviate it. Poverty level in Nigeria rural and urban areas has become increasingly connected through movement of people, goods, capital, and information. In view of this new reality, 'urban' and 'rural' as concepts seem to fall short to cover the complex web of flow and exchanges that have made rural areas dependent on each other. Poverty exists when a group of people can not attain a minimum level of well-being. The 'minimum' is at least partly dependent upon the prevailing standards of society. Although, poverty exists both in rural and urban societies of Nigeria, yet it is important to note that it is a rural phenomenon (World Bank 1990, Fields 2000; Ijaiya *et al*., 2009; Ijere, 1998).

The majority of the rural populace in Nigeria depends, entirely on farming and farming activities for survival and generation of income, as well as using the activities to supplement their main source of income. This is evident in the fact that over 90 per cent of the country's local food production comes from farms that are usually not more than one hectare. According to Olawepo (2010), about 60 per cent of the population earns their living from these farms. Poverty has not been alleviated both in urban and rural areas despite the huge investment regional road networks.

A recent poverty assessment survey has shown that over 70 per cent of the populations are living on less than a dollar per day and over 50 per cent are living below the national poverty line. The survey also revealed that poverty is especially higher in rural areas where majority of the population are resident and derive their livelihoods from agriculture (FAO, 2006; World Bank, 1996). The World Bank poverty assessment on Nigeria has shown that the nature of those in poverty can be distinguished by some characteristics such as education, age, gender, employment status of the head of household, household size and the share of food in total expenditure.

The broad objective of this study is to assess the effect of cooperative credit in reducing poverty among rural farmers in Yewa North Local Government Area, Ogun State, Nigeria. The study was planned to describe the socio-economic characteristics of the farmers and to examine the factors affecting farmers access to cooperative credit. The study will also highlight the poverty levels among farming households and its effect on households in the study area.

Data Sources and Methodology

Study Area

The study area is Yewa North Local Government Area of Ogun State (formally called Egbado North Local Government Area). Ogun State is located in the south western part of Nigeria. It is bothered by the Republic of Benin on the West, Ondo State on the East, Oyo Osun State in the North, while Lagos State and Atlantic Ocean are to the south. It has twenty (20) Local Government Areas. Yewa North Local Government Area has its headquarters in the town of Aiyetoro (or Ayetoro) at7°14′00″N 3°02′00″E in the north-east of the Area.

Both primary and secondary data was collected for this study. The primary data were collected through the administration of well-structured and validated questionnaires. The questionnaires were self-administered on the farmers in the study area while the secondary data were obtained from literature, journals, statistical reports, textbooks.

In this study, the multi stage sampling technique was used in selecting one hundred and twenty respondents. In the first stage, five major villages were randomly selected in the local government area while, in the second stage of the sampling, twenty four farmer's households was selected to make a total of 120 sampled respondents.

Methods of Data Analysis

Data were analyzed using Descriptive statistical tools, Ordinary Least Square, and Binomial Logit Regression model for the study. Descriptive statistics such as frequency distribution, percentage and other measures of central tendency was used to estimate the socio-economic characteristics of the farmers.

Factors Affecting Farmers' Access to Credit Cooperative

The farmers' access to credit was conceptualized to involve either access to credit or no-access to credit. A Logistic model is a univariate binary model. Binomial logistic regression model given that the dependent variable is dichotomous: (0 when a farmer is having no access to credit and 1 when having access to credit). Predictor variables are a set of socio-economic and demographic status indicators and dwelling endowment of the farmers. Let Pj denote the probability that the j-th farmer is having access to credit. We assume that Pj is a Bernoulli variable and its distribution depends on the vector of predictors X, so that

$$P_j(X) = \frac{e^{\alpha+\beta X}}{1+e^{\alpha+\beta X}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(1)}$$

The logit function to be estimated is then written as:

$$\ln \frac{P_j}{1-P_j} = \alpha + \sum_{j=T}^{n} {}_{i}\beta_i X_{ij} + \in \ldots\ldots\ldots\ldots\ldots \text{(2)}$$

The logit variable $\ln \frac{P_j}{1-P_j}$ is the natural log of the odds in favour of the farmer having access to credit. Equation (2) is estimated by maximum likelihood method and the procedure does not require assumptions of normality or homoskeda sticity of errors in predictor variables.

Y_i = Access to credit (1 = if acquired credit, 0 = if otherwise)

X_i = Age (years)

X_2 = Sex (1 = male, 0 = female)

X_3 = Household size (number)

X_4 = Education level (years)

X_5 = Source of credit (1= cooperative; 0= other financial institution)

X_6 = Total income (₦)

X_7 = Amount of loan available

X_8 = Main Occupation (1 = farming, 0 = otherwise)

X_9 = Number of dependents

X_{10} =Extension service (No of visit)

U_i = Error term

Poverty Levels among Farming Households

In line with recent work on poverty, the analysis in this study used the per capita household expenditure as a measure of poverty incidence and for determining the poverty line.

The Foster, Greek and Thorbeecke (FGT) poverty index was used to determine poverty levels among the respondents. It is generally given as:

$$P = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z-Y_i}{z}\right)^{\alpha}$$

Where:

P = Foster, Greek and Thorbecke index ($0 \leq P \leq 1$)

N = total number of respondents i.e farm households sampled

q = number of respondents below the poverty line i.e poor people

z = the poverty line

Y_i = per capita household expenditure of the i^{th} respondent.

P_0=Poverty incidence

P_1=Poverty depth

P_2=poverty severity

Influence of Rural Poverty on Farmer's Households

This objective was analyzed using Ordinary Least Square method. The use of Ordinary Least Square (OLS) is informed by the fact that under normality assumption for – e_i the OLS estimator is normally distributed and are said to be best, unbiased linear estimator.

The model is implicitly specified as follows;

$$Y = \beta_o + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 \ldots\ldots\ldots\ldots \beta_nX_n + U \text{ ------------------------------------- } (8)$$

Where:

Y = Dependent variable

X_i = Independent variable

βo = Constant

$\beta_1 - \beta_{10}$ = Coefficient of $X_1 - X_{10}$

Y = Poverty status of farm households sampled (1= if poor, 0 otherwise)

X_1 = Farm size (hectares),

X_2 = Highest educational level (years of formal schooling)

X_3 = Farming experience (years),

X_4 = Age of household head (years),

X_5 = Sex (male = 1, female = 0),

X_6 = Number of adult in household

X_7 = Off farm income (₦),

X_8 = Household size (number)

X_9 = Cooperative membership (member = 1 and 0 otherwise)

X_{10} = Amount of credit accessed (₦),

U = Error term

Results and Discussion

The pressual of Table 1 shows that majority (80.8%) of the respondents were male which showed that male farming household heads were more than female in the study area. This can be attributed to the predominance of the male headed households in both rural and urban areas in Nigeria and nature of farming operation which require more strength. The table further show that the majority of the farmers (27.5%) fall within the age bracket of 41-50 years. This implied that middle age respondents that are agile and economically productive dominated the study area.

A vast majority 95 per cent of the respondents were married. This implied that majority of the respondents were married. The predominance of married people in the study area may be attributed to the prevalence of early marriages or the ideals of the customs and traditions that are held in high esteem. This is in line with the work of Durojaiye (1995) which titled "household impact to poverty in Ibadan metropolis, Oyo State, Nigeria" in which 26.5 per cent were single, 44.5 per cent were married, 10 per cent were divorced while 19 per cent were widowed. The findings further reveals that, 13.3 per cent had between 1-3 household size, 46.7 per cent had between 4-6 household size and 31.7 per cent had between 7-9 household size, while only 8.3 per cent had above nine household size in the study area which showed a moderate size. And majority of the farming households in the study area was literate with about 74.2 per cent . This implies increase in household size may increase the poverty level if not well-maintained or controlled

The results revealed that 10 per cent of the respondents earned income ₦1 lakh and 21.7 per cent earned between ₦1 lakh and ₦2 lakh. 27.5 per cent of the respondents earned between ₦2 lakh and ₦3 lakh, 19.2 per cent earned between ₦3 lakh and ₦4 lakh while 21.7per cent of them earned above ₦4 lakh. This indicated that majority earned between ₦2 lakh and ₦3 lakh, which indicated that they are middle class people with evidence of poverty in teir standard of living. Majority of the respondents (60%) are Christians while Muslims are 40 per cent while 54 per cent had less than 10 years farming experience which implies that the farm experience acquired can be used to improve the production activities and improve their financial status.

Factors Affecting Farmers' Accessibility to Credit

The significant determinants of factors affecting access to credit by rural farmers are age, household size, formal education, dependant in the family and extension services.

The study reveals increase in formal education, household size, and extension service will increase the probability of having access to credit. The study further reveals that increase in age and dependent in family reduces the probability of having access to credit.

Poverty levels among sampled households

The farm households poverty status in the State were analyzed using the three indicators- prevalence of

Table 1. Distribution of the Farmers by their Socio-Economic Characteristics

Characteristics	Description	Frequency	Percentage
Sex	Male	97	80.8
	Female	23	19.2
Age	Below 31 years	17	14.2
	31-40	30	25.0
	41-50	33	27.5
	51-60	24	20.0
	Above 60 years	16	13.3
Marital Status	Single	4	3.3
	Married	114	95.0
	Widow	2	1.7
Household size	1-3	16	13.3
	4-6	56	46.7
	7-9	38	31.7
	Above 9	10	8.3
Education	No Formal Education	31	25.8
	Primary	31	25.8
	Secondary	43	35.8
	Tertiary	15	12.6
Total Income	Below 1 lakh	12	10.0
	1-2 lakh	26	21.7
	2-3 lakh	33	27.5
	3-4 lakh	23	19.2
	Above 4 lakh	26	21.7
Religion	Christianity	72	60.0
	Islam	48	40.0
Farming experience	Below 6 years	17	14.2
	6-10	48	40.0
	10-15	12	10.0
	15-20	11	9.2
	Above 20 years	32	26.7
	Total	120	100.0

Source: Field Survey, 2018

Table 2. Factors Affecting Farmers' Access to Credit

Variables	Coefficient	Standard Error	t-value
Constant	1.658	1.825	0.909
Age	-0.334*	0.262	-1.673
Sex	0.270	0.578	0.466
Household Size	0.367*	0.207	1.773
Formal Education	0.766*	0.500	1.653
Source of credit	-0.278	1.043	-0.266
Total Income	0.292	0.128	0.229
Amount of loan Available	0.162	0.284	0.571
Main Occupation	0.713	0.642	1.111
Dependent in the family	-0.346*	0.211	-1.640
Extension Service	0.749**	0.293	2.557
Chi-square	18.75247		
Log likelihood	63.92748		

Source: Field Survey, 2018
** Significant at 10 per cent level; **significant at 5 per cent level; *** significant at 1per cent level*

Table 3. Poverty Levels among Farm Households in the Study Area

Poverty Indices	Yewa North LGA
P_0	0.3000
P_1	0.0618
P_2	0.0207
Mean household per capita expenditure per month (₦ 7,639.1159)	Poverty line = ₦5,092.74

Source: *Field Survey, 2018*

poverty (P_0), poverty depth (P_1) and severity of poverty (P_2). Prevalence of poverty indicate the percentage of the households falling below the poverty line; poverty depth shows the amount by which the poor fall short of the poverty line and severity of poverty is the sum of the square of poverty depth divided by the number of poor households in the sample. As shown in Table 3, the prevalence of poverty among the farm households in the study area was (0.3000) representing 30.0 per cent of the farm households with consumption expenditure level below the poverty line the poverty depth was 0.0618 representing 6.18 per cent whose average consumption expenditure was below the poverty line. This gap represents the percentage of expenditure required to bring poor households below the poverty line up to the poverty line. The severity of poverty index was 0.0207 which represents the poorest among the poor farm households who require the attention of policy maker in the distribution of the standard of living indicators, such as health care services, clean water and income generating activities.

Having obtained the poverty levels among farm households, the various poverty indicators were further considered along with some selected household's characteristics such as gender, main occupation and households' size, educational level, total income and marital status. According to Table 4, poverty incidence was found to be higher among male headed households (30.9%) relative to female headed households (26%). This result though contrary to general view agreed with the study by (Ayinde, 2003). The reason for the above is because majority of the female headed households are engaged in secondary occupation such as trading which tend to generate additional income for the households consumption expenditure. The result further indicate that poverty is higher among farming households (31%)

Table 4. Prevalence, depth and severity of poverty according to household characteristics

Particulars	P_0	P_1	P_2
Male	0.3093	0.0618	0.0205
Female	0.2609	0.0616	0.0219
Main Occupation			
Farming	0.3107	0.0571	0.0174
Non-Farming	0.2353	0.0901	0.0411
Household Size			
1-3	0.0000	0.0000	0.0000
4-6	0.3036	0.0470	0.0147
7-9	0.4211	0.0893	0.0257
Above 9	0.3000	0.1388	0.0689
Educational Level			
No Formal	0.5484	0.0962	0.0341
Primary	0.2581	0.0436	0.0100
Secondary	0.2558	0.0716	0.0261
Tertiary	0.0000	0.0000	0.0000
Total Income			
Below 1 lakh	0.7500	0.2037	0.0802
1-2 lakh	0.6154	0.1122	0.0282
2-3 lakh	0.1212	0.0464	0.0212
3-4 lakh	0.3043	0.0226	0.0041
Above 4 lakh	0.0000	0.0000	0.0000
Marital Status			
Single	0.0000	0.0000	0.0000
Married	0.2982	0.0625	0.0215
Widow	1.0000	0.1408	0.0198

Source: Field Survey, 2018

and those having household size between 7 to 9 (42.1%) in comparison to households engaged in non-farming occupation (23.5%). With lower household size, there will be lower expenditure to meet household needs while the low returns to labour in farm work account for the high poverty among farming households.

There is also a high prevalence of poverty among older household heads 34.2 per cent for household heads that are 40 and above in age). The prevalence of poverty was also found to be higher for illiterate household head (54.8%) and households earning below ₦100,000 is 75 per cent . This implies that education of rural farmers is a factor that must be taken into consideration in poverty alleviation. This will enable the farmers to fully appreciate as well as use new technologies made available to him which ultimately bring about increase in farm size put under cultivation.

Influence of rural poverty on sampled households

The result of the regression indicates that farm size (1%), formal education (1%), off-farm income (1%), and household size (1%), significantly influence the probability that a household will be poor or non-poor. However, while household size, exert positive effect other variables exert negative effect which conforms to a prior expectation.

The results obtained from the study further revealed that the likelihood event of being poor were more with large households. The larger the household size the poorer the household is likely to be because more of

Table 5. Influence of Rural Poverty on Farmer's Households

Variables	Coefficients	t-Value
(Constant)	0.560**	2.264
Farm Size (hectares)	-0.265***	-2.910
Formal Education	-0.384***	-4.164
Farming Experience	0.199	1.560
Age	0.089	0.850
Sex	-0.004	-0.043
Number of Adult in the Family	-0.027	-0.215
Total off-Farm Income	-0.262***	-3.142
Household Size	0.290***	2.816
Cooperative Membership	-0.056	-0.703
Amount of Loan Available	0.056	0.621
R Square	0.319	
Adjusted R Square	0.256	
F value	5.099	

Source: Field Survey 2018
****, ** significant at 1per cent and 5 per cent respectively*

the household members will likely be children who are unproductive and yet take a big proportion of household income in terms of school fees, medical bills, food and clothing. Therefore, a unit increases in the size of the farm household increases the probability of the farm households being poor.

Education is vital for boosting the productivity of the human factor and making people more aware of opportunities for earning a living or income generation from non-farm sources. In this wise, farm households sampled in the study area with educated heads were found to be less likely to be poor when compared with those that are not educated. The increased income will enable the households to move out of poverty. Therefore, a unit increase in the level of education of farm household heads increases the probability of the households to escape poverty or being non-poor.

Conclusion and Policy Implications

The study further showed that incidence of poverty (P_0) was 0.30, poverty depth (P_1) was 0.0618 and poverty severity index (P_2) was 0.0207. The significant factors in determining poverty in the study area as revealed by this study were household size, off farm income, farm size and formal education.

It shows that some poverty alleviation or eradication programmes being orchestrated by the Nigerian governments in all the three tiers have not yet trickled down to the bottom poor, especially in the agricultural sector. The study suggested that poverty alleviation programmes should focus on building up the human capital of the entire farming population in the study area. It should be done in such a way as to have a significant impact on their level of education. Land use decree should be reviewed to encourage appreciable increase in the size of farm holdings. There must be more public enlightenment programmes on family planning among rural households. Youth empowerment programmes in agriculture should focus on commercial rather than subsistence agriculture. Emphasis should be put on the use of modern methods of farming. These include access to improved seed and farm machine hiring units at affordable prices, access to extension services, and access to credit facilities at low interest; and also, there is a need to provide more public infrastructures to enhance community development.

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