

Determinants of Poverty among Rural Households in South Western States, Nigeria

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Abstract

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Nigeria represents one of the paradoxes of development in which case the nation is rich but her people are poor. This study examines the rate of poverty among rural households in South western, Nigeria. A random multistage sampling was employed for the study. Ekiti and Osun states were randomly selected from the six states in South-western Nigeria. This was followed by random selection of two Local Government Areas from each senatorial district of the states. Lastly, data were randomly collected from three hundred and ninety-nine households using structured questionnaire. The data were analyzed using descriptive statistics, Foster-Greer-Thorbecke (FGT) weighted poverty indices and Tobit regression. Mean age and household size were 41.3 ± 11.4 years and 6.0 ± 2.2 respectively. The monthly mean per adult equivalent household expenditure of the households was ₦ 4396.3. At a poverty line of ₦2930.90, fifty-two percent of the households were poor. The result of Tobit regression shows that age, household size, asset value and presence of toilet facility significantly affected poverty. [Olubunmi Lawrence Balogun. Determinants of Poverty among Rural Households in South Western States, Nigeria. International Journal of Agricultural Science, Research and Technology, 2011; 1(3):99-104].

Keywords: Poverty, Multi stage sampling, Foster-Greer-Thorbecke (FGT), Rural Households, Nigeria

1. Introduction

Poverty is one of the major problems confronting developing countries today and is at the centre of development policy. It is no surprise that the World Bank (2005b) has chosen the theme of "Attacking Poverty" in its development report in which it is estimated that of the world's 6 billion people; 2.8 billion live on less than US\$2 a day and 1.2 billion on less than US\$1 a day. Of the 1.2 billion who live on less than a dollar a day, 24.3 percent are in Sub-Saharan Africa. In 2005, the World Bank estimated that 1.4 billion people had consumption levels below \$1.25 a day. According to the United Nation (2005), five years after the millennium summit where the objectives of the Millennium Development Goals (MDGs) were reached, the condition of the poor has not improved. ILO (2003) reports that roughly 550 million people are working, but cannot walk their way out of extreme poverty. They simply do not earn enough to feed themselves talk less of being able to deal with the economic risks and uncertainty they face (UNIFEM, 2005)

Nigeria represents one of the many paradoxes of development in which case the nation is rich but her people are poor. Available statistics indicate that poverty has become endemic in Nigeria and is on the increase. Statistics from the National

Bureau of Statistics (NBS) indicate that the poverty situation in the country which has been increasing since 1960 (15.0 percent), 1980 (28.1 percent), 1985 (46 percent), 1992 (42.8 percent), and 1996 (65.5 percent) respectively, dropped to 54.4 percent in 2004. At the 2006 International Day for the Eradication of Poverty (IDEP) event in Abuja, tagged 'Working together out of poverty', Magnus Kpakol, National Coordinator of National Poverty Alleviation Program (NAPEP) affirmed that poverty rate in Nigeria was as high as 54.4 percent identifying the North East region of the country as the poorest in the country, rating about 72.2 percent on the poverty ladder. It is followed closely by the North West zone with 71.2 percent; North Central, 67.0 percent, South-West 43.0 percent, South-South 35.1 percent, and South East 26.7 respectively (NBS, 2007).

Nigeria, with the estimated population of 140 million, this translates to 76.2 million people below poverty line. While 63 percent of this figure lives in the rural (about 48.0 million) and remaining in urban areas. South-western part of Nigeria with estimated population of 15.5 million, 43 percent of the population is poor. This figure translates to about 6.7 million people. Policymakers in Nigeria have been aware that the eradication of poverty is important both because of the ethical issues involved

and because poverty are not conducive to social stability. However, Nigeria's government has never been silence on its intention to alleviate poverty among rural people through its poverty alleviation programs in the past such as Better Life for rural People (BLP), Family Support Program (FSP). Poverty alleviation has been one of the foremost objectives of development programs in many developing countries of the world for the last several decades. A considerable research has been carried out on the issue of poverty alleviation and its long run social and economic effects in developed as well as in developing countries (Olaniyan, 2007). Since poverty alleviation is considered as an important issue of economic development in the literature, attempts have been made to alleviate poverty by increasing the level of income of households. It has also been the declared goal of every government policy in Nigeria and the least emphasis has been placed at micro or regional level poverty alleviation. However, a large number of studies have been conducted in Nigeria and other developing countries on poverty. The present study is the continuity of these studies with an emphasis on a different set of variables and study area at micro level. Few of the studies on poverty alleviation in Nigeria include: Okunmadewa (2001), Omonona (2001) and Omonona et al (2008). Studies in other countries include: Khalid et al (2005), Geda et al (2005), Sabir et al (2006), El-Osta and Morehart (2007), Sikander and Ahmed, (2008) and Chaudhury, (2009). The results from these studies have shown that large household size, lack of human assets such as education and skills, lack of other assets such as social capital, land and financial assets and lack of credit were found to be the main causes of poverty. Understanding the factors underlying their persistent deprivation is important, when designing policies to meet their needs and improve their welfare. This study was therefore conducted to identify the factors that influence poverty among rural households and specifically estimating its determinants. This study is therefore important for a number of interrelated reasons. The World Bank estimate on the level of poverty in Nigeria indicate that 70.2 percent of the country's population live below the poverty line and that the scourge will continue to rise if nothing is done to arrest it (World Bank 2005a, 2005b). This bizarre picture requires an urgent intervention of which the study on analysis of correlates of poverty among rural households in south-western states, Nigeria is one.

2. Theoretical/conceptual framework

A concise and universally accepted definition of poverty is elusive largely because it

affects many aspects of the human conditions, including physical, moral and psychological. Different criteria have therefore, been used to conceptualize poverty. On the basic need approach poverty can either be absolute or relative (UNDP, 2004). Poverty in absolute sense is a situation where a section of population is unable to meet its bare subsistence essentials of food, shelter and clothing in order to maintain minimum standard of living. Absolute poverty refers to the lack of the minimum physical requirements of a person or a household for existence and at its extreme those affected are no longer able to lead a life worthy of human dignity (Omonona, 2001). Odusola (1997) posits that absolute poverty exists when individual lacks the resources to obtain and consume a certain bundle of goods and services which contains an objective minimum of basic necessities. Relative poverty therefore exists when a person's provision with goods and services is lower than that of others. In general terms, relative poverty is the inability of individual or household to attain a given minimum contemporary standard of living and identifies those individuals or households that are the poorest within the overall pattern of income distribution within a given society (Odusola, 1997). Poverty in general implies having less income and/or material possessions than someone else. Englama and Bamidele (1997) summarised the concept of poverty in both absolute and relative terms as a "state where an individual is not able to cater adequately for his/her basic need of food, shelter and clothing in order to maintain minimum standard of living, meet social and economic obligations, lacks gainful employment, skills, assets and self esteem, and has a limited access to social and economic infrastructures such as education, health, potable water and sanitation, and as a result has limited chance of advancing his/her welfare to the limit of his/her capacities.

Generally, monetary benchmark for measuring or accessing people living in poverty is the World Bank's \$1 a-day expenditure level. Other yardsticks like the level of life expectancy, infant and maternal mortality, primary school radios, levels of nutrition etc also measure it.

2. Material and Methods

Area of Study, sampling procedure and data collection

This study was carried out in Ekiti and Osun states, south western part of Nigeria. The states were randomly chosen in the geopolitical zone. Ekiti and Osun were carved out of Ondo and Oyo states on 1st October 1996 and 27th of August, 1991 respectively. Ekiti State has 16 Local Government Areas (LGAs), while Osun has 30 LGAs. Ekiti and Osun states have population of about 2,384,212 and 3,423,536 and

cover areas of 5,433.00 and 8,882.55sq km respectively (NPC.2006). Agriculture is a dominant economic activity and main source of employment in the states providing employment and income for more than 75.0 per cent of the population. The people are predominantly farmers, while women engage in food processing, trading in addition, to farming. The states have distinct wet and dry seasons, which characterize its humid tropical climate, with the dry season extending from November to March. Annual rainfall varies from about 500 mm in the northern belt to 1,100 mm in the forest belt.

Random multi-stage sampling technique was employed for this study. Ekiti and Osun states were randomly selected among the states in the zone. In each state, two Local Government Areas (LGA)s were randomly selected from each of the senatorial areas of the states. This was necessary for equal representation of the households. The second stage of sampling involved the random selection of four hundred and sixty-five (465) households which were interviewed. Out of the total of four hundred and sixty-five questionnaire distributed, only three hundred and ninety nine have meaningful information for analysis.

Poverty Line Estimation

The Foster, Greer and Thorbecke (1984) were employed in this study to estimate the poverty line. This is because of its simplicity and ease of computation and also its decomposability among subgroup. The FGT measure for the ith sub group is as follows:

$$P \alpha_i = \frac{1}{n_i} \sum_{j=i}^q \left[\frac{Z - Y_{ij}}{Z} \right]^\alpha \dots\dots\dots (1)$$

$$P_0 = \frac{1}{n_i} \sum_{j=i}^q \left[\frac{Z - Y_{ij}}{Z} \right]^\alpha \dots\dots\dots (2)$$

Where Z = Poverty line
 Yi = Per capita expenditure of the household i (i=1, 2,399)
 q= Number of household below the poverty line
 n = Total number of sampled households
 α = Poverty aversion parameters of the FGT index (Pα_i), α ≥ 0 and it can take three values of 0, 1, and 2 Implication of the values of α as follows;
 Pα_i = qi/ni when α =0 (Head Count ratio or incidence of poverty) the proportion of respondents' households that is poor
 Pα_i = α_i =1 depth of poverty (the proportion of the expenditure shortfall from poverty line)
 Pα_i = α =2 Severity of poverty (the amount of transfer of expenditure requires from a poor to a poorer for his poverty to decrease)

Tobit Regression Analysis

Tobit regression analysis was carried out to determine the factors affecting rural household poverty. The model that was developed by Tobin (1958) is expressed below following McDonald and Moffit (1980), and as adopted by Omonona, (2001), Adejobi (2004) and Omonona et al. (2008).

$$q_i = P_i = \beta^T X_i + e_i \dots\dots\dots (3)$$

If $P_i > P_i^*$
 $q_i = 0 = \beta^T X_i + e_i$
 If $P_i \leq P_i^*$
 i = 1,2,3 399

Where: q_i = Dependent variable. P_i* is the depth of household poverty defined as (Z-Y_i)/Z and, Z = poverty line (Per Capita household expenditure)
 Y_i = per capita households expenditure in Naira (N) (P*=0)
 X_i= vector of explanatory variables/ independent variables

B^T is a vector of parameters and e_i is error term

The Explanatory Variables include:

Household Characteristics:

- X₁=Age of household head (Years)
- X₂=Gender of household head (D=1 for male, D=0 for female)
- X₃=Marital status (D=1 if Married, D=0)
- X₄=Household size
- X₅=Dependency ratio (This is defined as the ratio of non-workers to workers in each household)
- X₆=Educational status of household head (years)
- X₇=Primary occupation (D=1 if Farming, 0= otherwise)
- X₈=Household asset endowment (total assets value of household) (Naira)
- X₉=Plastered house (Yes=1, 0 = No)
- X₁₀= Toilet facility (Yes=1, 0 = No)

The explanatory variables (X_i), which significantly determine rural household poverty in micro credit groups, was determined quantitatively in order to achieve objective four following the Tobit decomposition framework suggested by McDonald and Moffit (1980) as adopted by Omonona, (2001), Adejobi (2004), Amaza et al (2007), Tobit model can further be disaggregated to determine the effect of a change in the it variable on changes in the probability of household being in poverty. It can be shown that:
 $E(V_i) = F(Z)$
 $E(V_i^*) \dots\dots\dots (4)$

Where E(V_i*) is expected value of Vi for those households that are already poor, and F is the cumulative normal distribution function at Z. Where Z is Xβ/Δ

For a change in any aspects of rural household (explanatory variables Xi), the effect on poverty levels of rural households can be decomposed into two by differentiating equation (4) with respect to the specific rural household characteristics.

$$\Delta E(V_i)/\Delta X_i = F(Z) \{ \Delta E(V_i^*)/\Delta X_i \} + \{ \Delta F(Z)/\Delta X_i \} \quad (5)$$

Multiplying by $X_i/E(V_i)$, the relationship in equation (26) above can be converted into elasticity forms.

$$\frac{\Delta E(V_i)/\Delta X_i \cdot X_i/E(V_i)}{E(V_i)} = \frac{F(Z) \{ \Delta E(V_i^*)/\Delta X_i \} X_i/E(V_i)}{E(V_i)} + \frac{\Delta F(Z)/\Delta X_i \cdot X_i}{E(V_i)} \quad (6)$$

Rearranging equation (7), using equation (5), we have

$$\frac{\Delta E(V_i)/\Delta X_i \cdot X_i/E(V_i)}{E(V_i)} = \frac{\Delta E(V_i^*)/\Delta X_i \cdot X_i/E(V_i^*)}{E(V_i^*)} + \frac{\Delta F(Z)/\Delta X_i \cdot X_i/F(Z)}{F(Z)} \quad (7)$$

4. Results and Discussions

Households poverty Analysis

Table 1 shows the summary statistics on the poverty status of households indicated that the mean monthly expenditure of households in the study area is ₦4, 396.35 per adult equivalent and poverty line is ₦2, 930.90. Based on the poverty line of ₦2, 930.90, fifty-two percent of the households is considered poor. When compared with the poverty line obtained by World Bank (1996), it was to be comparable. A poverty line ₦395 per capita per annum at 1985 constant price was obtained. This translates to ₦29, 413.28 per annum or ₦2, 451.10 per month per capita expenditure in the year 2006 based on the raising factor of 74.464 obtained by dividing year 2006's Composite Price Index (CPI) by that of 1985.

Table 1. Monthly household expenditure profile

Item	All households	% of total Expenditure
Food	10832.08	54.0
Clothing	1257.23	6.3
Medicare	1051.37	5.2
Education	1392.96	6.9
Fuel/lighting	1042.43	5.2
Transport	1428.78	7.1
Remittances	1008.29	5.0
Rent	1311.96	6.6
Toiletries	598.32	2.9
Others	120.00	0.6
Mean Expenditure	20043.42	100.0
Per capita Expenditure	4396.35	
Poverty line	2930.90	

Determinants of poverty status among the households

The result of the estimate of correlates of poverty is presented in Table II. From the maximum likelihood estimates of the Tobit regression, the results show that sigma 0.2091 with a z value of 19.62 was significant (P < 0.001). This means that the model has a good fit to the data and that the model as specified explained significant non-zero variations in factors influencing poverty. Out of the 10 explanatory

variables included in the model, only four of them have significant coefficients. These are: age (X_1), household size (X_4), asset value (X_8) and toilet facility (X_{10}). A positive sign on a parameter indicates that the higher values of the variable the higher the likelihood of poverty. Similarly, a negative value of the coefficient implies the higher value of the variables would decrease the probability of households' poverty. Analysis of the survey data reveals the following: The co-efficient of age of the household head is -0.0166. This implies that as the age of household head increases, the level of poverty will be reduced by 0.0166. Age is regarded as wisdom. In a nutshell, the age of the household head is directly related to the level of poverty. This is attributable to the fact that as one increase in age, the ability to do more work increases as a result of experience gathered over the years. This result is attributable to the fact that as one increases in age, the ability to do difficult work decreases as a result of this, poverty increases. However, household size has a positive coefficient of 0.01605. This implies that a unit increase in household size of the households increases poverty by 1.6 percent. Furthermore, the result shows that households who has large asset of great values have negative coefficient indicating that the likelihood of being poor decreases by 6.71 x e-05 percent. This finding also agrees with Barney and William (1992), Omonona (2001) and Chaudhury, (2009). Household's with toilet facility has a negative coefficient of 0.0571 implying that household with toilet facility will reduce poverty by 5.7 percent.

Policy implications and recommendations

Based on the findings of this study and conclusions drawn, a number of policy implications and recommendations are made toward ensuring rural households poverty alleviation in South-western States, Nigeria. The most substantive are:

Household size significantly influenced poverty status of households. Our analysis suggest that policy makers interested in improving the living conditions of households may be advised to consider policy measures directed towards the provision of better family planning or birth control to reduce household size should be given adequate attention and priority by the government.

The result shows that large asset value significantly explained the variations in the likelihood of being poor. The findings also indicate that poverty reduction efforts should be geared towards expanding the assets of poor people so that their position and control over their lives can be strengthened.

Table 2. Tobit parameters of probability and effects of marginal changes in the explanatory

Variable	Coefficient	Standard Error	t-value	P> /t/
Constant	0.7264821	0.1996683	3.64 ***	0.000
Age (X ₁)	-0.0166036	0.0087319	-1.90*	0.059
Gender (X ₂)	-0.0041148	0.033386	-0.12	0.902
Marital status (X ₃)	-0.0400491	0.0350516	-1.14	0.255
Household size (X ₄)	0.0160546	0.0082241	1.95*	0.052
Dependency ratio (X ₅)	-0.0113165	0.0087721	-1.29	0.199
Education status (X ₆)	0.0000711	0.0026646	0.03	0.979
Primary occupation (X ₇)	0.0251141	0.0343251	0.73	0.465
Asset value (X ₈)	-6.71e-07	2.36e-07	-2.84***	0.005
Plastered house (X ₉)	0.0206296	0.0307133	0.67	0.503
Toilet facility (X ₁₀)	-0.0571633	0.030022	-1.90*	0.058
Sigma	0.209147	0.0103199	19.62	

Source: Computed from Tobit Regression Result, 2009; ***, **, * denote significance at 1%, 5% and 10%, respectively

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