



DETERMINANTS OF POVERTY AMONG SMALLSCALE FARMERS IN HONG LOCAL GOVERNMENT AREA, ADAMAWA STATE, NIGERIA



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Received: May 17, 2016 Accepted: September 03, 2016

Abstract: Poverty has remained prevalent in Nigeria, especially among farmers. This study identifies the determinants of poverty in Hong Local Government Area of Adamawa State; Nigeria. A total of 142 households were randomly sampled from fifteen communities in five districts of the Area. Data were collected using questionnaires and was analysed using descriptive statistics; poverty line was established using household per capita weekly expenditure while binary logit regression model was used to identify the determinants of poverty in the area. The results reveals that, majority (76%) of the respondents are less than 50 years of age and were mostly educated (88%). Male headed households are predominant (85%), and agriculture is their primary livelihood source (63%). About 44% of the respondents fall below poverty line established using a mean per capita weekly consumption expenditure of about ₦1469.6 with a poverty line of ₦979.7. The results of the Binary Logit model shows that; education level, farm size, membership of group, access to basic social amenities and credit had significant effect on household poverty status of the respondents. Efforts to reduce poverty by the respondents is constrained by lack of basic social amenities, lack of access to credit and their inability to access modern farm inputs. The study recommends that concerned development actors should provide basic infrastructures such as access road and electricity among others, in addition to credit facilities and modern farm inputs to the rural farmers at subsidized rates.

Keywords: Determinants, poverty, small-scale farmers, Hong

Introduction

Poverty prevalence is one of the largest challenges of mankind in the 21st century (Abimbola *et al.*, 2011). However, this problem is hard to define and as such many different meanings and definitions are resorted to in the development field (Klugman, 2002). May (1998) defined poverty as the inability to attain a minimal standard of living, measured in terms of basic consumption needs or the income required to satisfy them. This definition considers poverty in absolute terms. Absolute poverty occurs when human beings live in a state of deprivation due to meagre income or lack of access to basic human needs which include food, shelter, health, education, safe drinking water etc. (Draman, 2003). To measure poverty in absolute terms, a poverty line has to be established. Poverty lines are assumed to be a measure of household well-being; it shows the per-capita minimum monetary requirements an individual needs to afford the purchase of basic goods and services (Odeyemi and Olamide, 2013). Households whose consumption expenditure falls below this line are considered poor. According to the World Bank (2000), poverty lines vary in time and place, and each country uses lines, which are appropriate to its level of development, societal norms and values.

Poverty in Nigeria is said to be mainly a rural phenomenon where up to 80% of the population live below the poverty line (National Bureau of Statistic, NBS, 2013; Edoumiekumo, 2014). For many households in Nigeria, especially in the rural areas, agriculture is their primary livelihood source. At the moment, Adamawa state has about 74.2% of its citizens below the poverty line of \$1.25 per day (NBS, 2013). Vast majority of Nigerian farmers are small-scale farmers who cultivate less than 10 hectares of land. This class of farmers has an important role to play in combating poverty and creating widespread growth in developing countries. This is because they constitute more than 70% of the Nation's working population. Therefore, reducing poverty among the small scale farmers will improve the well-being of a vast majority of the Nigerian

poor. The most compelling evidence of successful agriculture-led poverty reduction comes from the Green Revolution in Asia. Under the scheme, poverty in the region declined from 50% in the 1970s to 18% in 2004, while hunger declined from 30% to 16% over the same period (Ideas for Progress, 2009).

Over the years, most development agencies and governments at every tier in the country were able to initiate a lot of developmental programmes and projects to reduce poverty and enhance the quality of life of its citizens, especially those in rural areas. However, despite the proliferation of such antipoverty initiatives, the number of poor people in Nigeria has continued to be on the increase. For any antipoverty initiative to have significant impact on its target, it must take place in sectors where majority of the poor earn their livelihood. Similarly, all stakeholders must understand its principal underlying causes. Such an understanding is required to responsibly design and implement relevant, beneficial interventions that enable people to pursue meaningful and rewarding lives and livelihoods, and thus reduce poverty in a given region (International Fund for Agricultural Development, IFAD, 2014). In fact, response to poverty should vary from one community to another, and between social groups within the given communities in relation to the prevailing socio-political conditions (Mung'ong'o and Mwamfupe, 2003).

There have been few empirical studies on the dynamics of poverty in Adamawa State, Nigeria (Onu and Abayomi, 2009). More pressing is the paucity of literature on poverty specifically in the study area. Therefore, this paper provides a deeper understanding of the determinants of poverty in Hong LGA of Adamawa State. Consequently, this study is aimed at achieving the following research objectives: (i) describe the socio-economic characteristics of the respondents; (ii) determine the poverty status of the respondents; (iii) identify the determinants of poverty among the respondents in the area; (iv) identify the constraints faced by the respondents in their effort to reduce poverty in the study area.

Materials and Methods

The study was conducted in Hong Local Government Area of Adamawa State. The study area lies between Latitude 7° –11°N and longitude 11° –14°E of the Greenwich Meridian (Adebayo, 1999). The area falls within the Northern Guinea Savannah Zone and has a tropical wet and dry climate. Dry season lasts for a minimum of five months (November – March) while the wet season spans April to October. Mean annual rainfall is about 700 mm (Adebayo *et al.*, 2012). The area is bounded by Askira/Uba Local Government Area of Borno State to the North, Mubi to the East, Song to the South and Gombi Local Government Area to the West. The area has a land mass of about 117,240 square kilometres. The area has an estimated population of about 169,183 people and predominantly agrarian (National Population Commission, 2006). The area has groundnut and guinea corn as their major cash crops (Sajo and Kadams, 1999).

Multi-stage sampling technique was employed in selecting the representative households used for this study. The first stage of sampling involved the random selection of five (5) districts out of the seven (7) districts in the Local Government Area. In the second stage, three (3) communities were randomly selected from each of the five (5) selected districts; Primary data were collected randomly from one hundred and fifty (150) small scale farm households, while 142 were considered suitable for analysis and were used.

Descriptive statistical tools were used to analyse the socio-economic characteristics of the farmers and constraints they face in credit acquisition. Following Obayelu (2014) a consumption expenditure poverty line was estimated for the respondents to determine their poverty status. The formula is given as:

$$PCE = \frac{\text{per capita weekly expenditure for the } i\text{th household}}{\frac{1}{3} \text{mean per capita weekly expenditure of all households}}$$

Where;

PCE= Per Capita Consumption Expenditure

$PCE \geq 1$ Poor household

$PCE \leq 1$ Non poor household

A binary logit regression model was used to identify the determinants of poverty among the respondents in the study area. The poverty status of the respondents was used as a dependent variable while their socio-economic variable as well as other indicator variables were used as independent variables. The model is specified explicitly as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + U$$

Where: Y= Poverty Status (1=Non-poor: 0=poor); β_0 = Constant; X_1 = Age of the household head (years); X_2 = Gender of the household head (Male=1: Female=0); X_3 = Marital status of the household head (Married=1: Single=0); X_4 = Household size (Number); X_5 = Educational status of the household head (Number of years); X_6 = Farm Size (Ha); X_7 = Membership of Social Group (Yes=1: No= 0); X_8 = Access to Social Amenities (Number); X_9 = Access to Credit (Yes=1: No= 0); U= Error term

Results and Discussion

Respondents' socio-economic characteristics

Respondents' socio-economic characteristics are presented in Table 1. Male household heads constituted majority (about 85%) of the respondents due to homogeneity in their cultural and religious practices. Majority (76.06%) of the respondents are less than 50 years of age. This indicate that majority of the respondents are economically active. There are more married household heads (about 79%) than those

divorced/widowed (21%). The household size of the respondents is relatively large having about 6-10 people (51%). Meanwhile, distribution of household heads by education reveals that majority of them had one form of education or the other (88%). most of the respondents were primarily into farming (about 63%) and they cultivate an average farm size of about 2.2 hectares. Large proportion (58%) of the respondents does not belong to any farmers/cooperative group.

Table 1: Frequency distribution of the farmers according to their socio-economic characteristics (N=142)

Variable	Frequency	Percentage
Age (Years)		
20 – 29	14	9.86
30 – 39	46	32.39
40 – 49	48	33.81
50 – 59	21	14.79
60 and Above	13	9.15
Sex		
Male	120	84.51
Female	22	15.49
Marital Status		
Married	112	78.87
Single	8	5.63
Widowed	16	11.27
Divorced	6	4.23
Household size		
1 – 5	55	38.73
6 – 10	73	51.41
≥ 11	14	9.86
Educational Attainment		
No formal education	17	11.97
Primary education	38	26.76
Secondary education	59	41.55
Tertiary education	28	19.72
Primary Occupation		
Farming only	89	62.68
Farming/Trading	31	21.83
Civil Services/Farming	22	15.49
Farm Size (Hectares)		
< 1	44	30.97
1-4	84	59.16
5	14	9.87
Membership of Group		
Yes	59	41.55
No	83	58.45

Source: Field Survey (2014)

Household weekly expenditure

The amount each household head spent per week on goods and services is presented in Table 2. The result shows that, majority (61%) of the households' weekly expenditure did not exceed ₦5,000 and they constituted 32% of the totalexpenditure. Only 22% of the respondents expend between ₦5,001 – ₦10,000 and their expenditure represents 28% of the total weekly expenditure.

Poverty status of the respondents

The household weekly consumption expenditure was used to establish the poverty line. A mean per capita weekly consumption expenditure of about ₦1469.6 with a poverty line of ₦979.7 was used to classify the rural households either as either non-poor or poor. Majority of the households surveyed (about 56%) are found to be non-poor while about 44% are poor. The result shows that a reasonable proportion of the population requires the

necessary support to overcome poverty. The respondents' poverty status is as presented in Table 3.

Table 2: Distribution of respondents by households' weekly expenditure

Weekly expenditure (₦)	Frequency	Percentage of population	Total expenditure (₦)	Percentage of total expenditure
≤ 5,000	87	61.27	276,600	31.99
5,001–10,000	32	22.53	243,500	28.16
10,001–15,000	16	11.27	212,500	24.58
15,001–20,000	4	2.82	67,000	7.75
≥ 20,001	3	2.11	65,000	7.72
Total	142	100	864,600	100

Source: Field Survey (2014)

Table 3: Frequency distribution of respondents according to their poverty status

Status	Frequency	Percentage (%)
Non-Poor	79	55.63
Poor	63	44.37
Total	142	100

Source: Field Survey (2014)

Determinants of poverty among the respondents

Table 4 below provides the parameter estimates for the Binary logit model. The McFadden R-square stands at 0.903 which implies that about 90% of the likelihood of a household being non-poor or poor by the respondents was strongly explained by the independent variables. Out of the nine independent variables entered during analysis, five have significant effects on the poverty status of the respondents. They include education level, farm size, membership of group, access to basic social amenities and credit. The findings reveal that, the coefficient of years of formal education (X₅) is positive and statistically significant at 5% level. The result shows that one additional year of schooling in the area raises the household's ability of being non-poor by about 0.91% and vice versa. The low magnitude of the coefficient may be attributed to the rural nature of the area and inadequacy of skilled labour employment opportunities. The result coincides with those of Apata *et al.* (2010), Adekoya (2014) and Olabode *et al.* (2015) who made similar findings in the whole South-west Nigeria. Similarly, the coefficient of Farm size (X₆) was statistically significant at 5% and exhibits a positive relationship with non-poor status of the respondents. This means that, as a household's farm size increases, the probability of being non-poor increases. Specifically, a unit increase in farm size will reduce the likelihood of being non-poor by about 0.84%. The implication of these findings is that increase in any one of the factors alone contributes to rather than reduce poverty entirely among farmers of the study area. This outcome is consistent with that of Asogwa *et al.* (2012) in Benue State, Nigeria. Again, empirical evidence on poverty incidence in Nigeria has shown that membership of group has a considerable influence on household poverty status (Asogwa *et al.*, 2012). In this study, membership of group (X₇) has a positive and statistically significant (5%) relationship with the probability of being non-poor. In fact, belonging to a group may reduce poverty by about 6% in the study area. This can be attributed to the fact that rural farmers access credit, training and also farm labour from such groups. The implication of this finding is that, development actors should encourage residents of this area to join such groups. Similarly, these groups should be supported and be made

effective to meet the needs of its members. In line with the *a priori* expectation, access to basic social amenities (X₈) was significant (5%) and have a positive relationship with the probability of being non-poor. This also lends credence to the findings of Apata *et al.* (2010) and Asogwa *et al.* (2012). Therefore, increase in the number of basic social amenities improves the quality of life of the people and reduces poverty by about 5%. The study further indicates that the relationship between access to credit and being non-poor is very strong and positively significant (at 1%). This finding is in line with the *a priori* expectation and suggestions by other recent literatures on poverty in the country (Apata *et al.*, 2010; Asogwa *et al.* 2012; Adekoya, 2014).

Table 4: Parameter estimates of determinants of poverty in the study area

Variable	Coefficient	Standard Error	Z-Statistic
Age(X ₁)	-9.952766	7.022749	-1.417218
Gender(X ₂)	0.032861	0.087402	0.375980
Marital status (X ₃)	-1.343445	2.620926	-0.512584
Household size (X ₄)	-0.366574	0.333058	-1.100630
Education level (X ₅)	0.907625	0.401343	2.261468*
Farm size (X ₆)	0.837684	0.478082	1.752178*
Coop. membership (X ₇)	5.916146	2.926043	2.021893*
Access to Amenities (X ₈)	5.308542	2.185035	2.429499*
Access to Credit (X ₉)	10.12642	3.814599	2.654649**
Constant	-14.93775	8.247702	-1.811140*

Source: Computer Output from E-views 5 software; *, ** = Significant at 5 and 1%, respectively.

Table 5: Frequency distribution of the respondents according to their constraints to poverty reduction (N=142)

Constraints	Frequency	Percentage (%)
Inadequacy of basic amenities	117	82.39
Inability to access credit	106	74.65
Lack of access to modern farm inputs	98	69.01
Leadership issues in groups	81	57.04
Distance to market	79	55.63

Source: Field Survey, 2014

Constraints to poverty reduction in the study area

The constraints faced by the respondents as shown on Table 5 indicate that; lack or inadequacy of basic social amenities (82%), lack of access to credit (74%) and inability to access modern farm inputs (69%) are topmost among the respondents' constraints. Conflict/unsatisfactory performance of groups and distance to market were also considered as constraints faced by the respondents.

Conclusion

The factors identified in the study include education level, farm size, membership of group, access to basic social amenities and credit have a significant influence on poverty in the study area. The findings indicated that poverty is prevalent in the Area with about 44% of the population below the established poverty line. The ability of the respondents to reduce poverty is constrained by some factors notably; lack or inadequacy of basic social amenities, lack of access to credit and their inability to access modern farm inputs. In view of the findings of this study, it is therefore recommended that: concerned development actors, especially the government at every tier to assist by providing basic infrastructure such as good

access roads, electricity, portable drinking water, health facilities, schools etc. This will make local markets accessible and also reduce the high cost of transportation in the area. In the same vein, financial institutions should provide innovative micro-credit packages accessible to these rural farmers. It is also imperative for these rural residents to be encouraged to form inclusive and effective groups that will assist in meeting their needs in terms of credit access, farm labour, acquisition of knowledge and affordable farm inputs at the right time among others.

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