

Determinants of Poverty among Riverine Rural Households in Ogun State, Nigeria

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ABSTRACT This paper analyzed the poverty status of rural households in Ogun Waterside Local Government Area of Ogun State. Data were collected from 125 households using multistage sampling procedure. Descriptive and Probit regression analytical approaches were used for data analysis. Results show that 28.8 percent of the households were poor. Poverty was perceived to be driven by unemployment, low-investment and neglect by government. Probit results revealed that having farming as primary occupation and household size significantly increased poverty ($p < 0.10$), while amount of credit/loan obtained, educational attainments and monthly expenditure of household significantly reduced it ($p < 0.10$). To alleviate rural poverty, the study concluded that households should have adequate access to affordable and easily accessible credit facilities, among others.

INTRODUCTION

Nigeria is currently witnessing an unprecedented increase in poverty incidence. Though there is no unambiguous definition of poverty, its existence seems to be universally acceptable as a situation when one or more persons fail to attain a level of well-being deemed to constitute a reasonable minimum by the standard of that society (Ravallion 1992). In more specific terms, poverty can be described as the level of deprivation that encompasses shortfalls and inadequacies in basic human needs, which prevent people from achieving internationally acceptable level of well-being, that is, relative poverty. At the extreme is absolute poverty, which reflects the condition of people who live below the poverty line or those that lack income necessary to satisfy basic food needs; and those affected are no longer in a position to lead a life worthy of human dignity (Hemmer 1994; Meth 2006). In some recent literature, human poverty has graduated from being viewed as deprivation in income to include quality of life, risk, vulnerability, lack of autonomy, powerlessness and lack of self-respect (World Bank 1990, 2002).

Poverty in Nigeria is a rural and regional phenomenon. World Bank (1996) showed that in 1992, rural areas (a largely agrarian economy) accounted for 66 percent of poverty incidence, 72 percent of poverty depth and 69 percent of

the extremely poor. In a related preliminary analysis, Okumadewa (1997) found that the highest incidence of poverty was among farming households in 1985, 1992 and 1996 with the highest incidence (70 percent) occurring in 1996. It was also found that between 1985 and 1992, there was a slight decline in poverty in Nigeria, but when the macroeconomics reforms were reversed, there was an increase in poverty after 1993 and economic growth declined.

Nigerian rural areas are characterized by inadequate access to agricultural inputs like land, fertilizer, credit facilities and extension service. Similarly, lack of adequate security was identified as another dimension of poverty in urban areas; (World Bank 1996). However, Rodgers (1989) referred to urban poverty, to a lesser or greater degree as a reflection of rural poverty in most developing countries. It should also be noted that poverty incidences are highest in northern states. Although national poverty incidence declined from 65.6 percent in 1996 to 54.4 percent in 2004, the number of people that were poor was on the increase (Federal Government of Nigeria (FGN) 2006; National Bureau of Statistics (NBS) 2009). Similarly in some studies, poverty had been found to be strongly influenced by location (rural or urban), age, education of household heads, and size of household (World Bank 1996; Okunmadewa 1997; NBS 2009).

The worsening standard of living of people in the country can be traced to a number of factors ranging from lack of access to endowments

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such as employment, education, health care facilities, good food, potable water, proper sanitation system, poor infrastructural development, and inadequate access to land and capital or credit. Also, lack of access to market for the goods and services that the poor produce so as to offer them for sale, inadequate or non-involvement of the poor in the design of the programs for alleviation of poverty etc are also included in the endless lists. The level of human capital development is so low that the environment takes control of man instead of the reversed situation. Poverty is undesirable, it is an economic and social malaise, a ravaging phenomenon that must be tackled (Obaseki and Onwioduokit 1997).

Recently, the United Nation in line with the aspiration of Millennium Development Goals (MDGs) declared the goal of halving the number of poor people by 2015 (World Bank 2002). Indices such as life expectancy, infant mortality rate and number of persons per physician have been introduced by the United Nations. Therefore, the reform measures including the on-going National Economic Empowerment Strategies (NEEDS) in Nigeria are intended to pave way for the improvement in the country's development in line with the aspiration of the MDGs (Ojomu 2004).

The objective of this study was to analyze the level of poverty among rural households in Ogun Waterside Local Government Area of Ogun state. Basically, this study attempts to answer some questions. First, what are the people's perceptions of the causes of poverty? Also, what socio-economic factors are important in identifying the poor? Provision of answers to these questions will go a long way in assisting farmers to identify target programs to reduce the spread of poverty. In the remaining parts of the paper, section 2 presents the analytical approaches while section 3 presents the results of data analysis. Conclusion and recommendations are in section 4.

RESEARCH METHODOLOGY

The Study Area and Sampling Procedures

The area chosen for the study is Ogun Waterside Local Government Area in Ijebu Division of Ogun State, Nigeria. It is one of the twenty (20) Local Government Areas (LGAs) in the state and about 170 kilometers away from

Abeokuta, the State Capital. It covers an area of about 860.32 km² with some towns and villages on the fringes of the Lagoon and the Atlantic Ocean. Although, some parts of the area are fairly urbanized, majority of the population still leave in rural areas.

The study area is bounded on the Northern part by Ijebu-East Local Government area Ogun State. On the southern / western part, it is bounded by the Atlantic Ocean and Lagos State, while on the eastern part, it has common boundary with Ondo State. It lies within the humid zone of West Africa, which informs its humid subtropical climate; and it is located in low-line forested area of southwestern Nigeria with an average annual rainfall of between 1250mm and 1800mm. There are ten (10) major towns and about 100 sub-urban settlements and satellite villages in the Local Government Area. The major towns are Iwopin (home of National Pulp and Paper Company) Oni, Ibiade, Ilushin, Abigi, Efire, Aiyede-Ayila, Itebu-Elero, Ode-Omi, and Makun-Omi. Additional settlements are Lukogbe, Ita-Otu, Ita-Ogun, Agbure, Lokula, Alo and Olojumeta.

The study made use of primary data obtained with structured and systematically drawn questionnaires administered to some rural households in the study area. Socio-economic, demographic, agricultural production data as well as indicators of poverty level data constituted the bulk of the data collected. Multistage sampling procedure was used. At the first stage, based on the wards arrangement of the local government area, 5 wards - Iwopin, Ibiade / Farm settlement, Lukogbe / Ilusin, Abigi / Ita Area, and Makun-omi / Irokun were randomly selected from the 10 existing ones. At the second stage, 5 communities were then selected (each from a ward) from the selected wards. The third stage involved selection of 125 households comprising of 32 from Iwopin, 27 from Ibiade, 25 from Abigi, 28 from Ilushin, and 13 from Makun-Omi. The sample size in each ward was based on 1991 provisional census figures and limitation in the cost of data collection, while respondents were selected from people with various economic activities, including farming, fishing, civil service, trading, lumbering, teaching, technician etc.

Descriptive Analytical Approach

Some descriptive analytical methods such as mean, standard deviation, frequency counts,

percentages, were used to analysis some socio-economic and demographic variables of the respondents.

Estimation of Poverty Line

Expenditure of the households on food and non-food were used as proxy for income to determine poverty lines of the households. Firstly, monthly household expenditure was expressed in per capita terms, that is, Monthly Per Capita Household Expenditure (MPCHHE) to adjust for household size, by dividing each household’s monthly expenditure by the household size. Then, the Mean Monthly Per Capita Household Expenditure (MMPCHHE) was arrived at, by the summation of all MPCHHE and dividing it by total number of households. MMPCHHE allows us to have two poverty lines. The upper poverty line is equivalent to two-third of the MMPCHHE and the lower is equivalent to one-third of the MMPCHHE (Foster et al. 1984). Hence, the core poor households are those with MPCHHE less than one-third MMPCHHE, moderately poor have MPCHHE less than two-thirds MMPCHHE, and the non-poor have MPCHHE greater than two-thirds MMPCHHE.

To present the poverty profile of the people, various poverty indices like incidence, depth and severity were computed. FGT (Foster-Greek-Thorbecke) weighted index was used for the quantitative poverty assessment among the households in the study area. The Foster-Greer-Thorbecke (FGT) poverty measure, which is decomposable by groups and sensitive to the depth of poverty within the poor, were used to assess the above indices among the rural households in the study area. The FGT index allows for the quantitative measurement of poverty status among subgroups of a population (that is, incorporating any degree of concern about poverty) and has been widely used.

The headcount ratio measures the ratio of the number of poor individuals or simply measures the poverty incidence (that is, the percent of the poor in the total sample). The poverty gap estimates the intensity of poverty based on the extent of income shortfalls below the poverty line by the poor in the sample, or simply measures the amount of money it would take to raise the per capita income or per capita expenditure of the average poor person up to the poverty line.

The analysis of poverty status using FGT measure usually starts with ranking of expenditures in ascending order $Y_1 \leq Y_2 \leq \dots \leq Y_n$

$$P_\alpha = \frac{1}{n} \sum_{j=1}^q \left(\frac{Z - Y_j}{Z} \right)^\alpha \dots\dots\dots 1$$

In this case, α is non-negative poverty aversion parameter, which can be 0 for poverty incidence, 1 for poverty gap or 2 for poverty severity. Y_j is the per capita expenditure of j^{th} poor household. n_j is the total number of sample households, q is the number of households below the poverty line and Z is poverty line.

Probit Regression Approach

In order to analyse the determinants of poverty status of the households in the study area, Probit regression techniques was used. Probit model is a normal cumulative distribution function. Because the model is estimated using Maximum Likelihood Estimates (MLE) approach, it overcomes the difficulties arising from the non-normality and heteroskedastic variance of the error terms, if Ordinary Least Square regression were to be carried out. Such models are referred to as qualitative or binary choice models (Capps and Krammer 1985). The model is implicitly defined as:

$$Y = \alpha_0 + \alpha_j \sum_{j=1}^7 X_j + e_i \dots\dots\dots 2$$

Where Y is the poverty status dummy (Poor = 1, 0 = otherwise), $j = 1..7$ with X_1 specified as age of Respondents (years), X_2 is the gender of respondents (male = 1, 0 = otherwise), X_3 is the years of education, X_4 is the household size, X_5 is the annual Loan/Credit (₦), X_6 is the monthly expenditure (₦), X_7 is primary occupation dummy (agricultural = 1, 0=otherwise), and e_i is the stochastic error term.

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Respondents

Table 1 shows that the larger proportion of the house heads (84 percent) were males. Female house headships resulted from divorce, separation between the partners (husbands and wife) or death of the male heads of households. Also, 28 percent falls between 41 – 50 years, while 24.8 percent were between 31–40 years. Majority of the house heads (79.2 percent) were

married, while 4.8 percent were single. However, 16 percent of the house heads were either widows, divorced or separated. About 56 percent of the respondents have at least senior secondary education, while 28 percent attained tertiary education. Only 12.8 percent of the household heads had no formal education while 23 percent had primary education. Majority of the sampled households earned between ₦7500 and ₦22500 per month while about 5 percent earned below ₦7500 per month. Mean household size is 7, while 64 percent had at least seven (7) members. These results confirm a fairly large household size prevalent. About 38 percent of the respondents were farmers, while 17.6 percent were fishermen.

Analysis of Respondents' Poverty Profile

Poverty lines were constructed to determine poverty status of the respondents. The households' per capita expenditure on food and non-food items was used in the classification of households into poor and non-poor through the poverty lines. Results show that any household whose MPCHHE falls below ₦1,336.70 is considered poor, while those with higher values are considered non-poor. Given this poverty line, the incidence of poverty was 28.80 percent, while 0.8 percent was core poor. Poverty depth is 0.0527. This shows that the poor rural households require 5.27 percent of the poverty line to escape from poverty group. The sensitivity to income redistribution among the poor is not captured by poverty gap or depth. To detect this, the need to estimate the severity of poverty among the study sample becomes exceptionally imperative. When $\alpha = 2$, it means that a distinction is made between the poor and the poorest. Poverty severity value was 0.0247. This implies that the severity of poverty among the poor households in the study area is 2.47 percent.

Estimation of the Determinants of Poverty

In estimating the factors (determinants) associated with poverty among the respondent households in the study area, Probit regression model was fitted to the study data. The poverty status of the household (1 = poor, 0 = otherwise) served as dependent variable while a number of independent variables were employed. The result of the fitted form of the regression function is presented in Table 2.

Table 1: Frequency distribution of respondents' socio-economic characteristics

<i>Socio-economic characteristics</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Sex</i>		
Male	105	84.00
Female	20	16.00
<i>Marital Status</i>		
Married	99	79.20
Single	6	4.80
Divorced	7	5.60
Separated	4	3.20
Widowed	9	7.20
<i>Age</i>		
< 30	16	12.80
31 – 40	31	24.80
41 – 50	35	28.00
51 – 60	19	15.20
> 60	24	19.20
<i>Education</i>		
None	16	12.80
Primary	29	23.20
Junior secondary	10	8.00
Senior secondary	35	28.00
Tertiary	35	28.00
<i>Income Groups</i>		
< 7,500	5	4.00
7500 < 22500	80	64.00
22500 < 37500	29	23.20
37500 < 52500	3	2.40
52500 < 67500	2	1.60
> 67,500	6	4.80
<i>Household Size</i>		
< 3	6	4.80
3 – 5	39	31.20
6 – 8	55	44.00
9 – 11	17	13.60
> 11	8	6.40
<i>Primary Occupation</i>		
Farming	47	37.60
Fishing	22	17.60
Civil service	24	19.20
Lumbering	6	4.80
Trading	16	12.80
Others	10	8.00
<i>Amount of Credit(N)</i>		
None	89	71.20
< 100000	24	19.20
100000 < 200000	9	7.20
200000 < 300000	1	0.80
300000 and above	2	1.60

Source: Field Survey 2006

The regression results in Table 2 reveal the factors that determine the poverty status of the respondent households in Ogun Waterside Local Government Area of Ogun State. The specified model is found to be statistically significant at 1 percent level, implying that the model produces a good fit for the study data. The analysis shows that all the estimated parameters have the expected signs.

Table 2: Results of the Probit analysis of the determinants of household poverty

<i>Variables</i>	<i>Coefficient</i>	<i>Std error</i>	<i>Coefficient/Std error</i>
Constant	-2.98810	1.57303*	-1.900
Age	0.02370	0.01910	1.241
Gender	-0.02080	0.62703	-0.033
Annual loan/Credit	-0.0000142	0.000007	-1.646
Educational attainment	-0.088197	0.05264*	-1.675
Monthly expenditure	-0.000670	0.00012***	-5.390
Household size	0.93780	0.16953***	5.531
Primary occupation	0.28351	0.16953*	1.672

*** = Significant at 1 percent level; * = Significant at 10 percent level

Source: Computed from Field Survey Data

It reveals that age, household size, and primary occupation of the household heads have positive relationship with the poverty status i.e. the probability of the household becoming poor increases as these variables increase, only household size and primary occupation of the household heads are statistically significant at 1 percent and 10 percent test level respectively. However, household monthly expenditure, loan/credit availability, educational attainment, and the gender of the household heads have negative influence on the poverty status of the households, but only monthly expenditure and educational attainment are statistically significant at 1 percent and 10 percent level respectively. This implies that as these variables increase, the probability of a household to be poor reduces.

The household size regression co-efficient has positive sign and statistically significant at 1 percent level; implying that as the household size increases by one individual, the probability of the household to be poor increases by 0.9378. This is expected because as common in rural areas, large family size is poverty enhancing, as it tends to reduce per capita expenditure of the households. Also, the primary occupation coefficient shows positive influence on household poverty status and significant at 10 percent level, meaning that those whose primary occupation are agric-based (farming, fishing, and lumbering) have 0.2835 probability of being poor. This is so, because farmers, fisher folks and timber contractors do not have enough funds to increase the scope of or establish firmly their businesses to the level that more income could be generated so as to enhance the needs of the large-size rural households for better standard of living and increased per capita expenditure.

Educational attainment of the household heads has statistically significant negative relationship with poverty status. The result reveals that the probability of the households to be poor declines by 8.82 percent as household heads move from one certified educational level to another, that is, probability of household's poverty reduces, as the year of schooling of the household heads increases. This is expected because adoption of technological innovations for higher productivity and higher income has higher probability with education. Also, household monthly expenditure tends to reduce poverty status. From the regression coefficient, poverty status of the household decline as monthly expenditure improves by about 67 percent per thousand naira increase.

Moreover, the constant term (-2.9881) is the autonomous level of poverty of the study households. This implies that if all other exogenous variables specified above equal zero, the households would be poor.

Perceived Reasons for Poverty

The perceived causes of poverty among the households in the study area are itemized and ranked below. Table 3 revealed that 97.60 percent of the respondents perceived absence of affordable and reliable sources of credit facilities as a cause of poverty, while about 82.00 percent believed that government neglect especially on industrial development and inefficient state of the socio-economic infrastructures in the area is also poverty-inducing.

CONCLUSION

In line with the Millennium Development Goals (MDGs) of the United Nations (UN), poverty reducing efforts in developing countries must be based on adequate knowledge of who the poor are, where they dwell, their source of income, and production activities, if any tangible result is to be achieved. This study therefore analyzed the poverty incidence, poverty depth, its severity and factors that are associated with this socio-economic phenomenon among the rural households in Ogun Waterside Local Government Area of Ogun State.

At the current level of national development, it does appear that certain fundamental micro-economic variables have not been properly and

Table 3: Ranking of some causes of poverty among households

<i>Causes of poverty</i>	<i>Freq.</i>	<i>%</i>	<i>Rank</i>
Absence of affordable and reliable sources of loan / credit facilities to expand the economic activities of the dwellers for higher income.	122	97.60	1 st
Delay in exploitation of abundant mineral resources (Petroleum, Gas and Bitumen deposits) that abound in the area, which would have enhanced the commercial activities of the dwellers.	120	96.00	2 nd
Unemployment due to lack of suitable employment opportunities, for example, manufacturing and agro-allied industries especially for skilled labour abound in the area.	118	94.40	3 rd
Inefficient and inadequate infrastructures in the area especially electricity, health services and potable water.	115	92.00	4 th
Bad governance and corruption prevalent among public office holders	110	88.00	5 th
Government neglect / abandonment of the national pulp and paper company in Iwopin which once boosted the commercial activities of the Local Government area.	102	81.60	6 th
Post harvest loss due to inefficient preservation facilities for fish and other perishable good especially during market glut.	95	76.00	7 th
Poor market for agric and non-agric goods in the area, hence low producer price, coupled with high cost of transportation of these goods to hinterlands	93	74.40	8 th
Prohibitive cost of mechanized farming especially high cost of farm tractorisation, high cost of fishing gears and fishing equipment.	83	66.40	9 th
Absence of incentives for self employment, for example, lack of capital base for young folks for business / economic activities	78	62.40	10 th
Poor navigation occasioned by the presence of water hyacinth and floatsams, and lack of effective technology for the removal for these impediment from lagoons, rivers etc.	72	57.60	11 th
Lukewarm attitude towards loan / fear of loan application among dwellers due to insincerity and dubiousness that bedeviled sources of loan and credit facilities occasioned by incessant change in government in the past.	70	56.00	12 th
Natural disasters, for example, heavy wind, drought, etc.	65	52.00	13 th
Lack of adequate knowledge of management, savings, and record keeping techniques	54	43.20	14 th
Insufficient agricultural labour due to rural-urban drift prevalent among young folks in the area.	52	41.60	15 th
Lack of educational materials, programmes and extension services on modern fishing and fish preservation technologies.	45	36.00	16 th
Others	42	33.60	17 th

Note: Multiple Response Considered

adequately attended to, for the enhancement of rural income and reduction in the rate of impoverishment. However, the case of rural households in Ogun Waterside Local Government is not an exception. As a result, a critical level of development of productive forces and an enabling environment is necessary especially at the rural level, if a sustainable development is to be achieved in Nigeria.

From the result of the analysis, the following suggestions are thus relevant to boost the economic activities of the rural areas and thus alleviate poverty among households in the study area.

1. Enhancement of households per capita expenditure (hence higher income), achievable through provision of well defined input subsidies to rural dwellers. This could come in form of fishing gears and fishing nets, outboard engines, farming inputs / planting

materials, and equipment for other artisans in the area, which will reduce their total cost hence high profit.

2. Measures at discouraging excessively large family sizes should be fortified and encouraged. This could be achieved through intense orientation campaigns on family planning and its attendant benefits so as to reduce dependency ratio and encourage child spacing.
3. Soft loans should be provided to rural masses through local financial institutions, micro-finance banks, and co-operative societies. In line with this, the Ogun State Agricultural and Multipurpose Credit Agency (OSAMCA) should be fortified, and be more easily accessible by rural dwellers.
4. Educational advancement of the dwellers should be encouraged as a source of gua-

ranteed minimum returns to the households through siting of a higher institution of learning in the local government area.

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