

Determinants of Poverty Incidence among Rural Farmers in Ondo State, Nigeria

O. Igbalajobi^{2,3}, A.I. Fatuase^{1,2,*}, I. Ajibefun^{1,2}

¹Department of Agricultural Technology, Rufus Giwa Polytechnic, Owo, Ondo State, Nigeria

²Department of Agricultural and Resource Economics, Federal University of Technology, Akure, Ondo State, Nigeria

³Department of Agricultural Economics and Extension, Joseph Ayo Babalola University (JABU), Ikeji Arakeji, Ilesa, Osun State, Nigeria

*Corresponding author: firstwalefat@yahoo.com

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Abstract This study empirically analyzed the determinants of poverty among rural farmers in Ondo State, Nigeria. Primary data were used and a sample of 285 farm households through a multistage sampling technique was drawn from the study. The data collected were analyzed using descriptive statistics, Foster-Greer-Thorbecke (FGT) poverty measure, Gini coefficient and probit regression analysis. The findings revealed that 81.8%, 81.1% and 34.1% of the respondents were male, married and no formal education respectively. The average household's age was over 50 years' old which implies that the respondents were fairly old and experienced. 59.3% of the respondents were actually poor while 27.6% of the poverty line (580.42 USD) was needed to get out of poverty. The result of Gini coefficient (0.492) implies average level of income inequality among the respondents. The result of logit regression model indicated that age, gender, marital status, household size, access to credit, farm income and educational level of the respondents were the major determinants of poverty among rural farm households. It was further shown that reducing the frequency of eating per day, engaged in non-farming activities, praying and fasting, and seeking help from friends/relatives were the major strategies for coping with poverty syndrome in the study area. Therefore, government should design holistic policies that will focus on the factors highlighted above in order to alleviate poverty and improve the welfare of the rural farmers in the study area.

Keywords: FGT, gini coefficient, poverty measure, rural farmers, probit model

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1. Introduction

To Agriculture has been a cornerstone in Nigeria economy and a major source of income to about 90% of the rural dwellers. With the abundance of human and natural resources, Nigeria rural sector accommodates 70% of the nation's population and employs about 75% of the labour force as well as contributes 40% to the nation's GDP [1]. Despite its significant contribution to the life of the people, majority of Nigerians are faced with the consequences of poverty: hunger, malnutrition, illiteracy, diseases, life of misery and squalor, low life expectancy, socio-political instability, bribery and corruption, crime, violence, prostitution, alcoholism, drugs addiction, frustration despair, disillusionment, pessimism and moral decadence [2].

Again, the ultimate goal of agricultural production plans in national development is to raise the standard of living and one of the important yardsticks for measuring standard of living is the average distribution income. It has been reported that there is an existence of high level of income inequality in many low income countries of Sub-Saharan Africa in which Nigeria is inclusive [3,4]. This high income inequality has been also reported to produce

an unfavourable environment for economic growth and development [5] vis-à-vis impoverishes the system. Reference [6] reported that income inequality among households in Nigeria rose from 0.429 in 2004 to 0.447 in 2010, indicating greater income inequality during the period. The percentage change in inequality among the rural and urban households between 2004 and 2010 was 2.2% and 4.2% respectively.

The relationship between small farms and poverty in Sub-Saharan Africa has been well established in the literature [7]. It has also been revealed that while the proportion of the population living in poverty in smallholder farming is on the decrease in Asia, the proportion has increased in Sub-Saharan Africa in which Nigeria is inclusive [8]. The poverty situation in Nigeria is quite disturbing as both the quantitative and qualitative measurements attest to the growing incidence and increasing depth of poverty in the country [9]. Poverty is a universal phenomenon that affects socio-economic and political well being of its victims whether in a developed or underdeveloped country, however, available statistics shows that poverty in poor country is absolute and more pronounced in the rural areas.

In 2004, Nigeria's relative poverty measurement stood at 54.4% but increased to 69% (or 112,518,507 Nigerians)

in 2010. The South-West geo-political zone (Ondo State inclusive) recorded the lowest poverty rate (59.1%) among the six geo-political zones in Nigeria. It however remains a paradox despite the fact that the Nigerian economy is growing, the proportion of Nigerians living in poverty is increasing every year, although it declined between 1985 and 1992, and 1996 and 2004. Distributing the population into extremely poor, moderately poor and non-poor as shown in Table 1, the proportion of the extremely poor increased from 6.2% in 1980 to 29.3% in 1996 and then came down to 22.0% in 2004 before reaching 38.7% in 2010. On the other hand, the proportion of non-poor was much higher in the country in 1980 (72.8%) compared to 1992 (57.3%). It dropped significantly in 1996 to 34.4%, falling further in 2010 to 31% [6].

Table 1. Relative poverty: Non-poor, moderate poor and the extremely poor (%), 1980 – 2010

Year	Non-poor	Moderate poor	Extremely poor
1980	72.8	21.0	6.2
1985	53.7	34.2	12.1
1992	57.3	28.9	13.9
1996	34.4	36.3	29.3
2004	43.3	32.4	22.0
2010	31.0	30.3	38.7

Source: NBS, Harmonized Nigeria Living Standard Survey, 2010.

Again, reference [10] reported that majority of the rural poor are small-scale farmers and the poverty gap is becoming wider over the time which calls for corrective action. Thus, targeting of rural farming households seems imperative in alleviating poverty in Nigeria. Therefore, the specific drive of this study is to ascertain socio-economic characteristics of the farming households, assess the income inequality, poverty status and determinants of poverty among the rural farming households in Ondo State, Nigeria.

2. Methodology

2.1. Study Area

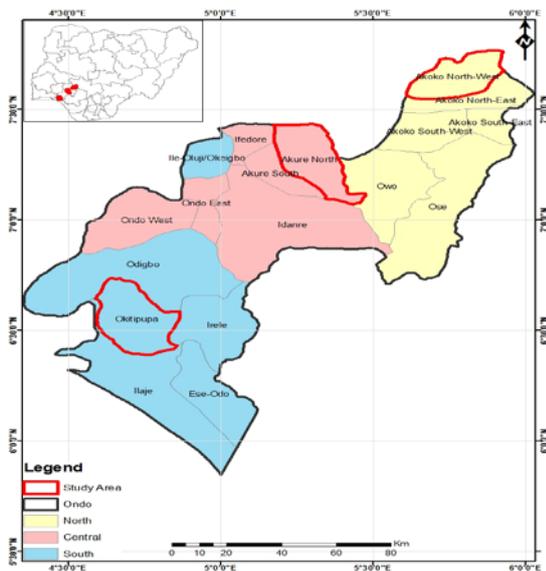


Figure 1. Map of Ondo State, Nigeria showing the Study Area

This study was carried out in Ondo State, Nigeria. The State is situated between longitudes 4° 15' E and 6° 00' E

of the Greenwich meridian and latitudes 5° 45' N and 7° 45' N which is the North of the equator in the Southwestern Nigeria.

The State has 18 Local Government Areas with a population of about 3,440,000 of which the rural population constitutes about 1.7 million and land area of 14,606 km² [11]. The climate of the area is highly favoured for the agrarian activities of her teeming population who grow crops such as cocoa, kola nut, palm tree and arable crops like maize, yam and cassava. The annual rainfall is between 1000mm and 1500mm with a high daily temperature of about 30°C. The vast majority of the population consists of peasant farmers cultivating food and cash crops at a small-scale level. Livestock keeping is a minor occupation of the population of Ondo State dealing on goats, sheep, rabbits and fish farming. Other activities include trading and civil service [12].

2.2. Data Collection and Sampling Technique

Primary data were used for this study which were collected through direct personal interview and structured questionnaire to obtain pertinent information for the study. Multistage sampling technique was used to select respondents. It was commenced by stratifying the State into three zones (north, central and south) based on administrative and political stratification. Each zone is made up of six local government areas. One Local Government Area was randomly selected from each zone which is Akoko Northwest, Akure North and Okitipupa local government areas. Ten political wards were randomly selected from each local government area while ten farming households were further selected randomly from each ward making a total of 300 respondents but 285 respondents were valid and employed for this study.

2.3. Analytical Procedure

The data collected were analyzed using descriptive statistics such as frequencies, percentages to examine the socio-economic characteristics and strategies for coping with poverty among the respondents.

The Foster-Greer-Thorbecke (FGT) model was used in analyzing poverty status of the rural farming households. FGT poverty index was used to measure poverty status among the rural farming households. The FGT poverty index is given by:

$$P_{\alpha}(y, z) = \frac{1}{2} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)^{\alpha} \quad (1)$$

Where: n = total number of households in population

q = the number of poor households

Z = the poverty line for the household

y_i = household income

α = poverty aversion parameter and takes on value 0, 1, 2

$\left(\frac{Z - y_i}{Z} \right)$ = proportion shortfall in income below the poverty line.

Determining the poverty index

When α = 0 in FGT, the expression becomes:

$$P_0 \left(\frac{1}{n} \right) q = \left(\frac{1}{n} \right) \quad (2)$$

This is called the Incidence of poverty or headcount index, which measures the proportion of the population that is poor i.e. falls below the poverty line.

When $\alpha = 1$ in FGT, the expression becomes:

$$P_1 = \frac{1}{2} \sum_{i=1}^q \left(\frac{Z - y_i}{Z} \right) \quad (3)$$

This is called Poverty depth or Poverty gap index, which measures the extent to which individuals fall below the poverty line as a proportion of the poverty line.

When $\alpha = 2$ in FGT, the expression becomes:

$$P_2 = \frac{1}{n} \sum_{i=1}^q \left(\frac{Z - y_i}{Z} \right)^2 \quad (4)$$

This is called Poverty severity index measures the squares of the poverty gaps relative to the poverty line.

Construction of Poverty Line: This was done to categorize the respondents into poor and non-poor groups using the two-third mean per-capita income as the benchmark, which was adopted from the studies carried out by [13,14,15]. Households whose mean per-capita income falls below the poverty line are regarded as being poor while those with their per-capita income above the benchmark are non-poor.

Per – capita income (PCI) = Income / Household Size

Total Per – capita Income (TPCI) = Summation of PCI

$$\begin{aligned} \text{Mean TPCI} \\ &= \text{TPCI} / \text{Total Number of Households} \\ &= \text{MTPCI} \end{aligned}$$

$$\text{Poverty Line (PL)} = 2/3 \times \text{MTPCI}$$

Gini coefficient was applied to measure the degree of inequality in the distribution of income in the study area. The value of Gini coefficient ranges between zero and unity. As the value approaches unity, it implies greater degree of inequality. Value greater than 0.35 would indicate inequitable distribution (Dillon and Hardaker, 1993). The computation of Gini coefficient is:

$$G = 1 - \sum_{i=0}^{n-1} (X_{i+1} - X_i)(Y_{i+1} + Y_i) \quad (5)$$

Which reduces to:

$$G = 1 - \sum XY \quad (6)$$

Where G = Gini coefficient

X = percentage of farming households

Y = cumulative percentage of income from the farming households and Probit regression model was used to investigate the determinants of poverty status among farming households in the study area. A poverty line was constructed to disaggregate the households into poor and non poor groups. Therefore, households whose per-capita total income (PCTI) was above the poverty line are considered to be non poor while those with their PCTI below the poverty line are regarded as being poor. Thus, the regressand takes the value '1' and '0' for poor and non poor households respectively. Households' socioeconomic

characteristics were used as regressors i.e. explanatory variables.

Probit model is a model used in estimating the probability of events based on dependent dichotomous variables [16]. This model has found several applications in the literature [17, 18]. A dichotomous dependent variable assumes only two values (either zero or one).

The probit model to be estimated is given as:

$$P \left(Y_i = \frac{1}{x_i} \right) = \frac{\exp(x_i \beta)}{1 + \exp(x_i \beta)} \quad (7)$$

An equivalent form can be stated thus,

$$\frac{\exp(x_i b)}{1 + \exp(x_i b)} = \frac{1}{1 + \exp(x_i b)} \quad (8)$$

This can be expressed as,

$$q_{it} = bx_{it} + e_{it} \quad (9)$$

Where q_{it} = an unobservable latent variable for poor households.

X_{it} = vector of explanatory variables

b = vector of parameter to be estimated

e_{it} = error term

The observed binary (1, 0) for whether household is poor or otherwise is assumed in the usual probit model. The probability that the binary assumes the value 1 implies,

$$\text{Pr ob.}(q_{it} = 1) = \frac{e^{x_{it}\beta} + \beta^{x_{it}}}{1 + e^{x_{it}\beta} + \beta^{x_{it}}} \quad (10)$$

Thus, in this study, the explanatory variables (Xs) included in the model are:

X1 = Age of household head (years)

X2 = Gender of household head (Male =1, Female = 0)

X3 = Marital Status of household head (Married =1, Not married = 0)

X4 = Household Size (numbers)

X5 = Educational level (Educated =1, Not educated = 0)

X6 = Belonging to Social Group (Yes =1, No = 0)

X7 = Access to credit (Yes = 1, No = 0)

X8 = Income of Respondent (Naira)

X9 = Farm enterprise (categories)

Poverty Coping Strategies Use Index (PCSUI): This was also employed to access the extent of use of the coping strategies by the households. The knowledge of this allows a better understanding of the possible area(s) of intervention (formal or informal strategies) either by government or other stakeholders in the area. In analyzing the extent of use of any of the coping strategies by the rural farming households, a poverty coping strategy index (PCSI) was developed by ranking. The extent of use of the PCSI was expressed using a four-point scale with the scoring order 3, 2, 1 and 0 for frequently used, occasionally used, rarely used and not used respectively. The formula used to obtain the PCSI score was adopted from [18]. This was modified to obtain the PCSI as:

$$\text{PCSUI} = N_1 X_3 + N_2 X_2 + N_3 X_1 + N_4 X_0 \quad (11)$$

Where:

PCSUI = Poverty coping strategies use index

N1 = Number of households using a particular CSI frequently

N2 = Number of households using a particular CSI occasionally

N3 = Number of households using a particular CSI rarely

N4 = Number of households not using any of the Coping strategies.

The PCSUI was used in rank order to reflect the relative position of each of the PCSI in terms of their use. The extent of use of the PCSI was then obtained for all households in the study area.

3. Results and Discussion

3.1. Socio-economic Characteristics of the Respondents

The respondents socio-economic characteristics analysed for this study were age, marital status, farming experience, gender, access to credit, educational level, farm size and household income. The findings revealed that about 82% of the respondents were male-head household which implies that male household dominated the farming occupation in the study area and this has been in line with many studies carried out in Ondo State. A good number of farming household (71.6%) had access to credit facilities from friends/relatives, cooperatives, save and thrift in order to finance their farm and cater for their basic needs. Table 2 therefore depicts other household characteristics as below. The results revealed that the average age of household head in the study area was about 51 years old while the majority of the respondents (27.4%) was found in the age bracket 52 – 60 years. This indicated that majority of the respondents were getting older and this might decline productivity as well as a threat to food production vis-a-vis impoverish the farming households. This result corroborates with the findings of [19] on rural financial services and poverty alleviation in rural Nigeria carried out in Oyo State. It was also shown that over 86% of the sampled respondents have married which implies that most of the respondents were mature and responsible to cater for their households as well as have clear knowledge of their wellbeing. The mean farming experience is about 19 years indicating that the farming households had spent a good number of years on farming practices. Majority of the respondents (38.9%) fall in year bracket of 11 and 20 and only two respondents have been farming for over 51 years in the study area. About 23% of the respondents had no formal education, while the remaining ones were educated either by primary (34.75%), secondary (28.8%) and tertiary (14.0%) schools communicates that majority of the farming households were literate and one would deduce that this would alleviate poverty in the study area. Household size has been seen as one of the major determinants of poverty that is positive to being poor in this part of the world. The mean household size was 7 persons per house and the majority of the respondents (40%) fall between 6 and 10 persons per house. The farm size still confirms the peasant nature of the study area where majority of the respondents (68.1%) farmed on less than equal to 5ha of land with the mean farm size of 5.24ha. Income has been a vital tool in

accessing human wellbeing. About 68.5% of the sampled households earn less than equal to 3,125 USD per annum, while just only two farming households earn over 12,500 USD per annum. The average household income was 3,174.34 USD which means that looking at the responsibilities of these people couple with their household size, there is need to improve on household income in order to alleviate poverty in the study area. The study further gave insight to the type of farm enterprise ventured into in the study area using multiple responses. It was revealed that almost everybody in the study area (about 97%) was into arable crop farming, while 69.1% of the households were into cash/tree crop and just 39.3% of them were into livestock or animal husbandary. This replicates the true picture of farming households in Ondo State based on the previous literature.

Table 2. Respondents' Distribution by Socio-economic Characteristics

Household characteristics	Frequency	Percentage	Cumulative percentage
Age (years) mean = 50.54			
≤ 30	27	9.5	9.5
31 – 40	44	15.4	24.9
41 – 50	75	26.3	51.2
51 – 60	78	27.4	78.6
61 – 70	52	18.2	96.8
71 and Above	9	3.2	100.0
Marital Status			
Single	38	13.3	13.3
Married	231	81.1	94.4
Widowed	14	4.9	99.3
Divorced	2	0.7	100.0
Farming Experience (years) mean = 19.54			
≤ 10	54	18.9	18.9
11 – 20	111	38.9	57.9
21 – 30	88	30.9	88.8
31 – 40	17	6.0	94.7
41 – 50	13	4.6	99.3
51 and Above	2	0.7	100.0
Educational level			
No formal Education	64	22.5	22.5
Primary education	99	34.7	57.2
Secondary education	82	28.8	86.0
Tertiary education	40	14.0	100.0
Household size (numbers) mean = 6.57			
1 – 5	97	34.0	34.0
6 – 10	114	40.0	74.0
11 – 15	65	23.0	97.0
16 and above	9	3.0	100.0
Farm size (ha) mean = 5.24			
≤ 5.00	194	68.1	68.1
5.01 – 10.00	68	23.9	92.0
10.01 – 15.00	19	6.6	98.6
> 15.00	4	1.4	100.0
Annual Household Income(Dollar) mean = 3,174.34			
≤ 3,125.00	195	68.4	68.4
3,125.10 – 6,250.00	57	20.0	88.4
6,250.10 – 9,375.00	11	3.9	92.3
9,375.10 – 12,500.00	20	7.0	99.3
12,500.10 and above	2	0.7	100
Farm Enterprise			
Arable crop	275	96.5	
Cash crop	197	69.1	
Livestock	112	39.3	

Total observation = 285; Source: computed from field survey data, 2011.

3.2. Income Inequality among Respondents

The Gini coefficient of 0.492 was obtained for the study which implies that a level of income inequality exists among the farming households in the study area. The disparity between the highest and lowest income earners in the study area was 49.2% and this could be as a result of few farmers (4%) that farmed on at least fifteen hectares (15 ha) of land, thus *ceteris paribus* one expects their income to be higher than peasant farmers that farmed on a small piece of land (less than 5 ha). This result was close to the value gotten at the national level, Southwest zone and rural Nigeria which are 0.447, 0.4097 and 0.4334 respectively but slightly different from 0.3856 gotten at the State level in Ondo State in 2010 estimate [6].

3.3. Poverty Line

Poverty line is described as a borderline that distinguishes poor from non-poor households in terms of their level of welfare. Since there is no clear consensus in the literature about when a household or an individual should be defined as poor [15], Lipton (1983), Levy (1991) and Oluwatayo (2008) as cited in [18] therefore used expenditure approach method to determine the poverty line but [14,18] used income approach method. Therefore, this study employed income approach method as a yardstick to set the poverty line i.e. the poverty line was drawn based on total income of the households. From the survey data, the value of poverty line computed was 580.42 USD per annum. Thus, the farming households that earn less than the value of poverty line were considered being poor, which is about 60% of the sampled households, while those that earn greater than equal to the value of poverty line were considered to be non-poor which is 40.7% of the sampled households. This implies that majority of the respondents live below the average income in the study area.

3.4. Poverty Status of the Farming Households

FGT poverty index was used to depict the extent of poverty among the farming households in the study area. The poverty aversion parameters employed were P_0 , P_1 , and P_2 which means poverty incidence (headcount), gap (depth) and severity respectively. The incidence of poverty (P_0) in this study was 0.593 indicating that 59.3% of the sampled farming households were actually poor based on the poverty line. This proportion invariably agreed with the proportion of poor (57.0%) in Ondo State estimated by NBS, 2011. The value P_1 (poverty depth) among the rural farming households was 0.276, implying that an average poor farming households would require 27.6% of the poverty line (580.42 USD) to get out of poverty. The value P_2 (poverty severity) among the sampled farming households was 0.163, indicating that the poverty severity of poor farming households was 16.3%. The result was lower than what [15] found out in their study carried out among rural farm households in Yewa Division of Ogun State, Nigeria. From the findings, it could be inferred that the existence of poverty abounds among the rural farming households in the study area and it is high time we proffered adequate measures to alleviate poverty in the location.

3.5. Factors that Determine Poverty Status among the Farming Households

Probit regression model was used to determine the poverty status among the rural farming households in Ondo State, Nigeria. The likelihood ratio statistics as indicated by χ^2 statistics (119.14) are highly significant ($P < 0.0001$), suggesting the model has a strong explanatory power. The results of the analysis as shown in Table 3 revealed that age, gender, marital status, household size, farm income, access to credit and educational level are the major determinants of poverty in the study area. The coefficients of age, gender and household size were positive with the regressand (i.e. the poor household is 1 and 0 otherwise) which implies that increase in the value of any of these variables may likely increase the probability of being poor. For instance, as the respondent is getting older, the likelihood of being poor is increasing. This is can be justified base on the fact that elderly person decline in strength and productivity as he gets older as well as involves in health problems. Household size also increases the likelihood of being poor and this could be because of increase in household size directly or indirectly reduces income per-head (per-capita income) as well as impair standard of living of the households. On the other hand, marital status, farm income, access to credit and educational level had negative coefficients and significantly affect the level of poverty in the study area. An increase in the value of any of these variables increases the likelihood of not being poor. This implies that an educated married farming household that had access to agricultural credit vis-à-vis increase in farm income may likely be non-poor in the study area.

Table 3. Probit Model Result on the Determinants of Poverty Status among Farming Households in Ondo State

Explanatory Variables	Coefficients	Standard error	P > Z
Age	0.0348***	0.0102	0.001
Gender	1.2395***	0.3330	0.000
Marital status	-0.5243**	0.2175	0.016
Household size	0.2872***	0.0419	0.000
Farm income	-5.32E-06***	9.96E-07	0.000
Belonging to social group	-0.0236	0.4521	0.962
Farm enterprise	0.0041	0.0785	0.959
Access to credit	-0.5164**	0.2159	0.017
Educational level	-0.2447**	0.1109	0.027
Constant	-0.0861	0.7389	0.907

Log likelihood = -131.0771; LR chi2 (9) = 119.14; prob. > chi2 = 0.0001; Pseudo R² = 0.3125

Source: Computed from Field Survey Data, 2011.

3.6. Identification and Ranking of Poverty Coping Strategies Based on Frequency of Use

The following coping strategies were identified to be the major measures used in the study area to cushion the effect of poverty among farming households. The ranking of poverty coping strategies in the Table 4 was done by using a four-point scale to score household's responses. The study indicated that reducing the frequency of eating per day (10.7%), engaged in non-farming activities (10.5%), result to fasting and prayer (10.3%), seeking help from friends/relatives (9.8%) and eating of less preferred food (9.5%) were the most coping strategies usage in the study area. It was observed from the study area that

majority of the respondents were no more eating three square meal per day instead they eat in the morning (breakfast) and night (dinner) or in the night (dinner) alone and not with their favourite food. A good number of them have started venturing into non-farming activities such as petty trade, vocational and skillful works, driver and so on. Another crucial coping strategy used is purchase food on credit which is about 9% of the sampled respondents. It was observed that people bought food stuffs on credit and pay back when they sold their farm produce and sometimes, if the produce is arable crop, most of the food sellers can take the farm produce in exchange for their money. Borrowing money from cooperatives (7.5%) is also rampant in the study area. This has been a great source of help to the farming households. It was found out that the farmers borrow money from the

cooperative in the beginning of the season with the intension of paying back at the end of the season. This is common among cocoa farmers in the study area to the extent that some might give the equivalent of their cocoa produce in exchange of the money borrowed. Withdrawing children from private to public school might not only be because of poverty syndrome but most of the public schools have started regaining their old glory due to the renovating, restructuring rebuilding and revitalizing of public schools by the government of Ondo State. Furthermore, a typical Ondo State man would rather die hunger than begging for alms that is why begging for alms among the respondents was the least coping strategies used in the study area. It was further observed that 95% of the respondents that chose this option were non-indigen of Ondo State.

Table 4. Ranking Of Poverty Coping Strategies Based On Frequency Of Use

Coping strategies	Frequently used (3)	Occasionally used (2)	Rarely used (1)	Not used (0)	PCSUI	% of households	Rank
Reducing the frequency of eating per day	189	45	23	30	680	10.7	1
Eating of less preferred food	102	143	15	25	607	9.5	5
Purchase food on credit	67	129	81	8	540	8.5	6
Seeking help from friends/relatives	155	40	79	11	624	9.8	4
Consumption of stored produce meant for planting	56	39	79	111	325	5.1	11
Selling off farm implement/selling assets	35	27	173	50	332	5.2	10
Children hawking	61	45	63	116	336	5.3	9
Engaged in non-farming activities	176	58	25	25	669	10.5	2
Borrowing money from cooperatives	98	43	100	44	480	7.5	7
Family planning/use of inceptives	23	61	78	123	269	4.2	13
Withdrawing children from school	35	50	71	129	276	4.3	12
Withdrawing children from private to public school	61	31	100	93	345	5.4	8
Begging for alms	12	45	111	117	237	3.7	14
Result to fasting and prayer	161	68	39	17	658	10.3	3
Total					6378	100.0	

Source: computed from field survey data, 2011.

4. Summary of the Findings and Recommendation

The study investigated the determinants of poverty status among rural farming households in Ondo State, Nigeria. The study revealed that the mean age of the respondents and farming experience were about 51 and 20 years respectively. A fairly large household size (average household size of about 7 members) was observed with a mean farm size of 5.24ha of land. Majority of the respondents (77.5%) had atleast primary school education and more than 86% of the farming households had married. The average income of the respondents was ₦507,895.20 and majority of them (82%) were male-headed households. The value of Gini coefficient (0.492) indicated that a certain level of income inequality existed among the respondents. About 60% of the farming households were considered poor based on the value of poverty line (₦92,867.96 per annum). The poverty aversion parameters' values for P_0 , P_1 , and P_2 were 59.3%, 27.6% and 16.3% respectively. It was further shown from the study that an average poor farming household needed 27.6% of the poverty line to get out of poverty. The probit model revealed that marital status, farm income, belonging to social group, access to credit, educational level were statistically significant in alleviating poverty in the study area. Reducing the frequency of eating per day; engaged in non-farming activities; result to fasting and

prayer; and seeking help from relatives/friends were the main coping strategies employed by the respondents to cushion the effect of poverty syndrome in the study area.

Going by the empirical evidence emanating from this study, it is generally revealed that majority of the rural farming households in the study area were poor. The level of income disparity was high and they struggled to find a means of coping with the syndrome of poverty.

It therefore suggests a number of policy options that can assist in alleviating poverty and as well achieving Millennium Development Goals (MDGs) in the study area. These options are:

- there should be provision of infrastructural facilities that can stimulate good business environment such that diversification of means of livelihood would be more profitable to alleviate poverty among the rural households. This is important due to the fact that involvement of the farmers in non-farming activities did alleviate poverty because of their ability to earn good income from these activities.
- policies that will encourage farmers to go into massive production should be put in place so as to make income that can reduce poverty. Majority of the farmers entertain fears going into massive production because of gluts which would make them to run into loss. Policies that can institutionalize marketing board and buy-back mechanism can solve the problem of gluts and low income being realised by the farmers.

- governments and Non- Governmental Organizations (NGOs) should encourage youths to go into farming so as to reduce pressure that is on white collar jobs. Youths will surely go into farming as soon as it is lucrative.
- awareness creation on family planning will go along way in reducing the household size of the rural farming households since there is tendency of being poor with large household size.
- credit facilities should be made available and accessible to the farming households. Government should therefore show more seriousness in the implementation of agricultural credit schemes with one digit interest rate because farmers in the rural areas could still not have access to agricultural development banks and other related agencies that are located only in the urban areas. By doing this, it will give an avenue to boost food production vis-a-vis reduce poverty.
- literacy level of the farming households will be a vital tool in alleviating poverty in the study area. Government policy should be geared towards making education affordable and accessible at all level. Adult and non-formal educations will be of great assistance to the aged farming households.

Abbreviations

- GDP – Gross Domestic Product
 USD – US Dollar
 FGT – Foster – Greer – Thorbecke

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