



Evaluation of Poverty Status and Time-Taken to Exit Poverty among Food Crop Farmers in Nigeria

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Abstract: The study evaluated poverty status, its determinants and the time taken by crop farmers to opt out of poverty. Farm level data were collected from 427 arable crop farmers. Descriptive statistics, Foster-Greer-Thorbecke (FGT) and Probit regression models were used to analyze the data collected. Results of poverty status revealed that 64.4% of the sampled respondents were poor, while 35.6% were nonpoor. The value of the extent of poverty indicated that poverty incidence (P_0), depth (P_1) and severity (P_2) were 0.644, 0.340 and 0.235 respectively. This implies that the average poor respondents need 34.0% of the specified minimum bench mark to opt out of poverty. Furthermore, it will take 71 years for the poor to get out of poverty if their expenditure growth rate through farm income could be increased by 1% every year, but seven years if it is increased by 10%. Results of probit regression showed that farming experience, marital status, education, household income, access to healthcare service and some unhealthy days were the main factors affecting poverty status in the area. Therefore, it was concluded that there was presence of poverty among the farmers and intervention is needed through the government to alleviate poverty in the area.

Keywords: Nigeria, farmers, FGT, poverty, probit, time-taken, crop,

1. Introduction

Poverty is one of the main threats to the economy and welfare of under-developed and developing countries in the 21st century. It is also the engine that stimulates corruption and social vices that are rampant in most of the countries. Due to poverty, world income inequality has risen in the three decades (Robert, 2004) and this has resulted in a disparity in various sectors of the economy. Since poverty is a multidimensional phenomenon, it has incapacitated the potentials of the affected countries most especially in the areas of human and natural resources. Nigeria, the giant of Africa and the biggest economy in Africa with the population of over 160 million people (NPC, 2012), is still felling as a victim and as well ranked third among world's ten countries with extremely poor citizens. Despite the fact that the growth rate of Gross Domestic Product (GDP) is rising, this has not translated to any real socio-economic services (Aidelunuoghene, 2014). In the same vein, the rich endowment with human and

various natural resources include enormous areas of arable land and large deposits of minerals (UNDP-MDGs, 2013), has therefore tragically failed to be translated to employment opportunities, improved standard of living and poverty reduction of her citizens vis-à-vis economic development (Oke and Oluwaleye, 2015).

Again, going by the report of the National Bureau of Statistics (NBS), it was unveiled that about 112.519 million (69%) of Nigeria's estimated total population lived in relative poverty conditions, while the absolute measure puts the country's poverty rate at 60.9%. The report further stated that the subjective and the dollar per day poverty measures estimated 61.2% and 93.9% as the poverty rate respectively. The analyses of poverty and income distribution across the country were also reported, which shows that income inequality had upward movement from 0.429 in 2004 to 0.447 in 2010, while the poverty rate had risen from 54.4% in 2004 to 69.0% in

2010 (NBS, 2012). It was stated that Nigeria's income inequality and poverty had been on increase since 2003/2004 which is estimated further to be on increase beyond 2011 if proper measures of anti-poverty were not addressed.

Despite the fact that government generates huge revenue and export earnings from crude oil, majority of the people engaged in agriculture as their main occupation. Hence, farming constitutes a crucial sector that accrue income of nearly 90% of the rural denizens which put it at 70% of Nigeria's rural population and as well employs nearly 75% of the labor force vis-a-vis causes nation's GDP by 40% contributions (Alegre, 2006). Despite the relevance and vital contribution of agriculture to the life of the people, a quantum number of farmers are impoverished by still living less than specified minimum standard of living and then faced with several tragedies of poverty such as malnutrition, diseases, alcoholism, pessimism, hunger, crime, moral decadence and low life expectancy (Africa News Service, 2004; Igbalajobi et al., 2013). Therefore, if any meaningful projects that will alleviate poverty in any economy like Nigeria, the focus should be on agriculture and rural development. Again, climate change has also caused economic deprivation thereby jeopardizing most of the policy measures put in place by the government to eradicate poverty. This is because poor households have low adaptation capacity to the negative and extreme climate change thereby making them most vulnerable.

Therefore, the study explicates the understanding of poverty status, the time taken to opt out, determinant factors influencing poverty and measures employed to cope with strategies by the respondents. Establishing routes out of poverty have been a major challenge facing individuals, households and policy makers alike (Julie and Thomas, 2008), therefore this research will provide a quantitative policy framework to address the level of poverty faced by food crop farming households and as well proffer, ceteris paribus, likely time to jump out of poverty if necessary economic issues are properly appropriated. These set of farmers are very

significant to the economic growth of Nigeria being the main source of food production. Therefore, knowing the number of the farmers living below the minimum bench mark of \$1.25US dollar per day (NBS, 2013) will help in designing the most efficient approach to poverty alleviation and also the allocation of resources in the sector.

2. Methodology

This study was carried out in Southwest, Nigeria and the region is comprised of Ogun, Osun, Ondo, Oyo, Lagos and Ekiti States. The region is surrounded by Kwara and Kogi States in the North and East, while the Republic of Benin and the Atlantic Ocean shared a boundary with the region in the West and South respectively. About 76,852 square kilometers was the area's land mass with a population of 25.2 million (NPC, 2006). Again, the region is located between Latitude $6^{\circ} 21^1$ and $8^{\circ} 37^1$ North and longitude $2^{\circ} 31^1$ and $6^{\circ} 00^1$ East. The vegetation and soil of the area are suited for cultivation of arable crops. The farmers in the area mostly practice mixed cropping, while the majority of agricultural products are subsistence in nature and as well come from manually cultivated rain-fed (Ajibefun et al., 2006). The study used primary data which were sourced through the administration of well structured questionnaire and direct personal interview. The selection of the respondents was based on multi-stage sampling technique. For a start, three States (Ondo, Ekiti and Oyo) were randomly selected among the six States that made up Southwest zone. Again, three Local Government Areas (LGAs) were selected at a random from each State, while three communities were selected at a random from each LGA. From each selected community, 17 crop farmers were finally selected at a random. Therefore, a total of 450 respondents were randomly sampled for the study but 427 respondents' data were valid and employed for the analysis of the study.

The Model: Foster-Greer-Thorbecke (FGT):

The Foster-Greer-Thorbecke (FGT) poverty index was used to measure poverty status among the respondents and it is written in equation (1).

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

In the equation, n is the total number of observations; q is the number of poor households; Z is the minimum bench mark which is also referred to the poverty line (USD 1.25 per day); y_i is the household's expenditure; and α is the poverty aversion estimate which takes on 0, 1 and 2 values.

$\left(\frac{Z - y_i}{Z} \right)$ Represents the proportion of expenditure less the specified minimum benchmark.

Determining the poverty index with the specified aversion parameters:

When $\alpha = 0$ in FGT, the expression is written as:

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

The estimate from the equation (2) is known as incidence of poverty or headcount index. This specifies the proportion of the population that is poor i.e. less the specified minimum standard of living (USD 1.25 per day).

When $\alpha = 1$ in FGT, the expression is written as:

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

The estimate from the equation (3) is known as poverty depth or poverty gap index. This specifies the extent to which individuals spend is less the specified minimum standard of living as a proportion of the minimum benchmark or the ratio of the poverty gap that the average poor is needed to attain the specified minimum standard of living.

When $\alpha = 2$ in FGT, the expression is written as:

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

The estimate from the equation (4) is known as poverty severity index. This estimates the squares of the poverty gaps relative to the specified minimum benchmark. The estimates therefore expounds on the status of the poorest of the household poverty. Again, estimates from poverty aversion ($\alpha = 0, 1, 2$) range from 0 to 1, which is

called FGT index as reported by Greer and Thorbecke (1986) and Aigbokhan (2000).

Minimum Bench Mark (Poverty Line): This study employed absolute measure approach of USD 1.25 per day as a specified minimum benchmark which was estimated based on total household expenditure. Based on the analysis of this study, any household that the value of his/her per capita expenditure per day is less than the specified minimum bench mark of \$1.25 US dollars/day is considered to be poor. On the other hand, any household that the value of his/her per capita expenditure per day is greater than equal to specified minimum bench mark of \$1.25 US dollars/day is considered to be nonpoor.

Sen (S) Index:

Following the Sen (1976) as cited in Poverty Manual (2005), the effects of the number of poor, the depth of their poverty, and the distribution of poverty within the group are combined in the Sen model as depicted in equation (5). This mean it takes into account the income distribution among the poor. The index is written as:

$$P_s = P_0 \left(1 - (1 - G^p) \frac{\mu^p}{z} \right) \dots \dots \dots (5)$$

In the equation above, P_0 is the headcount index, μ^p is the mean expenditure (or income) of the poor, and G^p is the Gini coefficient of inequality among the poor.

Sen-Shorrocks-Thon (SST) index:

As shown in equation (6), this index is a modification of Sen index and it is defined and written as:

$$P_{SST} = P_0 P_1^p \left(1 + \hat{G}^p \right) \dots \dots \dots (6)$$

The equation above depicts that P_0 is the headcount index, P_1^p is the poverty gap index for the poor only, and G^p is the Gini index for the poverty gaps for the whole population. According to Sen, decomposition of poverty into three components in equation (6) is made possible which include: (i). Presence of more poor households, (ii). presence of poor households that are getting poorer and (iii). Presence of higher inequality among the poor (Poverty Manual, 2005).

Time Taken to Exit Poverty:

When poverty reduction strategies are to be properly and analytically addressed, the time lag at different stage of economic growth rates for the average poor person to opt out of poverty will be a useful and crucial factor to be considered. Morduch (1998) cited in Poverty Manual (2005) derived the model that incorporates time factor into the poverty statistic. The statistic therefore performs two functions: (i). decomposition of population into sub-groups and (ii). Distribution of expenditure (income) among the poor. For the *j*th individuals less the specified minimum benchmark, the expected time to opt out of poverty (i.e. to attain the specified minimum standard of living), if expenditure (or income) per capita rises at positive rate *g* per year, which is written equations 7 and 8 as:

$$t_g^j = \frac{\ln(z) - \ln(x_j)}{g} = \frac{W}{g} \dots\dots\dots (7)$$

Where:

$$W \text{ is Watts index} = \frac{1}{N} \sum_{i=1}^q [\ln(z) - \ln(x_j)] \dots\dots (8)$$

Where *N* is the number of observations and it is ranked in ascending order in relation with their expenditure (or income). Furthermore, the *q* individuals whose expenditure (or income) *x_i* is less the specified bench mark, *z* were summed as shown in the equations. *g* is the expected growth rate of expenditure (or income) for the poor individuals.

Probit regression model: This was employed in assessing the factors that affect the poverty status of arable crop farmers in the area. Probit model is one of the binary regressions that the regressand is always dichotomous in nature. The response (dependent variable) takes the value of 1 for the nonpoor households, while 0 for the poor households.

Equation 9 presented the implicit form of the probit model to be estimated:

$$P\left(Y_i = \frac{1}{x_i}\right) = \frac{\exp(x_i\beta)}{1 + \exp(x_i\beta)} \dots\dots\dots (9)$$

This can be expressed as, $q_{it} = bx_{it} + e_{it} \dots\dots\dots (10)$

From the equation above, *q_{it}* is unobserved latent variable for the dependent variable. While the vector of explanatory variables (*X_{it}*) were: farming experience (years), Gender (male=1 and female=0), Marital status (married=1 and 0=otherwise), Household size (numbers), Educational status (educated=1 and 0=otherwise), Access to climate information (yes=1 and no=0), Access to credit (yes=1 and no=0), Household Income (naira), Access to healthcare services (yes=1 and no=0), and Number of unhealthy days per year.

b_s = estimated coefficients, *e_{it}* = error term

3. Results and Discussion

Summary of the Socio-demographic Variables Used in the Study

Table 1 summarized the estimates of the variables used in the study. The results revealed that the average age of the respondents was about 46.2 years old with standard deviation of 14.0. Age bracket of 41 – 50 years old (28.1%) formed the majority and this implies that the farmers are young and economically active for farming business. About 27.6% of the respondents had farming experience of 21 – 30 years with mean experience of 21.5 years. This is an indication that average sampled farmers are knowledgeable on how to improve crop production in the area. Majority (78.5%) of the respondents were male households with a mean household size of 7 persons per household and 39.1% fell between 6 and 10 persons per household. This result indicated that the household size was large enough to influence the adoption of a new technology significantly as well as assist in reducing labor intensiveness and costs in the long run. But a large household size could also be a bad signal to poverty and health status in the study area. Majority (79.8%) of them were educated with at least primary school education, while the access to climate information (23.0%) was still very low despite their level of education.

This might affect their time of planting and other agronomic practices. Only few (18.3%) of them had access to credit and 40.0% had access to

healthcare services. The result of unhealthy day revealed that about 38.1% fell sick between 10 and 15 days in the last production season with an average of about 10 days. This may also affect their level of poverty because impaired health will

significantly reduce efficiency of the farmers vis-a-vis their productivity. Majority (41.7%) of the respondents earned less than ₦200,000.00 per annum with average income of ₦364,144.00.

Table 1. Summary Statistics of the Socio-demographic Variables of the Respondents

Variable	Mean	Standard deviation	Minimum value	Maximum value	Majority
Age (years)	46.2	14.0	25.0	91.0	41 – 50 (28.1%)
Farming Experience (years)	21.5	13.0	1.0	64.0	21 – 30 (27.6%)
Gender	-	-	0.0	1.0	Male (78.5%)
Household size	7.0	5.1	1.0	32.0	6 – 10 (39.1%)
Educational status	-	-	0.0	1.0	Educated (79.8%)
Climate information	-	-	0.0	1.0	Yes (23.0%)
Access to credit	-	-	0.0	1.0	Yes (18.3%)
Household income	364144.0	302079.0	6000.0	1300000.0	≤ 200000.0 (41.7%)
Access to Healthcare services	-	-	0.0	1.0	Yes (40.0%)
Unhealthy days	10.1	8.2	2.0	75.7	10 – 15 (38.1%)

Source: Field Survey, 2016

Poverty Status of the Respondents:

The proportion of respondents who earned less than the value of poverty line was 64.4%, while those who earned at least the value of poverty line was 35.6% of the sampled households (Figure 1). *Ceteris paribus*, the result implies that majority of the respondents lived/spent below \$1.25 US dollar

per day, therefore considered them to be poor. The findings of this study aligned with the findings of Akerele and Adewuyi (2011) and Igbalajobi *et al.* (2013) that put poverty status was over 60% in their various studies in Ekiti and Ondo States respectively.

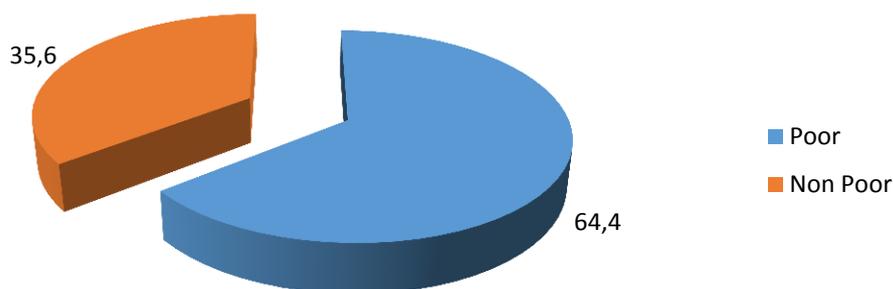


Figure 1. Poverty Status among the Sampled Households

Source: Field Survey, 2016

Extent of Poverty among Sampled Households using FGT Indices:

The analysis of FGT poverty index depicted the extent of poverty of the arable crop farmers in the area. Results of poverty aversion parameters

from the study showed that the value of poverty incidence (P_0) was 0.644. This indicated that nearly 64.4% of the sampled respondents were really poor as a result of specified minimum bench mark (\$1.25 US dollar/day) as shown in

Figure 2. This proportion is invariably higher than the proportion of poor (59.3%) estimated by Igbalajobi *et al.* (2013) in their studies carried out among crop producers in Ondo State, Nigeria but similar to the findings of Obisesan (2013) who reported that about 67% of the households are poor in their studies carried out among cassava farmers in Ogun State. In the same vein, Adepoju (2012) worked on dynamics of poverty in rural Southwest, Nigeria and he used panel data. Results showed that 49.5% of the households were non-poor while 28.2% were poor in both periods in the area.

The results of poverty depth (0.34) among the sampled respondents implied that an average poor respondent needed 34.0% of the specified minimum benchmark (for each household member) to opt out of poverty. Nearly 0.235 was

estimated as the value of poverty severity among the respondents. This is an indication that 23.5% of the respondents experienced severe poverty in the area. The figure got from this study was less than what Akerele and Adewuyi (2011) got among urban households in Ekiti State but shared the same view with the findings of Adewunmi *et al.* (2011) and Igbalajobi *et al.* (2013) among rural farming households in Ogun and Ondo States respectively. In the same vein, the Sen (S) and Sen-Shorrocks-Thon (SST) were 47.7% and 31.8% respectively. These implied that there was the presence of inequality among the poor households and as well fostering the presence of poverty among the sampled respondents. It was observed from the findings that there is existence of poverty which needs urgent anti-poverty measures to alleviate poverty in the study area.

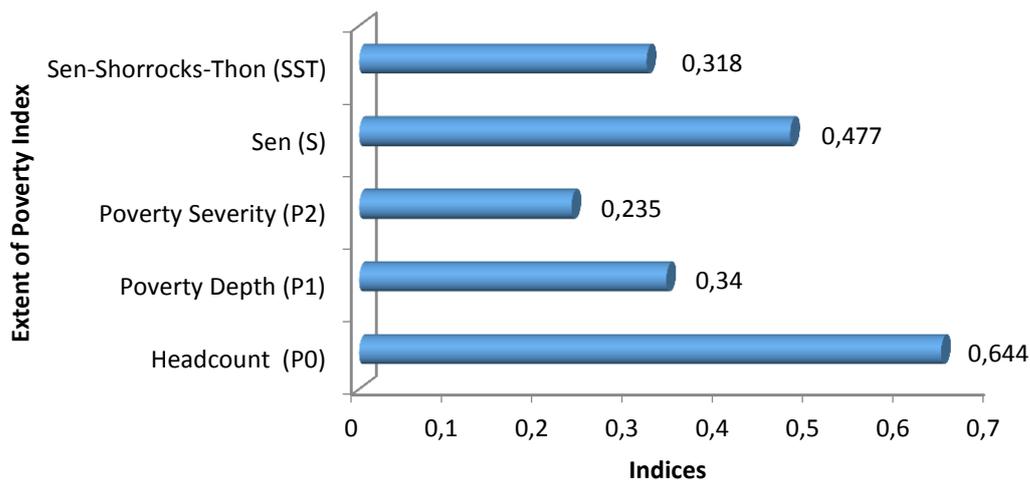


Figure 2. Results of Extent of Poverty among the Sampled Respondents

Source: Computed from Field Survey, 2016

Time Taken to Exit Poverty:

In a bid to reduce poverty in a system, one should be able to predict number of years it will take to opt out of poverty at a given growth rate of expenditure or income. Table 2 depicts the Watt index (0.71), and positive growth rate of expenditure and approximate number of years, while Figure 3 showed the graphical relationship between growth rate and time taken to exit poverty in years. It was unveiled based on the

sampled respondents that if the expenditure is increasing by 1% every year, it will take about 71 years before the poor could escape poverty line. Again, if it can be increased by either 5% or 10% growth rate, it will take 14 and 7 years respectively for poor households to get out of poverty. It will take a year and 4 months if the expenditure is increased by 50% of the poverty line. This means that any measure that will alleviate poverty in the area must put expenditure

growth rate on at least 50% to be able to achieve this within a period of fewer than 2 years.

Table 2. Results of Time Taken to Exit Poverty

Watt Index	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Expenditure Growth Rate	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
Approximated Years	71	36	24	18	14	12	10	9	8	7

Source: Computed from Field Survey, 2016

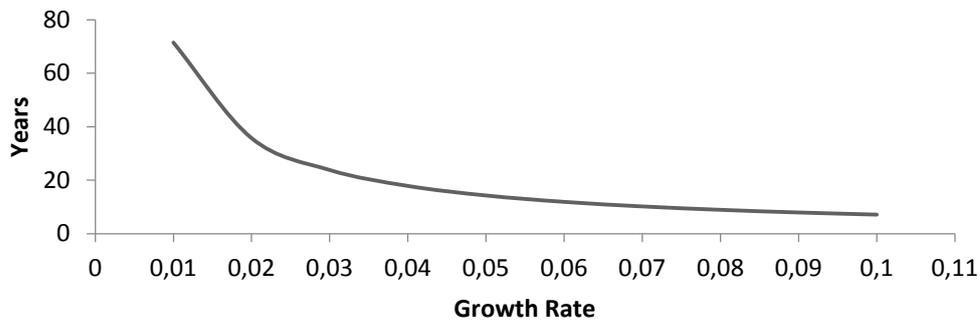


Figure 3. Nexus between Expenditure Growth Rate and Time Taken to Exit Poverty

Factors Affecting Poverty Status of the Respondents in the Study Area:

In an attempt to determine factors affecting poverty status of the crop farmers in Southwest, Nigeria, a probit regression model was adopted to establish the relationship between the poverty status and the selected explanatory variables from the study. The strong explanatory power of the model was determined by the value of likelihood ratio which was symbolized by chi-square statistics (80.94) and a strong level of significance ($p < 0.001$). This outcome suggested that the probit regression model is desirable for the study. According to Table 3, it was depicted that farming experience, marital status, educational status, information on climate change, household income, access to healthcare services and number of unhealthy days were the main factors influencing poverty status in the area. The coefficients of farming experience, gender, educational status, climate information, access to credit, household income and healthcare service showed a positive relationship with poverty status. This implies that a unit increase in the value of any of these variables will increase the chance of not being poor (nonpoor). An upward

marginal movement in the year of farming will cause an increase in the chance of not being poor by 121.4%. According to Nhemachena and Hassan (2007), experienced farmers have the likelihood of being knowledgeable and well informed on changes in climatic conditions and crop management practices. This is because the farming experience is one of the crucial factors that increases the chance of adopting adaptation measures. Against this backdrop, this will make experienced crop farmers lived above the specified minimum standard of living. It was also shown that a marginal increase in the years of schooling increases the probability of not being poor by 101.1%. The probable reason for the finding is that education plays a vital role in one's ability to receive, decode and understand information in a way to make decisive and innovative decisions (Wozniak, 1984; Gbetibouo, 2009). Going by the above, it is expected that educated farmers will have latest information on climate change and crop production that will be of assistance in accruing enough income to live above the poverty line. Moreover, access to climate information had a marginal increase of 32.3% more likely to be non poor. Farmers have greater chance of adopting adaptation measures when they are aware of changes in climate

(Nhemachena and Hassan, 2007) that will guide him/her against crop failure and climate sensitive diseases and invariably lead to not being poor. Household income has a marginal increase of 4.56E-06 and strongly significant at 1% level and this implies that a unit increase in household income will increase the probability of not being poor. The probable reason is that farmers that have more income as well as assets may likely adopt innovative farming technologies as also observed by Shiferaw and Holden (1998) and Igbalajobi *et al.* (2013). Furthermore, access to healthcare service increases the chance of not being poor at a marginal increase of 1.02. Healthy farmers have the chance of being productive and efficient in carrying out crop production activities, thereby placing them above poverty line (all things being equal).

In other hands, marital status and unhealthy days were negative with regressand (nonpoor is 1 and 0, otherwise). Statistically, married households increase the chance of being poor by marginal effect of 4.3%. This outcome is contrary to the findings of Igbalajobi *et al.* (2013) among rural farming households in Ondo State in which married households increased the probability of nonpoor. Expectedly, the more the number of unhealthy days, the more the probability of being poor by marginal effect of 14.1%. Unhealthy days were days farmers were unable to go to farm because they are sick or facing one ailment or the other. If it increases, it will lead to inefficient and unproductive crop output vis-a-vis impoverishment.

Table 3. Factors Affecting Poverty Status using Probit Regression Model

Explanatory variable	Coefficients	Marginal Effects	Standard error	P > z
Farming experience	3.914	1.214**	0.604	0.031
Gender	-1.013	-0.871	0.726	0.111
Marital status	-0.022	-0.043**	0.021	0.029
Household size	-0.154	-0.081	1.093	0.983
Educational status	1.098	1.011***	0.337	0.001
Climate information	0.987	0.323**	0.170	0.039
Access to credit	0.074	0.103	0.079	0.101
Household Income	6.56E-06	4.56E-06***	2.14E-06	0.001
Healthcare services	0.0407	1.021***	0.441	0.003
Unhealthy days	-0.0236	0.141*	0.078	0.071

Note: ***' **' * indicated significant levels at 1%, 5% and 10% respectively; Number of observation = 427; LR chi-square (15) = 80.94***; Log likelihood = -237.54; Pseudo- R² = 0.1456; Dependent variable (Poor = 0 and Non poor = 1).

Source: Field Survey, 2016

Examining Poverty Coping Strategies in the Study Area:

Likert rating scale of four-point was used to ascertain the coping strategies against poverty in the study area as shown in Table 4. Multiple choices were allowed because it was observed that most of the respondents adopt more than one strategy to combat poverty. Out of nine main coping strategies identified by this study, reducing the frequency of eating per day, seeking help from friends/relatives, engaging in non-farming activities, resulting in fasting and prayers and eating of less preferred food were ranked as 1st, 2nd, 3rd, 4th and 5th respectively as the main

measures employed by the respondents to combat poverty in the area. As also reported by Igbalajobi *et al.* (2013), many respondents had resulted in not eating three square meal per day and failed to eat their favorite food. Based on this result, very many of the farmers engaged in activities outside the farm such as artisan, petty trade and driver in order to supplement farm resources. Purchase of food on credit which was ranked sixth on the list is another crucial coping strategy employed in the area. It was affirmed in the area that some respondents bought needed materials on credit and pay back at the end of the season when they sold their farm produce. Furthermore, borrowing

money from cooperatives (7th) is another common source used by farming households to survive from the consequences of poverty in the study area. It was ascertained from the respondents that at the on set of the season, most of the farmers accessed credit/loan from the cooperative society and pay back either in cash or kind at the end of production season. Unlike tree crop farmers (most especially cocoa farmers), arable crop farmers find it hard to borrow money from commercial

banks and sometimes in cooperative society because they are highly prone to uncertainty and risk compare to other sectors. Withdrawing children from private to public school (8th) and selling off farm assets (9th) were also observed in the area. Despite the presence of poverty in the area, people adopt diverse strategies to adjust to poverty syndrome once they derive utility from their choice of action.

Table 4. Results of Poverty Coping Strategies Based on Frequency of Use

Coping strategies	Frequently used (3)	Occasionally used (2)	Rarely used (1)	Not used (0)	PCSUI	Rank
Reducing the frequency of eating per day	269	58	60	40	983	1
Seeking help from friends/relatives	260	40	100	27	960	2
Engaged in non-farming activities	202	120	52	53	898	3
Result to fasting and prayer	194	109	44	80	844	4
Eating of less preferred food	125	202	50	50	829	5
Purchase materials (food) on credit	80	227	91	29	785	6
Borrowing money from cooperatives	65	98	220	44	611	7
Withdrawing children from private to public school	69	40	254	64	541	8
Selling off farm implement/selling assets	40	23	294	70	460	9

Source: Field Survey, 2016.

4. Conclusions and Recommendations

It was evident that poverty is high among the sampled respondents. Ceteris paribus, if the poverty in the system is to be alleviated in the next seven years, expenditure needs to be increased at the rate of 10%. This can be achieved by increasing access to credit or subsidizing agricultural inputs to increase farmers’ income vis-a-vis expenditure. Socioeconomic status of the farmers should be improved by providing basic infrastructure that could help the farming households to ease their expenses on education, food, cloth and shelter. Again, government should established functioning healthcare services into the major farm settlement in the area and also make available information on climate change that could help the farmers on when to set for the cropping season and as well protect them against climate-caused diseases that could incapacitate them from carrying out farming activities.

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