



ANALYSIS OF FARM HOUSEHOLDS POVERTY STATUS IN OGUN STATES, NIGERIA

ADEKOYA Olusoji Adetayo

Director of Planning, Research and Statistics Local Government Service Commission, Abeokuta, Ogun State, Nigeria

ABSTRACT

The paper examined the poverty status of farm households in Ogun State, Nigeria using a descriptive statistics, Foster, Greer and Thorbecke poverty (FGT) indices and Logit regression model. The data used were generated from a survey involving 117 farm household's randomly selected using multistage sampling technique. Results of analysis revealed that majority (70.9%) of the farm households do not have access to potable water; they live in mud buildings while the common toilet facility was the bush. The mean per capita consumption expenditure among the farm households was ₦9,103.85 with the FGT poverty incidence, poverty gap and severity of poverty estimated to be 78.1%, 55.8% and 43.0% respectively. Poverty incidence was found to be higher among male headed (60%) and farming (63.9%) households and those having over five members (66.1%). The logit regression further indicates that the likelihood of being poor were more with large households, non-educated farm households head and households without access to credit and other non-farm income. It is therefore recommended that government should strengthen the various government credit agencies in order for them to make enough credit available to farmers, strengthen the adult literacy education programmes and encourage farmers to expand their farm land for increased production.

Keywords: Farm households, Poverty status, Logit regression, Ogun State, Nigeria.

1. INTRODUCTION

The problem of poverty has been a long standing issue in Nigeria. This is indicated by the low social status and poor living conditions of the inhabitants. The problem has been made worse over the years by the development pattern which has favoured the urban modern sectors to the detriment of the traditional rural sectors (World Bank, 1996).

A recent poverty assessment survey has shown that over 70% of the populations are living on less than a dollar per day and over 50% 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). 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. Table 1 presents the percentage of persons and households below the poverty line in 1996/97 by some of these characteristics. The table shows that 67.1 million Nigerians were in poverty in 1996/97, out of which 23.3 million and 43.8 million were located in urban and rural areas, respectively [Federal Office of Statistics FOS (1999)]. Thus about 65% of the poor live in the rural areas, indicating that poverty in Nigeria is largely a rural phenomenon. For example, in 1992, 46.4 million Nigerians were said to be living in absolute poverty, out of which 80.2% or 37.7 million are in the rural areas (Ogwumike, 1996). Table 2 further shows the incidence of poverty on regional basis. The table revealed a consistent increase in poverty in South-West from 1985 to 1996. This however went down in 2004 to 43% as a result of poverty alleviation programme of the federal government. In comparison to other regions, South-West comes second to South-East in terms of incidence of poverty in 1985 and 2004 while North-East has the highest in 2004. On State basis most especially the South-West States, the poverty incidence as at 2004 are 96.53%, 81.25%, 80.13%, 62.53% and 65.1% for Ekiti, Ogun, Ondo, Oyo and Osun States respectively (National Bureau of Statistics, 2008).

Table-1. Poverty incidence by socioeconomic groups, 1996/97

Socioeconomic group	Extremely poor	Moderately poor	Non-poor
Urban	25.2	33.0	41.8
Rural	31.6	38.2	30.7
Male-headed	29.8	36.7	33.6
Female-headed	25.0	33.5	41.5
Age of household head			
15-24	16.2	21.2	62.6
25-34	20.2	32.5	47.3
35-44	27.9	36.7	35.4
45-54	32.7	38.6	28.7
55-64	32.6	37.3	30.1
65 and above	33.5	34.6	32.0
Education of household head			
None	34.3	38.3	27.4
Primary education	24.3	35.1	40.6
Secondary education	21.2	30.8	48.0
Post secondary education	15.3	32.9	51.8

Source : FOS (1999).

Table-2. Incidence of Poverty in Nigeria by Regional Distribution (%) 1985-2004

Regional distribution	1985	1992	1996	2004
South-South	45.7	40.8	58.2	35.1
South-East	30.4	41.0	53.5	26.7
South-West	38.6	43.1	60.9	43.0
North-Central	50.8	46.0	64.7	67.0
North-East	54.9	54.0	70.1	72.2
North-West	52.1	36.5	77.2	71.2

Source : National Bureau of Statistics (2005).

Nigeria is rated as the eighth largest oil producing country in the world, yet it harbors the largest population of poor people in sub-Saharan Africa and is ranked 158th on the human development index. There is also pervasive high-income inequality, which has perpetuated the concentration of wealth in the hands of a few individuals (Action Aid Nigeria, 2009). The per capita income of \$290 in Nigeria when compared to the world's per capita income of \$7,140 as at 2003 further shows the state of poverty among households (Garba, 2006).

Oladunni (1999) further pointed out that incidence of poverty in Nigeria has been increasing. This is as a result of overall dependency ratio in Nigeria which is put at 234 dependents per 100 gainfully employed person. In the rural areas, it is 286 dependents per 100 workers and 219 dependents per 100 workers in the urban areas. The above scenario further reinforced the poverty syndrome of the average Nigerian employee whether involved in farming or non-farming activities.

In 2004 the urban population with access to water was 67 percent, while it was 31 percent in the rural areas. In terms of sanitation services, 53 percent of the urban population had access to sanitation services and 36 percent in the rural areas (World Bank, 2008). This explains why there is prevalence of diseases among the rural poor in the country.

In view of the importance of poverty and the need to analyze the status of farm households, the study is set out firstly, to describe the socio-economic characteristics of farm households revealing their state of poverty and secondly, determine their poverty levels and analyze their poverty status according to households characteristics and thirdly, identify the determinants of poverty status of farm households in the state.

2. REVIEW OF LITERATURE

Poverty refers to a condition wherein some goods and services essential to a family's or an individual's welfare cannot be possessed due to lack of economic wherewithal; or wherein the income earned by a person is significantly less than the average income of the population (Schiller, 1980). Poverty in a given macro-economic environment stems from a complex interaction of factors such as limited endowment skill, access to credit and vulnerability to shocks affecting production system. It is important to point out that poverty denote more than a condition of material scarcity and is characterized by high proportion of poor households, unemployment, low per capita income, low caloric/protein intake, high incidence of child labour, high level of illiteracy, high level of infant and maternal mortality and life expectancy.

According to the World Bank (1999) and Narayan (2000), poverty is hunger, lack of shelter, being sick and not being able to go to school, not knowing how to read, not being able to speak properly, not having a job, fear for the future, losing a child to illness brought about by unclean water, powerlessness, lack of representation and freedom.

Poverty has also been explained as the lack of certain capabilities, such as, being unable to participate with dignity in society. Hence, it is a state of deprivation in terms of food, social status, self esteem, and self actualization (Adegbite and Ayinde, 1999; Aromolaran *et al.*, 2002). Aku *et al.* (1997) analyse poverty from five dimensions of deprivation:

1. Personal and physical deprivation experienced as a result of health, nutritional, literacy and educational disability and lack of self confidence.
2. Economic deprivation drawn from the lack of access to property, income, assets, factors of production and finance.
3. Social deprivation as a result of denial from full participation in social, political and economic activities.
4. Cultural deprivation in terms of lack of access to values, beliefs, knowledge, information and attitudes which deprives the people of control of their own destinies.
5. Political deprivation in terms of lack of political voice to participate in decision making that affects their lives.

Sanyal (1991) and Schubert (1994) characterize poverty as either absolute or relative or both. Absolute poverty is that which could be applied at all times in all societies such as the level of income necessary for bare subsistence, while relative poverty relates the living standard of the poor to the standards that prevail elsewhere in the society in which they live.

The purpose of poverty measurement is to find out who is poor, how many people are poor, and where the poor are located. Levy (1991) stressed that to measure poverty, two tasks should be accomplished: (i) a poverty line for extreme poor and for the moderate poor respectively must be determined and (ii) the poverty level of individual has to be aggregated. As put forward by Anyanwu (1997), the poverty line is the minimum or the cut off standard of expenditure on food or per capita income below which an individual or household is described as poor.

There are two approaches to the construction of poverty line, the absolute poverty approach and the relative poverty approach. The former is based on cost of basic needs (CBN) approach in which some minimum nutritional requirement is defined and converted into minimum food expenses. To this is added some considered minimum non-food expenditure such as clothing and shelter (Ravallion and Bidani, 1994). A household is then defined as poor if its income or consumption level is below this minimum. The relative approach which this study adopted takes a proportion of mean consumption expenditure or income as the poverty line. For example, one-third and two-thirds of mean income or expenditure are popular, the former defines core poverty line and the latter defines moderate poverty line (Durojaiye, 1995; World Bank, 1996; Ayinde, 1999; Omonona, 2001).

There are two methods for estimating poverty line under the absolute poverty approach: (i) the subsistence measure which focuses on material deprivation, such as inability to consume basic food and non-food items otherwise known as the Cost of Basic Needs approach; (ii) the basic needs measure which focuses on both materials deprivation and deprivation in access to basic services such as health, education and drinking water. Having constructed the poverty line, there is the need to carry out poverty analysis decomposed into various indexes. According to Foster *et al.* (1984) and Ravallion (1996), the most frequently used measurements are:

1. The head count poverty index given by the percentage of the population that live in the household with a consumption per capita less than the poverty line.

2. The poverty gap index which reflects the depth of poverty by taking into account, how far the average poor person's income or expenditure is from the poverty line.
3. The distributionally sensitive measure of squared poverty gap which reflects the severity of poverty.

Though some studies have used income as indicator for poverty line (Aromolaran *et al.*, 2002; Ayinde, 2003), this study however adopted consumption expenditure to construct the poverty line. Coudouel *et al.* (2002) pointed out that consumption expenditure is a better indicator than income for three reasons: (1) consumption expenditure is a better outcome indicator than income as it is more closely related to well-being of a person; (2) consumption may be better measured than income and thus can be more reliable; and (3) consumption better reflects a household's actual standard of living and ability to meet basic needs. In addition, consumption is preferred to income since it is less variable when compared to income. Ravallion (1996), Aigbokhan (1997) and Anyanwu (1997) also posit that total consumption expenditure is preferred to income because it is usually better reported in household budget surveys. In addition, expenditure reflects better long term permanent income and life cycle consumption pattern because it is usually stable and devoid of short term fluctuations like income. Income might also be harder to accurately measure given that some income, especially agricultural income, is constituted in kind remuneration whose market value is difficult to estimate.

The National Bureau of Statistics (NBS) used the 2004 Consumer Expenditure Survey to profile poverty in Nigeria. The poverty lines were estimated using the one-third and two-thirds of mean per capita household expenditure. The study revealed that the proportion of core poor was 22 percent while 32.4 percent were moderately poor. On the other hand, the urban poverty was 43.2 percent while the rural poverty was 63.3 percent. On regional basis, the North-East and North-West had the highest poverty incidence of 72.2 percent and 71.2 percent respectively while the least incidence of 26.7 percent was obtained in South-East. South-South and South-West had 35.1 percent and 43 percent poverty incidence respectively (National Bureau of Statistics, 2006).

In another study by the World Bank in 1996, the poverty trend was assessed in Nigeria between 1985 and 1992 using two-thirds of mean household's expenditure as poverty line. The main findings of the study were that poverty was more pronounced in rural than urban areas. Secondly, the southern part of the country had less poverty than either the central or northern part of the country and finally, poverty in Nigeria declined between 1985 and 1992 from 36 million out of a 1985 population of 84 million to 34.7 million out of 1992 population of 102 million. The study showed that the mean per capita household expenditure (in 1985 prices) rose from ₦592.81 in 1985/86 to ₦792.6 in 1992/93.

Omonona (2001) carried out a study on poverty and its correlates among rural farming households in Kogi State, Nigeria. The data employed for the study were obtained from 550 randomly selected farming households from two randomly selected ADP zones with the aid of well structured questionnaires. The data were analyzed using descriptive statistics, FGT indexes, stochastic dominance and Tobit regression model. The FGT analysis showed that the incidence,

depth and severity of poverty among farming households decreased as the years of formal education of farm households heads, extent of output commercialization, farm size, farm income and amount of agriculture loan increased. But poverty incidence, depth and severity increased with increase in household size, age of household heads, children and adult dependency ratios, years of farming experience and distances to market, drinking water source and health clinic.

3. METHODOLOGY

3.1. Study Area

The study was conducted in Ogun State of Nigeria. Ogun State is one of the 36 States in Nigeria and it lies in the Western part of the country. The state with two ecological zones is well suited for food crop production. Food crops grown in the area include Yam, maize, cassava, cowpea, plantain and rice.

3.2. Sampling Technique

This study employed a multi stage sampling procedure. Ogun State which is the focus of the study has four Agricultural Development Programme (ADP) zones which are Abeokuta, Ilaro, Ikenne and Ijebu-Ode. In the first stage of the sampling procedure Abeokuta and Ilaro zones were randomly selected from the four zones in the State. The second stage involved the selection of three (3) blocks out of the six blocks in Abeokuta zone and two (2) blocks out of the four blocks in Ilaro zone giving a total of 5 blocks. This is followed by the random selection of 3 cells from each block selected from the zones to give 15 cells. The final stage was the random selection of 8 farm households in each village that falls within the farming communities selected in the cells. This gave a total of 117 farm households in the State.

3.3. Analytical Techniques

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, Greer and Thorbecke (FGT)** poverty index was used to determine poverty levels among the respondents. It is generally given as:

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

where:

P = Foster, Greer 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.

α = non-negative poverty aversion parameter (0, 1 or 2). The analysis of the poverty status of the households were decomposed into the three indicators i.e. prevalence of poverty (P_0), poverty depth (P_1) and severity of poverty (P_2).

If $\alpha = 0$, the index become $P_0 = q/n$. This gives the head count ratio or the incidence of poverty which is the percentage of respondents in poverty i.e whose per capita expenditure is below the poverty line.

If $\alpha = 1$, it reflect both incidence and depth of poverty or the proportion of the poverty line that the average poor will require to attain to the poverty line.

If $\alpha = 2$, the index measure the severity of poverty which is the mean of square proportion of the poverty gap. When multiplied by 100, it gives the percentage by which a poor household's per capita expenditure should increase to push them out of poverty.

3.4. Construction of the Poverty Line

Poverty line has been defined as the minimum or the cut-off standard of expenditure on food or per capita income below which an individual or household is described as poor (Anyanwu, 1997). According to (FOS, 1999) and (Canagarajah and Thomas, 2002), there is no official poverty line in Nigeria and as such many earlier studies have used poverty lines which are proportions of the average per capita expenditure. However, in this study per capita expenditure which is considered more appropriate in past studies because it is consistent and does not change over a period of time when compared to income was adopted. Therefore, the poverty line was defined as the two-thirds (2/3) of the mean value of per capita consumption expenditure in the study area. The farm households were categorized into poor and non-poor group using the two-third mean per capita expenditure (Durojaiye, 1995; World Bank, 1996) as the bench mark. Households whose mean consumption expenditure falls below the poverty line are regarded as being poor while those with their expenditure above the benchmark are non-poor.

$$PCE = TCE/HHS \text{ -----(2)}$$

$$MPCHE = THHE/TNR \text{ -----(3)}$$

$$PL = 2/3 * MPCHE \text{ -----(4)}$$

where:

PCE = Per Capita Expenditure

TCE = Total Consumption Expenditure

HHS = Household Size

MPCHE = Mean Per Capita Households Expenditure

TNR = Total Number of Respondent

THHE = Total Households Expenditure

PL = Poverty Line

In order to identify determinants of poverty status of farm households sampled for this study, a logit regression was carried out. The model was chosen because of the dichotomous dependent variables and because the technique has no restrictive distribution assumptions.

The logistic (logit) probability function is given as

$$P_i = 1 / (1 + e^{-Z_i}) = f(Z_i) \text{----- (5)}$$

Where P_i is the probability that a household i ($i = 1, 2 \dots n$) will be poor. Index Z_i is a random variable which predicts the probability of a household being poor or non-poor. The probability P_i in equation 5 is further transformed to give equation 6.

$$P_i = e^{Z_i} / (1 + e^{Z_i}) \text{----- (6)}$$

Therefore for the i th observation, a household will be

$$Z_i = \ln(P_i / (1 - P_i)) = \beta_0 + \sum \beta_j X_j \text{----- (7)}$$

Therefore, $\ln(P/(1-P)) = 1$, if the household is poor while $\ln(P/(1-P)) = 0$, if otherwise i.e non-poor.

Implicitly, the model is empirically estimated as

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_{11} X_{11} \text{----- (8)}$$

where:

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 = Age squared (years²), X_6 = Sex (male = 1, female = 0), X_7 = No of adult in household

X_8 = Off farm income (₦), X_9 = Household size (number)

X_{10} = Membership of farmer association (member = 1 and 0, otherwise)

X_{11} = Amount of credit accessed (₦), ε = errors term

4. RESULT AND DISCUSSION

4.1. Socio-Economic Characteristics of Farm Households reflecting their Poverty Status

The distribution of farm households by ownership of residential building as shown in table 3 reveals that 37.3% of the farm households owned the residence, 31.4% rented it while 18.6% of the farm households residence is owned by their extended family. However, 47.8% of the farm households in Ogun State are living in residential building constructed with block, while 30.8% and 20.5% are living in houses made with mud and bricks respectively. The main sources of power to households as shown in table 4 were either Power Holding Corporation of Nigeria (PHCN) or the use of generator. Only 58.5% of farm households in Ogun State had access to PHCN while others either use a combination of generator and PHCN or use local bush lamp. The common source of water is stream water which constitutes 56.3% of access available to the rural households in Ogun State followed by bore hole/deep well which represent 30%. The common toilet facility available in the study area is the bush which constitutes 62.4% of the responses from the farm households. It is important to point out that 48.3% of the farm households sampled in the State were living in the same building with other 2-3 households while 34.7% were sharing their building with other 4-6 households.

Table- 3. Distribution of Households by Ownership of residential building, Type of building and Number of Households living in the same building with Farm Households.

Ownership of building		
	Ogun State	
	Freq	%
HHhead /spouse	44	37.3
Rented	37	31.4
Extended family	22	18.6
Friends	1	0.8
Inherited	13	11.9
Total	117	100
Type of Building		
Block	56	47.8
Brick	24	20.5
Mud	36	30.8
Others	1	0.9
Total	117	100

Number of households living in same building with farm households

1-00	17	14.5
2-3	57	48.3
4-6	40	34.7
7 and above	3	2.5
Total	117	100

Table- 4. Distribution of Household by Power sources, Water Sources and Toilet Facilities.

Power Sources	Ogun State	
	Freq.	%
PHCN only	69	58.5
PHCN and Gen.	17	14.4
Others (Lantern)	31	27.1
Total	117	100

Water Sources

Public Tap	2	1.7
Borehole/deepwell	35	30
Stream water	66	56.3
Water vendor	2	1.7
Others	12	10.3
Total	117	100

Toilet Facilities

Water closet	4	3.4
Pit	40	34.2
Stream/Bush	73	62.4
Others	--	--
Total	117	100

4.2. Analysis of Farm Household Poverty Status

The farm households poverty status in the state were analyzed using the three indicators- prevalence of poverty (P_o), 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 5, the prevalence of poverty among the farm households in Ogun State was (0.7810) representing 78.1 percent of the farm households with consumption expenditure level below the poverty line the poverty depth was 0.558 representing 55.8% 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 0.430 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. Meanwhile, available national statistics put the poverty incidence in the South West and Ogun State in 2004 at 43% and 81.25% respectively (National Bureau of Statistics, 2008). Comparing these statistics, it shows that the poverty incidence obtained for farm households sampled for this study in Ogun State (78.1%) is much higher than that of South-West but compared fairly with the national statistics obtained for Ogun State.

Table- 5. Poverty levels among farm households in Ogun State

Poverty Indices	Ogun State
P_o	0.7810
P_1	0.5583
P_2	0.4303
Mean household per capita expenditure per month (₦ 9,337.44)	Poverty line = ₦6,224.96

4.3. Analysis of Farm Household Poverty Status according to Household Characteristics

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, age of household heads, main occupation and households' size. According to table 6, poverty incidence was found to be higher among male headed households (60%) relative to female headed households (58.3%). 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 (63.9%) and those having household size of five and above (66.1%) in comparison to households engaged in non-farming occupation (40%) and having less than four members of farming family (58.1%). 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 and those that are not member of any social group in their community. For instance, while the poverty incidence for non-membership was 60.6%, it is 86.8% for household heads that are 61 and above in age. The prevalence of poverty was also found to be lower for literate household head (44.8%) and farm households cultivating two and above hectares of land (58.1%). 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.

Table- 6. Prevalence, Depth and Severity of Poverty according to Household Characteristics in Ogun State.

Gender	P₀	P₁	P₂
Male	0.60	0.514	0.318
Female	0.583	0.415	0.188
Main occupation			
Farming	0.639	0.518	0.319
Non-farming	0.40	0.398	0.196
Household size			
Below 4	0.581	0.494	0.301
5 and above	0.661	0.509	0.307
Education Level of Household heads			
Literate	0.448	0.353	0.172
Illiterate	0.576	0.457	0.259
Farm size			
0 – 1.99ha	0.628	0.559	0.369
2.0 and above	0.581	0.443	0.233
Membership of social group			
Yes	0.551	0.448	0.233
No	0.606	0.533	0.475
Age of household heads (years)			
21-40	0.620	0.457	0.261
41- 60	0.706	0.586	0.357
61 and above	0.868	0.679	0.489

4.4. Determinants of Poverty Status of Farm Households

Tables 7 present the results of logit regression on the determinants of farm household's poverty status in Ogun State. This method was adopted in line with other studies by Okurut *et al.* (2002), Alemayehu *et al.* (2005), Anyanwu (2010) and Masood and Nasir Iqbal (2010). The estimated coefficients for the likelihood ratio chi-square was significant ($p < 0.01$) for the State with chi-square value of 53.22. The model accounted (R^2) for 22% of the variation in poverty status of the farm households in Ogun State.

The result of the logit regression indicates that farm size ($p < 0.01$), level of education ($p < 0.01$), off-farm income ($p < 0.01$), household size ($p < 0.01$), farming experience ($p < 0.05$), number of adult members in household ($p < 0.05$), credit use ($p < 0.05$), Sex ($p < 0.05$) and age of household heads ($p < 0.10$) significantly influence the probability that a household will be poor or non-poor. However, while household size and age of household heads exert positive effect other variables exert negative effect which conforms to a *prior expectation*.

The results obtained from the State further revealed that the likelihood event of being poor were more with large households. Evidence from other studies point to the same direction between poverty and household size (Okurut *et al.* (2002), Gang *et al.* (2002), Bokosi (2006), Anyanwu (2010) and Masood and Nasir Iqbal (2010). The larger the household size the poorer the household is likely to be because more of 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 increase in the size of the farm household increases the probability of the farm households being poor by 1.21%.

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 State with educated heads were found to be less likely to be poor when compared with those that are not educated. Bastos *et al.* (2009) further corroborated that labor is by far the most important asset of the poor and increasing their education will in turn increase labor productivity and wages which ultimately will reduce their poverty. Further evidence was given by Grootaert (1997), to confirm that there is a link between educational attainment, the income earning potential of the household and poverty. He pointed out that there is a minimum level of education necessary to enhance appreciation and adoption of new technologies that can be instrumental in increasing household productivity, and thereby earn more income. 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 by 3.48%. Access to credit by farm households has significant negative relation with poverty status and this will aid the households to escape from poverty. This is in line with the general believe that credit is an anti-poverty strategy because of the important role it plays among rural populace (Adeyeye, 2001). Credit assists the farm households in the purchase of farm inputs such as fertilizer, herbicides, improved seeds and investment demand which will ultimately increase their productivity. Therefore, a unit increase in credit access by farm household in Ogun State will increase the probability of the households being non-poor by 4.59%. The age of the household heads sampled was also found to be positively correlated to the poverty status indicating that as the household heads get older, the likelihood of being poor also increases. This position is consistent with those of Gang *et al.* (2002), Datt and Jolliffe (1999), and Rodriguez (2002) that poverty increases with old age as the productivity of the individual decreases. The number of adult members in the households also has strong negative relation with poverty status. This showed that the number of male and female adults involved in income generation activities in a household can

be a cause to escape from poverty. Hence, the household characteristics and composition play an important role to determine the poverty status of a household. The more the number of adult in a household who are educated, the more the opportunity to generate more income which will be available for consumption and the more the likelihood to escape from poverty. The marginal effect is 2.8% in the Ogun state. Other significant variables having negative impact are farm size, farming experience and farm income.

Table-7. Maximum likelihood estimates of logistic model for factors determining the poverty status of farm households in Ogun State.

Variables	Coefficients	Std Error	t-ratio	Marginal Effect
Farm size	-0.683***	0.033	-6.935	-0.0753
Education level	-1.903***	0.141	-2.668	-0.0348
Farming experience	-0.582**	0.012	-2.233	-0.0242
Age	0.081	0.022	-0.052	-0.0062
Age Squared	0.065*	0.051	-1.7011	-0.0172
Gender	-1.163**	0.103	-2.412	-0.0141
No of adult in household	-0.144**	0.187	-2.102	-0.0277
Off-farm income	-0.031***	0.018	-4.040	-0.0427
Household size	0.722***	0.053	4.001	0.0121
Membership of organization	-0.155	0.400	-0.423	-0.0221
Credit use	-0.154**	0.021	-2.725	-0.0459
Constant	6.019	0.680	2.120	-
Log-likelihood	-225.138	-	-	-
Likelihood ratio df (12)	53.221***	-	3.001	-
R ² _{Logistic}	0.220			

5. CONCLUSION AND RECOMMENDATION

Majority (70.9%) of the farm households sampled do not have access to potable water, they live in mud and poorly ventilated buildings while the common toilet facility was the bush. Most of them are poor with not less than 78% having their consumption expenditure below the poverty line. The logit regression analysis indicated that credit use ($p < 0.05$) and level of education of household heads ($p < 0.01$) are significant determinants of poverty status of farm households in the State. Therefore, it is recommended that a credit delivery mechanism targeting the poor farm households be developed by government at the three levels of governance to divert substantial and timely credit to rural farmers at reduced interest rate and longer repayment period, while the adult literacy education programme be strengthened as well as make it accessible to both young and old members of the rural populace.

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