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ANALYSIS OF ROLES OF SOCIO-EONOMIC CHARACTERISTICS IN POVERTY CONDITION OF FARMING HOUSEHOLDS IN ADAMAWA STATE

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Abstract

The study analyzed the roles of socio-economic characteristics In Poverty condition of farming household heads in Adamawa State. A multistage sampling method was used in selecting respondents for the sampling technique. Both primary and secondary data were used for the study. Data were collected through structured questionnaires. Data were analyzed using the binary logistic regression model to examine the influence of respondent's socioeconomic factors on poverty condition. Foster Greer and Thorbecke (FGT) index was used to determine the poverty condition of respondents. Results show that 81.6% of the households were headed by male, 18.4% were headed by female, 18.4% and 51.6% of the respondents were between ages 21-40 and 41-60 respectively. 69.7% of the males were married to between 1-5 wives, 54.4% of them had 1-5 children.Results from head count ratio (HCR) revealed that 70.4% of the households were poor having their expenditure status below the poverty line, 29.6% being non poor having their expenditure status above the poverty line. Poverty Severity Index was 34.55%. The findings revealed that increase in level of education and increase in number of wives household heads decrease the level of the household poverty. However, sex, number of dependents and marital status of the household heads do not significantly influence the poverty condition of the households. It is therefore, recommended that Policies be formulated by government and non-governmental agencies to encourage western education among household heads and some of them be encouraged to marry more enterprising wives for a collective household fight against poverty scourge.

Keywords: Socio-economic, Households, Poverty Profile, Poverty Incidence, Poverty Line.

Introduction

Poverty incidence has assumed a worrisome dimension in Nigeria, with 65.6% in 1996 living below poverty line and to 69.0% in 2010. These figures revealed that majority of Nigerians are living in a state of abject destitution with only a significant minority living in affluence or wealth (National Bureau for Statistics, 2010). It furtherreported that the

scourge of poverty goes beyond mere measurement of a household's expenditure or welfare. Poverty has many dimensions and may include access to government utilities and services, environmental issues, poor infrastructure, illiteracy and ignorance, poor health, insecurity, social and political exclusion. In urban areas, the burden of demand on services has affected school enrolment, access to primary health care, growth of unsanitary urban slums. Also, in rural areas, poverty manifests itself more in the agricultural sector and food security (Food and Agriculture Organization, 2006).

According to Earth Trends (2003), 70.3% of the Nigerian population live on less that $1 a day, while 90.8 % live on less than $2 a day. It further stressed that the total income earned by the richest 20% of the population is 55.7% while the total income earned by the poorest 20 % is 4.4 %. This explains the alarming increase in poverty incidence and the sharp inequality between the rich and poor.

Alayande (2003) reported that in Nigeria, primary and post-secondary educational attainments are important in reducing income inequality, while the number of unemployed persons in the households contributes positively to poverty and income inequality.

Omideyi (2004) noted that in rural Nigeria, the net effects of high family sizes are lower income, little savings and increased poverty. Also, increase in demand for more children will increase more income inequality because the desire for large family size lies mostly among the poor.

Poverty incidence is high among households and the socioeconomic characteristics of household head's play significant role in poverty incidence of households, the need arises for these research questions: what is the poverty incidence in the study area? and also what roles do the socio-economic characteristics of household heads play on their households poverty condition? The specific objectives for the study were to analyze the roles of sex, educational level, number of wives and household size of the respondents on the poverty condition of their households in the study area.

These empirical data imply that Nigeria is absolutely a poor Nation, a situation to be described as a “bewildering paradox” in view of the vast resource base of the country. It also reveals that there is a generalized increase in the level of deprivation, poverty incidence and inequality despite the several policy interventions and programs designed by the Nigerian government to combat this scourge. The situation may be similar or worse in the area for this study. Hence, the need to examine Poverty incidence and inequality in Adamawa State.

Methodology

Population and sampling procedure

The respondents for the study were farming household heads in Adamawa State. itwas conducted in five (5) out of the twenty-one (21) local government areas of Adamawa State. Two (2) local government areas from central senatorial zone, namely; Yola- south and Yola–north and three (3) local government areas from northern senatorial zone, namely; Demsa, Numan and Mayo-Belwa respectively. The area is cosmopolitan in nature. A multistage sampling methodwas used in selecting respondents for the sampling technique. The first stage was a random selection of two (2) out of the three (3) senatorial zones in the state, namely; Central senatorial zone and Southern senatorial zone respectively. The second stage was a random selection of two (2) local government areas out of the five (7) local government areas in the central zone, namely; Yola-south and Yola-north and another random selection of three (3) out of the nine (9) local government areas in the southern zone, namely; Numan, Demsa and Mayo-Belwa respectively. The third stage is a random selection of three (3) wards from each of the randomly selected local government areas, namely;Ngurore, Namtari and Mbamoi from Yola-South local government area, Jambutu, Doubeli and Rumde from Yola-North local government area respectively. Three (3) wards were randomly selected from two (2) of the three (3) randomly selected local government areas in the southern senatorial zone , namely; Demsa, Dwam, Nasarawo - Demsa from Demsa local government area, Numan 1, Numan 111, and Imburu from Numan local government area respectively. Also, four (4) wards were randomly selected from Mayo-Belwa local government area, namely; Mbilla, Ndikong, Mayo-Farang and Nasarawo- Jereng. The fourth stage was a proportionate sampling of two hundred and fifty (250) respondents for the study based on the fact that the sampling frame for each of the wards are not the same.

Table 1: Sample Size Selection Plan

Senatorial Zone	Local Govt. Area	Ward	Sampling Frame	Sampling Size (10%).
Central	Yola-South	Ngurore	171	17
		Namtari	114	11
		Mbamba	163	16
	Yola-North	Jambutu	184	18
		Doubeli	192	19
		Rumde	164	16
Southern	Numan	Numan I	93	09
		Numan III	134	13
		Imburu	91	09
	Demsa	Demsa	164	16
		Dwam	94	09
		Nasarawo-Demsa	92	09
	Mayo-Belwa	Mbilla	244	24
		Ndikong	213	21
		Mayo-Farang	194	19
		Nasarawo-Jereng	243	24
	Total			250

Source: Field survey, 2019

Logit regression model

Logit regression model was used to determine socio-economic characteristics influencing household poverty status. The model is expressed as:

$$P_i = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_{i1} + \ldots + \beta_k x_{ik}}}$$

Where,

R*i* = Probability that socio-economic characteristics influencing household's poverty status

β_o = Constant term

β_k = Coefficient to be estimated

X_k = for K=1……..14 which are independent variables

i = i^{th} observation.

Let $Z_i = \beta_o + \sum \beta_k X_{ik}$

Then $Pi = \dfrac{1}{1 + e^{-Z}}$

As *i*Zranges from –α to + α, *i*R ranges from 0 to 1 and *i*R is non-linearly related to. The Logit of the unknown binomial probabilities that is, the Logarithms of the odds, are modelled as a linear function of the X_i. In estimable form, the model is express as,

$$\log it(P_i) = \ln\left(\frac{p_i}{1 - p_i}\right) = \beta_o + \beta_1 X_{i1} + ... + \beta_k X_{ik} + U_i$$

The unknown parameters *i*bare usually estimated by maximum likelihood. Thus, the model is explicitly express as

$$Z_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \cdots + \beta_{14} X_{14}$$

Where,

Zi = Poverty status of ith household (1= non-poor, 0 = poor)

X_1 = Sex of Household Head

X_2 = Educational Attainment of Household Head (years)

X_3 = Age of Household Head (years)

X_4 = Main (Primary) occupation

X_5 = Extra (Secondary) occupation (Yes = 1, otherwise = 0)

X_6 = Household size

X_7 = Number of dependents.

X_8 = Number of family members in waged employment.

X_9 = Number of disabled person in the household.

X_{10}= Debts with friends and neighbours.

X_{11}= Amount of land owned.

X_{12}= Level of monetary savings in financial institutions.

X_{13}= Value of houses owned.

X_{14}= Value of machinery and other productive assets.

α = constant term

ei = error term

Result and Discussions

Socio-economic characteristics of household heads

Table 2 indicates that 81.6 % of the households in the study area were headed by male while 18.4 % were headed by female. Higher proportion of male headed households implies a higher involvement in agricultural and other labour-intensive activities and hence, higher family income with lower level of poverty incidence and income inequality for households (Folbe, 1991). He also asserted that female headed households are common in situations of loss of male spouses with associated loss of income generated by such individuals. 69.7% and 29.8% of the household heads were married with between 1-2 and 2-4 wives respectively. By implication, higher number of wives may contribute to higher family income levels especially when wives are empowered or given access to the capital they need to grow. According to Gatar*et al.* (2011) women run 30% of all registered businesses worldwide. Morduch and Secular (2002) also reported that household heads whose wives are formally educated have significantly higher per capita income. 54.4 % and 31.8 % of them had household sizes of between 1-5 and 6-10 persons respectively. This implies that there would be high poverty incidence and income inequality in the area due to low per capita income. This agrees with the findings of Omideyi (2004) that in rural Nigeria, the net effects of big family size is lower income, little savings, and increased poverty, and that increase in demand for more children will increase more income inequality. Russell (2004) also reported that large household size could constitute a serious hindrance in the face of sickness, educational funding, feeding and other activities that compete for the meagre resources of the households.

Table2. Distribution of Household Heads on the basis of Socio-Economic Characteristics

Variable		Frequency	Percentage
Sex	Male	195	81.6
	Female	44	18.4
	Total	239	100
Education Level	Tertiary	4	1.7
	Sec. sch	123	51.6
	Pri. sch	92	38.7
	None	19	7.9
	Total	238	100
Number of Wives	> 2	166	69.7
	2-4	71	29.8
	< 4	1	0.5
	Total	238	100
Household Size	1-5	130	54.4
	6-10	76	31.8
	<10	33	13.8
	Total	239	100
Number of Dependents	1-5	138	57.7
	6-10	37	15.5
	None	64	26.8
	Total	239	100

Source; Field Survey 2019.

Poverty Gap (Depth) of respondents

Table 3, reveals that 24.6 % of the respondents had their income levels within the 1st quartile (1-25) away from the poverty line (poverty gap) while 24.6 % and 34.4 % had their income levels between the 2nd and 3rd quartiles (26-50 and 51-75) respectively. About 16.4 % of the respondents had their income levels within the 4th quartile (76-100). This by implication means majority of the household heads in the study area lives far below the poverty line, and can hardly afford basic necessities of life such as food, cloth and shelter, (the poor is truly poor). This is consistent with the findings of NBS (2010), which reported that majority of Nigerians are living in state of abject destitution with a significant minority living in affluence or swimming in the pool of wealth. Putting poverty incidence figures in Nigeria at 27.2% in 1980, which further rose to 65.6% in 1996 and to 69.0% in 2010. NBS (2010), further reported poverty figures on the basis of households assessment of livelihood indicating subjective poverty measure revealing Adamawa state to be "very poor" in the zone as following, "very poor", "poor", "moderate" as 10.2%,46.6%,39.2% with the "fairly rich" and "rich" as 3.5% and 0.6% respectively.

Table 3. Distribution of Respondents on the basis of Poverty Gap (Depth)

Poor	Frequency	Percentage
1-25	59	24.6
26-50	59	24.6
51-75	82	34.4
76-99	39	16.4
Total	239	100

Source: Field Survey 2019.

Mean = 46.7

Median = 55.51

Mode = 55.52

Standard deviation =2.5073

Minimum = 5.55

Maximum = 94.38

Poverty Severity Index = 21.08/61

= 34.55 %

From

FGT Index

Influence of socio-economic characteristics on poverty status of respondents

The binary logistic regression estimates of socio-economic characteristics influencing poverty status of respondents is presented in Table 4. The result revealed education (-330) and number of wives (-611) possessed by household heads affects poverty condition of their households significantly at 1% and 10% levels respectively. However, other variables like Sex, Age, Number of children, Number of dependents and Marital Status of household heads do not have significant influence on Poverty Status of the households at all conventional levels of significant. This by implication means an increase in level of education of household heads decrease the probability of the households being poor in the area. This is consistent with the findings of Oyekale et al (2005), which states that attainment of formal education increases per capita income (reducing poverty), these findings imply that the poor should have access to western education in order to increase their incomes status. Since in most cases, educated people are well placed to utilize available resources for increased incomes. It is also consistent with the findings of Aigbokhan (2008), which states that the higher the educational attainment level of household head the lower the incidence of poverty, poverty is concentrated among persons with no education and those with only primary education. He further aversed that education being a measure of human capital is hypothesized to be positively correlated with income and therefore welfare.

The findings also revealed that increase in the number of wives by household heads decreases the probability of the households being poor. This could be possible when whenhouse wives are engaged in economic activities that would increase household income.This consistent with the findings of Kuponiyi and Awe (2000), which observed that there is a strong relationship between the contributions of housewives to the household's food security.

Table 4. Influence of Socio-Economic Characteristics on Poverty Condition of Households

Variable/Category	B	S.W	Wald	Df	Sig.
Sex	-516	.609	.719	1	397
Education	-330	.111	8.872***	1	.003
Age	.015	.017	.853	1	.356
Number of wives	-611	.340	3.224*	1	.073
Number of children	.000	.065	.000	1	.999
Household Size	-.050	.055	.836	1	.361
Marital Status	-	-	1.499	4	.827
Constant	-20.930	$1.219*10^4$	.000	1	.999

*****, * = significant at 1% and 10% levels respectively**

Source; Field Survey 2019.

Conclusion and Recommendations

The results there is high poverty incidence in Adamawa state, with Poverty Severity Index of 34.55%. It also showed that some socioeconomic characteristics like education of household heads and number of wives have a very strong influence on the poverty condition of the households. However, gender, number of dependents and marital status of the household heads do not significantly influence the poverty condition of households.It is therefore, recommended that Policies be formulated by government and nongovernmental agencies to encourage western education among household heads. Also, some of the household heads whose faith permits should be encouraged to marry more enterprising wives for a collective household fight against poverty scourge.

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