EFFECT OF POVERTY ON FOOD SECURITY OF RURAL HOUSEHOLDS IN ADAMAWA STATE, NIGERIA

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ABSTRACT

The major panacea towards reducing poverty remains a focus effort in increasing food security. Poverty situation in Nigeria is precarious, not only in terms of income poverty, but also in terms of food poverty. Nigeria is already hanging precariously with greater percentage of its population living on less than one dollar per day without any sign of change. This study examined the effect of poverty on food security of rural households in Adamawa State, Nigeria. Data were collected from randomly sampled 230 households in Adamawa State Nigeria, using structured questionnaire. The data were analysed using the Logit Regression model. The result of the study revealed that there is a negative and statistically significant relationship between the household food and the poverty status of the household. This suggested that the food security of households will improve if household poverty is reduced. Hence, it was the recommended that the design of poverty reduction programmes should focus more on improving food production for the growing population through increased funding of agriculture and controlled food prices.

Keywords: *Poverty, Food, Security, Household, Alleviation, Status, Expenditure*

INTRODUCTION

Poverty is a cancerous disease which affects several millions of people worldwide but more severe in the developing countries which are characterized by low per capita expenditure, under-utilization growth, and high rate of unemployment. Zeller (2004) notes that poverty is inherently a relative concept. It is relative in the sense of its dependency on many other factors. He stresses that the poor are heterogeneous groups, since poverty has many causes and effects on many groups of people. There is strong relationship between Agricultural stagnation and poverty in sub-saharan African. Much though not all, of the solution of poverty alleviation programmes in Nigeria depend largely on stimulating agricultural growth. Unfortunately, agriculture has grown much more slowly than the population while agricultural income has stagnated in real term or even fall. The major problem continues to be poor economy with its precipitation effects of inadequate public investment in human welfare facilities.

The 1970s brought Nigeria into the euphoria of the oil-boom and with it; a major shift from agriculture to crude oil was experienced. This has bewitched the agricultural sector which all component parts of the country had indicate high rate of

interest. Today, Nigeria is importing the commonest commodity like toothpick. It is the same Nigeria used to produce for export palm-oil, palm- kernel, cotton, rubber, cocoa etc. Summarily, agriculture has been relegated to the background. Sad to note is the mis-management of those oil revenues. Given the existing economic conditions in the country, the reduced participation in framing as well as the increasing rate of people living below poverty line, high food insecurity becomes inevitable. A major obstacle of food security and indeed the root cause of food insecurity have been widely identified to be poverty-which is a situation of low capacity for access to basic means of livelihood arising from the separate, combined or cumulative responses to the complex degree of the interplay of economic, socio political, and the physical environment. According to Kuponiyi and Awe (2000), poverty is described as a condition in which a person cannot maintain himself in a level with the standard of living of his group, and hence, is unable to achieve the mental and physical efficiency to function usefully in it. James and Felix (2001) expressed that poverty alleviation is synonymous with the reduction in the hardship and poor state of people's welfare.

The incidence of poverty is closely to malnutrition. Majority of the poor are rural dwellers engaged largely in subsistence farming which generate very low income. They observed that there is strong relationship between the contributions of housewives to the household food security. Therefore, they (the poor) lack access to rich and nourishing food as a result of poverty. In accordance with the National Millennium Development Goals Report (2004), the proportion of underweight children (under 5 years of age) stood at 35.7% in 1990 but declined to 28.3% in1993; and in 1999, it rose to 30.7%. the problem appears to be more serious in the rural than in the urban areas. Available data, according to the report, showed that about 13.0% of the population was under-nourished between 1990 -1992, the percentage dropped to 8.0% and 7.0% in 1996-1998 and 1998-2000 respectively.

Vani (2005) indicates that one way of measuring the deprivation or poverty is to use monetary-base measures: a person is regarded "poor" if his/her income (or expenditure) falls below line value. Zeller (2004) stresses that of critical importance for the purpose of testing and developing prosy tools for poverty assessment is the modules of household consumption and expenditure. According to him, the two poverty lines are identified as follows in the legal text. The term very poor means individual; (a) living in the bottom 50% below poverty line established by the national government of the country in which those people live, or (b) living on the equivalent of less than $1 per day. Okunmadewa (1999) defines poverty line as a pre-determined or well-defined standard of income or value of consumption, which is deemed to represent the minimum required for a productive and active life or even survival. The main issue in poverty line, however, is to be able to get the poverty line that offers a consistent poverty profile that we would be able to compare poverty among households. Food and Agriculture Organization (2006) defines food security as a situation when all people, at all times, have access to sufficient, safe and nutritious food to meet dietary needs and food preferences for and active and healthy life. Food

security for a household means access by all members at all times to enough food for an active, healthy life. Food security, according to USDA (2006), includes at a minimum; (i) the ready availability of nutritionally adequate and safe foods, (ii) assured ability to acquire acceptable foods in socially acceptable ways (that is without resorting to emergency food supplies, scavenging, stealing, or other coping strategies). Since, 1995, US$770 million from donors and national government have been invested in FAO (designed food security programmes). The Special Programme for Food Security (SPFS) initiative helps to achieve food security in two ways.

(i)   through assisting national government to run focused, well-planned National food security programmes and

(ii)   through working closely with regional economic organizations to develop Regional programmes for food security which optimizes food security in areas like trade policy (FAO, 2006).

This study aimed at finding the effect of poverty on the food security of households in Adamawa State, Nigeria. The specific objectives include:

(i)   Analyzing the demographic and the socio-economic characteristics of individual Household under the study.

(ii)   Examining the effect of household poverty status on the food security of the household.

METHODOLOGY

The study was carried out in Adamawa State, Nigeria. Adamawa State is located at the northern part of Nigeria. It shares with Taraba State in the south and west with Gombe State in North-West and Borno State to the North. The State has an international boundary with Cameroun Republic along its eastern side. It lies between latitude 7° and 11°North, and longitude 11° and 14°East. Adamawa State has a land area of about 38,714km^2 and a population of 2,974,114. The people of Adamawa State are predominately peasant farmers, though few are cattle rearers. The State is divided into twenty - one local government areas. The state was carved out of the defunct Gongola State on August 27, 1991. Gongola State was itself carved out of the former North Eastern State in 1976. Before then, Adamawa was a province of the Northern Region of Nigeria. The capital of Adamawa State is located in Yola.

Adamawa State, like other Northern State of Nigeria, has ever recorded a high incidence of poverty.The Northern States, which are substantially rural and having less exposure to education, experiences more poverty than other parts of the country. A third of Nigeria's poor are concentrated in the Northern States (Federal Office of Statistics, 1996). The use of structured questionnaire which was administered by trained enumerators, helped in getting the primary data for the study. Other related information were obtained from past research reports, as well as records from the Federal Office of Statistics, and National Population Commission in Adamawa State.

Adamawa state comprises of three major zones namely; Northern, Central and Southern zones. Each of the zones constituted a stratum for the study. They

make up the twenty one Local Government areas in the State. The sampling units for this survey were selected from the households in these zones. For the purpose of this survey, one Local Government was randomly selected from each zone. These are Madagali Local Government (from Northern zone); Hong Local Government (from Central Zone) and Numan Local Government (from Southern zone). Each Local Government is politically divided into Districts, which further consists of wards. Four communities were selected from each Local Government and twenty households were selected from each community to give a total number of eighty households randomly selected from each of the three zones. Thus, a sum of two hundred and forty households were randomly sampled within the study area. However, only two hundred and thirty copies of the questionaire were used because ten were not properly filled. The random selections of the households were done using the prepared list of households available in the Agricultural Development Programme (ADP) offices in each of the zones.

A Logit model analysis was used to estimate the determinants of poverty according to Adams and Richard (1995). The Logit model is used on the basis of either income or expenditure. For this study, expenditure data were used since poverty-lines are defined based on expenditure data (Zeller, 2004). Logit model is an example of models with qualitative dependent variables (Kementa, 1990).

Specification of Logit model can be represented as:

$$E(Y_i) = \frac{1}{1 + e^{-a+Bxi}} = \frac{e^{-a+Bxi}}{1 + e^{-a+Bxi}}$$

$$\frac{Total\ Household\ Expenditure}{Household\ Size}$$

Where $E(Y_i) = P(Y_i = 1)$

Y_i is a dichotomous dependent variable, which assumes a value of 1 or 0

X represents the explanatory variable.

As Y_i has no replicate observations, the method to use is Maximum Likelihood Model specification of the Logit model used as follows:

$$Y = \beta_o + \beta_1 X_1 + e$$

Where: X_1 = Household Food Security

         Y = Poverty Status of the Household

         β_o = Constant

         β_1 = Coefficient

         e = Error term

Y is 1 if the household's per capita expenditure is above one hundred and fourty naira (the equivalent of US\$ 1) per day, otherwise it is 0. Household per capita expenditure is given as:

The food security status of each household lies somehow along a continuum extending from high food security to low food security. This continuum is divided into four ranges characterized as follows:

High food security: households had no problems or anxiety about consistently accessing adequate food.

Marginal food security: households had problems at times, or anxiety about accessing adequate food but the quality, variety, and quantity of their food intake were not substantially reduced .

Low food security: households had reduced quality, variety, and desirability of their diets, but the quantity of food intake and normal eating patterns were not substantially disrupted.

Very low food security: At times during the year, eating patterns of one or more household members were disrupted and food intake reduced because the household lacked money and other resources for food.

RESULTS AND DISCUSSION

Table1: Percentage Distribution of Demographic Characteristics of Househod-heads in Adamawa State, Nigeria.

Index		Frequency	Percentage
Gender (sex)	Male	209	90.9
	Female	21	9.1
	Total	230	100
Marital Status:	Married	208	90.4
	Single	00	0.0
	Widow/widower	08	3.5
	Separated	09	3.9
	Divorced	09	2.2
	Total	230	100
Age(Years):	15 - 20	00	0.0
	21 - 30	31	13.5
	31 - 40	79	34.4
	41 - 50	80	34.8
	51 - 60	29	12.6
	>60	11	4.7
	Total	230	100

Source: Field Survey 2008

Table 2: Percentage Distribution of Socio-economic Characteristics of Household heads in Adamawa State, Nigeria

Index		Frequency	Percentage
Occupation:	Self-employed in Agriculture	121	52.6
	Self-employed in Non-farm Enterprises	18	7.8
	Civil Servants	64	27.8
	Retired	12	5.2
	Unemployed	15	6.6
	Total	230	100
Levels of Education:	Primary	91	39.6
	Secondary	88	38.3
	Tertiary	29	12.6
	No formal Education	22	9.5
	Total	230	100

Household Assets (Naira):	<11,000		24	10.4
	11,000 - 30,000		144	62.6
	31,000 - 50,000		47	20.4
	51,000 - 70,000		12	5.2
	71,000 - 90,000		02	0.9
	>90,000		01	0.5
	Total		230	100
Household dwelling (numbers of rooms):		1 - 3	92	40.0
		4 - 6	121	52.6
		7 - 9	16	7.0
		>9	01	0.4
		Total	230	100
Availability of electricity:	Household with electricity		53	23.0
	Household without electricity		177	77.0
	Total		230	100
Roofing types of the household:	Grass-roofing		166	72.0
	Iron sheet-roofing		64	27.2
	Total		230	100

Source: Field Survey, 2008

Table 3: Logit Regression results showing the relationship between the Household Food Security and Poverty Status of Household in Adamawa State, Nigeria, 2008

Variable	Parameters	Estimates	Standard Errors	P-Values
Constant	β_o	6.429	1.332	0.000**
Household- Food		-0.002	0.000	0.016**
-2loglikehood		163.326		
R_2		0.648		
Chi-Square		152.104		0.000**

β_1

**P-value is significant at 1%

Source: Field Survey, 2008

The result of the study as shown on table 1 revealed that the majority of households-heads were males and married. Many of the household-heads were within active ages of between 31- 40 years. The result also revealed that the majority of Household-heads were self employed in Agriculture and 39.6% attended Primary school. Only 0.5% possessed assets worth above ninety thousand naira. 72.2% of household-heads dwelt in houses with grass roofing and the greatest number lived in houses with just 3 rooms. Most of them lived in houses without electricity.

The regression results on table 3 revealed that there is strong, negative and significant statistical relationship between the Household food security and the poverty status of the households. According to the result, a reduction in the poverty status of the household will lead to improvement in the household food security. On the other hand, a worsening poverty condition of household results in poor household food security. This regression result agrees with the research findings of James and Felix (2001) which showed the significant effect of household food security on the level of wealth or poverty of household. According to them, the alleviation of poverty is synonymous with reduction in the hardship and poor state of the people's welfare .The study revealed that the most effective instrument for poverty reduction is the availability of food for the poor at cheap prices and in sufficient amount.

CONCLUSION AND RECOMMENDATIONS

Poverty reduction is equivalent to eradication of hunger and improvement in household food security. Alleviation of poverty is to be pursued with the aim of improving the food needs of the poor households. Addressing the poverty issue of household can only yield significant result if it focuses well on the problem of hunger in the households. The study had shown that there is a close link between the poverty status and the food security of the households. The welfare of people can be positively influenced by placing priority on increased food production and regulated prices of foodstuffs. The preceding analysis has brought out some findings that have important implication on policy formulation. Based on these findings, the following recommendations are made:

i.   The design of poverty reduction programme should focus more on improving food production for the growing population through increased funding of agriculture and controlled food prices. Government should promote growth in agriculture especially the production of food crops, and ensure their availability at cheaper market prices.

ii.   The national food security programmes of the government should be well planned and focused so as to lessen the burden of food security of the rural poor.

iii.   Rural empowerment scheme can be intensified through integrated farming entrepreneurships; thus reducing food insecurity.

iv.   Poverty alleviation programmes should be well designed to incorporate the peculiarity of the vulnerable members of the community.

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