ESTIMATING THE DETERMINANTS OF POVERTY AMONG FARMING HOUSEHOLDS IN AKWA IBOM STATE, NIGERIA

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ABSTRACT

The research was conducted in Mkpat Enin Local Government Area of Akwa Ibom State, Nigeria to estimate the determinants of poverty among rural farming households in the area. Multistage sampling technique was used and data were obtained from primary source using a structured questionnaire. Tobit regression model was used to analyse the determinants of poverty in the area. From the result of the Tobit regression, sigma is 0.9886 which is significant at one percent level with intercept of 0.7012 which represents the poverty depth among rural farm households in the area. This indicates that the model has a good fit to the data. Sex of household heads, household size, educational level, farm income, farm size, access to modern farm inputs and distance to clinic were the determinants of poverty in the area. It is recommended that both sexes be involved actively in income generating activities. Training opportunities should be provided for the poor because education is considered the easiest means of breaking the vicious circle of poverty and farmers should be encouraged by government in the area through provision of improved farm inputs.

KEYWORDS: Poverty, farming households, determinants.

INTRODUCTION

Poverty is regarded as a complex and multidimensional phenomenon whose precise definition has proved elusive. It is variously perceived, defined and understood yet the symptoms and characteristics are quite visible and easily recognized. Thus, like elephant, poverty is more recognized than defined (UNDP, 1998). According to Okigbo (2000), Poverty is a deplorable human condition in which individuals or people lack the capability to achieve access to basic needs or freedom from factors which cause deprivation of basic needs, including food, shelter, clothing, education and or significantly narrow the spectrum of needs.

The bulk of the developing world's poverty remains in rural areas and policies to promote agricultural and rural development will continue to play a crucial role (World Bank, 2007). Ravallion (2007) documented that 75 percent of the developing world's poor still live in rural areas. There are some marked regional differences and the incidence of absolute poverty is appreciably higher in rural areas. Based on Dadush and Nielson (2007), 73 percent of the poor live in rural areas in developing countries and agricultural and agro processing account for 30 – 60 percent of GDP and an even larger share of employment. More than a billion people in the developing world live on less than a dollar per day without enough money to buy food. (DFID, 2006[a]). Most of the rural people are poor and landless agricultural workers, fisher folks, artisans, female household heads, the aged, infirm and children (Nwosu, 2000). Even rich societies have many poor people and as long as people are poor, they will be bad savers, borrowers and investors because they rationally prefer immediate consumption (Hardy,2007).

Nigeria is the most populous country in Africa (AFP,2006). The country suffers from extreme poverty although it is an oil producer. Oil income per capita amounts to just 30 pence per person per day (DFID, 2006[b]). Poverty is also a factor responsible for the high rate of corruption in the Nigerian society (Wright and Weiss, 1995). It is an increasingly rising phenomenon in Nigeria and UNDP (2001) ranks Nigeria as the sixth largest oil producing country in the world. Despite this, about 70 percent of Nigerians live on less than a dollar per day (Akpabio, 2005). Even with the country's physical and human resources, there had been progressively worsening welfare and poverty conditions of its nations (Okunmadewa, 2001). HDR (2005) reveals that Nigeria is one of the poorest among the poor countries of the world. Agriculture is the largest contributor to the well-being of rural poor in Nigeria sustaining 70 to 90 percent of the rural and total labour force. The rural poor in Nigeria and most countries depends largely on agriculture especially root crop (Akpabio, 2005).Food security plays a vital role in poverty alleviation and determines the role of other factors in achieving reduced poverty (Tokula and Apu, 2007). Despite the involvement of rural households in Akwa Ibom State in farming and other income generating activities, their income is still low. It is against this background that this study was being conducted to assess the determinants of poverty among farming households in Akwa Ibom State.

METHODOLOGY

Study Area

This study was conducted in Mkpat Enin Local Government Area of Akwa Ibom State. Mkpat Enin

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covers an area of approximately 332.35 sq.km with an estimated population of 178036 (NPC, 2006). The area is located on latitude 4^030^1 and 4^052^1 North and longitude 7^036^1 and 7^050^1 East. Farming is the major occupation of a majority of the people in the study area and is usually carried out with the use of crude implements. The people in the area are also engaged in other activities such as trading, carpentry as well as civil services and produce crops like cassava, oil palm, cocoyam and water yam.

Sampling and Data Collection Procedure

Multistage sampling technique was used for the study. The first stage involved the selection of two clans (Ikpa Ibom and Ibiaku) out of the four clans that make up Mkpat Enin. The second stage was the random selection of two villages from each of the chosen clans to give a total of four villages. Finally, thirty (30) rural farming household heads were randomly selected from each of the chosen villages making a total sample size of 120. Primary data were used for the study and were obtained using a structured questionnaire.

Analytical Technique

The Tobit regression model, a hybrid of the discrete and continuous dependent variable was used to estimate the determinants of rural poverty. This is based on Tobin (1958) and is expressed as follows:

$$q_i \quad = \quad P_i \quad = \quad X_i\beta + e_i \quad \text{if } P_i > P_i^*$$
$$O \quad = \quad X_i\beta + e_i \quad \text{if } P_i \leq P_i^*$$
$$i \quad = \quad 1, 2, \ldots\ldots, 120.$$

Where q_i is the dependent variable. It is discrete when the households are not poor and continuous when they are poor.

P_i is the poverty depth / intensity defined as $\dfrac{z - y_i}{z}$

P_i^* is the poverty depth when poverty line (z) equals the expenditure per adult equivalent.
X_i is the vector of explanatory variable.
β is a vector of unknown coefficient
e_i is an independently distributed error term.
The explanatory variables specified as determinants of rural poverty were:

X1   =   Sex of household head (D = 1 if male, 0 if female.
X2   =   Age of household head (in years)
X3   =   Household size (number of persons)
X4   =   Educational level (years of schooling)
X5   =   Farming income (in naira)
X6   =   Farm size (in hectares)
X7   =   Farming experience (in years)
X8   =   Access to modern farm inputs (D = 1 if yes, O if otherwise)
X9   =   Distance to Clinic (in km).

RESULTS AND DISCUSSION

From the maximum likelihood estimates of the Tobit regression, the results show that sigma is 0.9886 with a Z-value of 14.4321 and is significant at 1 percent level. This indicates that the model has a good fit to the data and that the model as specified, explained significant non-zero variations in factors determining rural poverty. The coefficient of the sex of household head is -0.2018. This implies that relative to the female headed households, the level of autonomous poverty depth (0.7012) is reduced by 0.2018 for male headed households. Hence, having an autonomous poverty depth of 0.4994 as against 0.7012 for female headed households. This could be explained by the fact that male headed households get engaged in different kinds of farming activities such as fish farming. Household size has a coefficient of 0.2005 and is significant at 10 percent implying that a unit increase in the household size will raise the poverty depth by 0.2005. This conforms with Etim and Edet (2007) that most dependents particularly children contribute less to family income and the family spends more in educating them.

Educational level has a coefficient of -0.1170 and is significant at 1 percent level implying that poverty is decreased for household heads who are educated by 0.1170. This is due to the fact that education helps household heads to adopt innovation which leads to increase in productivity and income level. In addition, education helps in controlling the rate of child birth, hence the child dependency ratio. Farm income has a coefficient of -0.5720 and is significant at 5 percent meaning that for each naira increase in farm income, the level of poverty will be reduced by 05720. This indicates that the higher the income, the lower the incidence of poverty.

The regression coefficient of farm size is -0.5035 and is significant at 10 percent implying that a hectare increase in farm size would decrease poverty depth by 0.5035 since the level of output is directly related to the area of land under cultivation. An increase in farm size would therefore increase farm income with consequent improvements in household welfare. Access to modern farming input has a coefficient of 0.5224 and is significant at 5 percent. Thus, poverty incidence is increased by 0.5224 for household heads without access to modern inputs. This is true because improved farming inputs and techniques increase productivity and leads to increase in output and income. Distance to clinic is significant at 10 percent with coefficient of 0.6997 implying that poverty incidence is increased by 0.6997 as the distance to clinic increases. This could be attributed to the fact that costs of transportation to clinic reduce income of individual household.

Table 1: Maximum Likelihood Estimates of the Tobit Regression for Rural Poverty in the Study Area

Variables	Coefficient	Z-Value
Sex of household head (X1)	-0.2018	-2.6345***
Age of household head (X2)	0.0051	0.0238
Household size (X3)	0.2005	1.6849*
Educational Level (X4)	-0.1170	-2.9323***
Farm Income (X5)	-0.5120	-2.1130**
Farm Size (X6)	-0.5035	-4.8647***
Farming Experience (X7)	0.0027	0.1598
Access to Modern Farm Inputs (X8)	0.5224	2.0134**
Distance to Clinic (X9)	0.6997	5.9957***
Intercept	0.7012	5.6324***
Sigma $\propto$	0.9886	14.4321***

Source: Computed from survey data, 2007.
xxx, xx, x denote significant at 1%, 5% and 10% respectively.

CONCLUSION / RECOMMENDATIONS

The study estimated the determinants of poverty among rural farming household heads using Tobit regression model. The results reveal that sex, household size, educational level, farm income, farm size, access to modern input and distance to clinic are the determinants of poverty in the study area.

It is recommended that both sexes be involved actively in income generating activities. Training opportunities should be provided for the poor because education is considered the easiest means of breaking the vicious circle of poverty as good education guarantees good income which enhance economic growth. Farmers should be encouraged by Government in the area through provision of improved farm inputs and more clinics should be located in the area to reduce their transportation cost.

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