



Poverty Status and Alleviation Strategies Adopted by Rural Households in Wushishi Local Government Area of Niger State, Nigeria

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ABSTRACT

This study examined the poverty status and alleviation strategies adopted by rural households in Wushishi Local Government Area of Niger State, Nigeria. Multi-stage sampling procedure was employed to select 140 rural households on which structured questionnaire was administered complemented with an interview schedule. Primary data collected were analysed with descriptive statistics such as frequency counts, percentages and mean, and inferential such as Probit regression. Foster, Greer and Thorbecke (FGT) model was used to determine the poverty status of the households. Findings from the study revealed that the mean age of the respondents was 43 years, mean household size was 10 people, mean farming experience was 20 years, mean farm size was 6.10 hectares and mean annual income was ₦604,381. About 93% of the respondents were males, 88.6% were married and 73.5% had formal education with a mean of 9 years in formal schooling. However, majority (97.1%) of the respondents had access to credit, while few (22.1%) of the respondents had contact with extension agents. Based on the estimated poverty line of ₦18,472.13, 45.7% of the households were found to be poor, while 54.3% were non-poor. Probit regression result revealed that household size (2.51, $p < 0.01$), education (-4.19, $p < 0.01$), farming experience (-1.86, $p < 0.10$), farm size (-2.22, $p < 0.05$), access to credit (-2.08, $p < 0.05$) and extension contact (-2.79, $p < 0.01$) significantly influences the likelihood of the rural household being poor. In terms of poverty alleviation strategies adopted by the rural households, crop diversification ($\bar{X} = 2.46$), mixed farming ($\bar{X} = 2.14$) and engagement in non-farm activities ($\bar{X} = 2.09$) ranked 1st, 2nd and 3rd, respectively among others. In conclusion, most of the rural households were non-poor which could be due to adoption of various poverty alleviation strategies in the study area. It was therefore recommended that extension agency should provide adequate extension services to the rural households that will help enhances poverty alleviation and boost agricultural production.

Keywords: Poverty status, alleviation strategies, rural households, respondents

INTRODUCTION

Poverty is one of the major problems of the world especially developing countries. One billion people in the world are living on less than one dollar a day, while 2.7 billion People are living on less than two dollars a day (UNICEF, 2016). Poverty has adverse effects on individuals and communities as it breeds social exclusion, isolation, fear, distress and deprivation (Backwith, 2015). According to Kwaghe and Amaza (2009), poverty is a worldwide phenomenon and it has been observed that Nigeria is one of the countries that is worst hit by the poverty. This situation is alarming as more than 43% (about 67 million) of the population live below the poverty line (World Bank, 2013).

Fundamentally, poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in the society (i.e. not having enough to feed and clothe the family, not having a school or clinic to attend, not having the land on which to grow food, not having access to credit and a job to earn one's living) (Bak and Larsen, 2015). The issue of poverty has been a major concern to many nations,

particularly the developing countries. Since independence in Nigeria, efforts at national and community development has been aimed at reducing poverty and promoting growth. Oshewolo (2010) reported that, Nigeria is richly endowed and the country's wealth potentials manifest in the forms of natural, geographical and socio-economic factors.

Absolute poverty, extreme poverty or abject poverty is a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information (Ravallion, 2013). In 2015, the World Bank defines extreme poverty as living on less than US\$1.90 per day and moderate poverty as less than \$2 or \$5 a day (Javed *et al.*, 2015). Poverty has been considered a real social phenomenon reflecting more on the consequences of a lack of income (Ferragina *et al.*, 2016). Bak & Larsen (2015) posited that, poverty has a strong correlation with income even though the use of income to measure poverty has been strongly disputed. Social participation and consumption pattern have become the crucial mechanisms through which people establish their identity and position in the society (Walker, 2014).

Various poverty alleviation strategies has been broadly categorized based on whether they enhanced the basic human needs available or increase the disposable income needed to purchase and satisfies needs. Some of the strategies like construction of roads can bring access to various basic needs such as education or healthcare from urban areas, as well as increase incomes by enhancing better access to urban markets (Adamson, 2012). Provision of improved agricultural technologies such as fertilizers, pesticides, new seed varieties and irrigation methods have dramatically reduced food shortages in modern times by boosting yields (Okuneye, 2014).

Rural households are major determinant of poverty in Nigeria (Kwaghe and Amaza, 2009). Meanwhile, the *apriori* expectation is that, consumption expenditure increases as household size increases. Thus, determinants of poverty provide information on the causes of poverty which could be analyzed looking at households over time. Olorunsanya and Omotesho (2011) in their study reported that female-headed households were more likely to be poor than the male-headed households. It was also reported that the poverty status of household headed by married people was higher than households headed by un-married people, while the poverty depth decreased for individuals in families whose heads have formal education.

Nigeria is rated as the eighth largest oil producing country in the world, yet it harbours the largest population of poor people in Sub-Saharan Africa and ranked 158th on the human development index (Oshewolo, 2010). There is also pervasive high-income inequality which has perpetuated the concentration of wealth in the hands of a few individuals (Action Aid Nigeria (AAN), 2009). Since poverty in Nigeria is found to be high among the rural households due to rise and fall in the economy, this affects the income of the rural farmers particularly in the study area. It was against the backdrop of aforementioned this study was conceived to examine the poverty status and alleviation strategies of rural households in Wushishi Local Government Area of Niger State, Nigeria. Thus, the following research objectives which were to describe the socio-economic characteristics of the rural household in the study area; determine the poverty status of the rural households, estimate the determinants of poverty among the rural households and examine the poverty alleviation strategies adopted by rural households in the study area.

METHODOLOGY

Study Area

The study was conducted in Wushishi Local Government Area (LGA) of Niger State, Nigeria. It is one of the twenty-five (25) LGAs of the State grouped into three agricultural zones I, II and III with each of the zone having 8, 9 and 8 LGAs, respectively (Ajayi *et al.*, 2016). Wushishi LGA which falls under agricultural zone III is located in the Middle-belt region of Nigeria with land area of 1,879-kilometer square. The LGA has a population of about 81,756 with 41,459 Males and 40,297 Females (National Population Commission (NPC), 2006). However, with population growth rate of 3.2% in Niger State, the projected population in the study area for 2019 was 146,084 with 73,894 males and 72,190 females. There are two distinct seasons, namely: the rainy season from April to October and dry season from November to March which could subjected to variation due to climatic conditions. The mean annual rainfall is about 1240 mm², while mean annual temperature was 34°C (Niger State Agricultural Mechanization and Development Authority (NAMDA), 2019). The vegetation zone is Guinea Savannah with shrubs, grasses and light vegetation. The people of Wushishi LGA are predominantly Gbagyi by tribe, with other minor tribes like dukawa and kambari. Agriculture is the major occupation of the people with few individuals into craftsmanship, artisan and civil service.

Sampling Procedures and Data Collection

Multi – stage sampling procedure was used to select the respondents for the study. The first stage was random selection of Wushishi LGA out of the 25 LGAs, while the second stage involved random selection of four rural communities and the third stage was proportionate sampling of 140 rural households based on sample frame

obtained for each communities selected using Yamane formula. Primary data was collected with the aid of structured questionnaire complimented with an interview schedule.

Analytical Techniques

The data collected were subjected to descriptive statistics (frequency count, percentages and mean) and inferential statistics (Probit regression) as well as Foster, Greer and Thorbecke (FGT) model. Attitudinal measuring scale such as Likert scale was used to measure the poverty alleviation strategies responses. Thus, 3–point Likert rating type scale of Highly Adopted (3), Adopted (2) and Not Adopted (1) was used to categorize the poverty alleviation strategies adopted by the respondents. The decision rule was based on mean score obtained by adding the points together (3 + 2 + 1 = 6) and divide by the number of points which is three (3) to get 2.0. Thus, computed mean value of greater than 2.0 implies adopted, while value of less than 2.0 implies not adopted.

Model Specification

Probit regression model

Probit regression model was used to estimate the determinants of poverty among the rural households in the study area. The model is used in estimating the probability of events based on dependent dichotomous variables. A dichotomous dependent variable assumes only two values (either zero or one). The implicit form of the Probit model is specified as:

$$Y = f(X_1, X_2, X_3, X_4, X_6, X_7, X_8, X_9, X_{10}, X_{11}) \quad (1)$$

The Probit regression model in its explicit form is expressed as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \dots + \beta_8 X_8 + e \quad (2)$$

Where;

Y = Poverty status of the rural households measured as 1 if non-poor, 0 if otherwise.

X₁ = Age (years)

X₂ = Marital status (1 if married; 0 if otherwise)

X₃ = Household size (number of household)

X₄ = Education (years of formal schooling)

X₅ = Farming experience (years)

X₆ = Farm size (hectare(s))

X₇ = Access of credit (₦)

X₈ = Extension contact (number of visits)

e = Error term

β₀ = Intercept

β₁ – β₈ = Coefficients of the independent variables

X₁ – X₈ = Independent variables

Foster, Greer and Thorbecke (FGT)

FGT model was used to decompose the rural households into various poverty statuses (non-poor and poor). The procedure entailed estimations using the farming household data set to establish the poverty line. The depth and severity of poverty will also be calculated using poverty indices. The FGT model as used by Foster *et al.* (1984) is given by:

$$P\alpha = \frac{1}{N} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)^\alpha \quad (3)$$

Where;

Pα = Poverty index (less than 1 is considered poor, while 1 and above is non-poor)

n = total number of households in population

q = the number of poor households below the poverty line

z = the poverty line for the household

y_i = household income

α = poverty aversion parameter and takes on value 0, 1, 2 representing incidence, depth and severity of the poverty respectively (Foster *et al.*, 1984). The measure relates to different dimensions of the incidence of poverty

RESULTS AND DISCUSSION

Socio-economic characteristics of the respondents

Socio-economic characteristics influences the thought, feelings and behaviours of farmers towards making decision in their daily farming activities. Some of the socio-economic characteristics of the respondents analyzed were age, gender, marital status, household size, educational status, farming experience, farm size and income. Table 1 revealed that majority (79.3%) of the respondents were within the age group of 31 – 60 years with mean age of 43 years. This implies that the respondents were in their most productive age where they could actively

carry out farming activities. This agrees with finding of Ajah and Ajah (2014) who reported that, the average age of the farmers in their study area was 43 years. Majority (92.9%) of the respondents were males, 7.1% were females. This implies that male are the dominant gender in farming in the study area. This agrees with the findings of Okere and Shittu (2012) who revealed that the males dominated the work force in Nigeria's agricultural communities.

Table 1: Socio-economic characteristics of the respondents (n = 140)

Variables	Frequency	Percentages	Mean
Age (years)			
< 31	20	14.3	43
31 – 40	42	30.0	
41 – 50	45	32.1	
51 – 60	24	17.2	
> 60	9	6.4	
Gender			
Male	130	92.9	
Female	10	7.1	
Marital Status			
Single	10	7.1	
Married	124	88.6	
Divorced	6	4.3	
Household Size			
< 6	29	20.7	10
6 – 10	53	37.9	
11 – 15	45	32.1	
> 15	13	9.3	
Education Status			
Tertiary	34	24.3	9
Secondary	45	32.1	
Primary	24	17.1	
No Formal	37	26.5	
Experience (years)			
< 6	29	20.7	20
6 – 10	53	37.9	
11 – 15	45	32.1	
> 15	13	9.3	
Farm Size (hectares)			
< 5.1	51	36.4	6.10
5.1 – 9.0	69	49.3	
> 9.0	20	14.3	
Income (₦)			
< 500,001	72	51.4	604,381
500,001 – 1,000,000	51	36.5	
1,000,001 – 1,500,000	8	5.7	
> 1,500,000	9	6.4	

Source: Field Survey, 2019

Majority (88.6%) of the respondents were married implying that they are individuals with sense of responsibility to provide for the needs of their families. This agrees with the findings of Afolami *et al.* (2012) who reported that majority of the respondents in their study area were married. Majority (70.0%) of the respondents had household size between 6–15 persons with mean household size of 10 persons implying a large household size which is very important in agricultural production. However, in most rural setting, large household is associated with poverty as their will be more mouth to feed. This result agrees with the findings of Okere and Shittu (2012) who posited that larger households are likely to experience poverty than smaller households.

In terms of education, 73.5% of the respondents acquired formal education (primary, secondary, and tertiary) with mean of 9 years of formal schooling. This implies that majority of the respondents are literate, hence could read and write. This result agrees with the findings of Awoniyi and Salma (2012) who posited that education of farming households help increases income earning and reduces poverty. More so, majority (70.0%) of the respondents had farming experience between 6–15 years with mean farming experience of 20 years. This implies that the respondents are experienced which is an asset in farming as it inspires farmers' rational decision-making with respect to inputs utilization for higher yield. This result agrees with findings of Ajayi *et al.* (2020) who reported that respondents in their study area were experienced farmers which help them set realistic production goals within the limit of available resources.

Meanwhile, about half (49.3%) of the respondents had farm size within the range of 5.1 – 9.0 hectares with mean farm size of 6.1 hectares. This implies that most of the respondents were small to medium scale farmers. This result agrees with the findings of Onyeneka (2017) who reported that most of his respondents were small to medium scale farmers. Also, more than half (51.4%) of the respondents earned an annual income of less than ₦500,000 with mean income of ₦604,381. This implies that the respondent earned a fairly good income annually which will go a long way to cater for the households need.

As revealed in Figure 1, majority (97.1%) of the respondents had access to credit with mean of ₦165,800 credit accessed, while only few (2.9%) of the respondents had no access to credit. This implies that access to credit is not a problem in the study area. Access to agriculture credit has the propensity to break vicious cycle of poverty and raise the purchasing power of farming households. However, only 22.1% of the respondents had contact with extension agents with mean contact of once annually, while majority (77.9%) of the respondents had no contact with extension agents. This implies that there was a poor contact with extension agents in the study area which one way or the other affects production output. Agricultural extension service constitutes a driving force for every agricultural development as extension agents are responsible for extension service delivery to rural farmers.

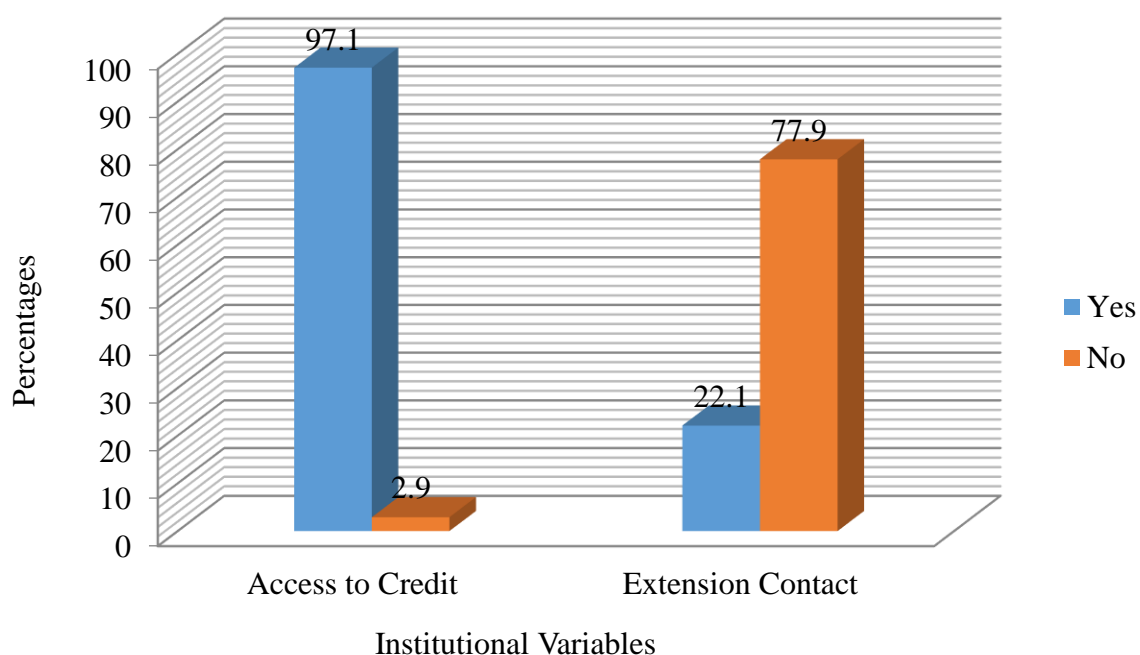


Figure 1: Distribution of respondents based on institutional variables assessed

Poverty status of the respondents

To determine the poverty status of the respondents in the study area, poverty line of ₦18,472 was computed at 2/3 mean per capita household income to separate the poor households from non – poor households and the result is presented in Table 2. It therefore revealed that 45.7% of the respondents were poor, while 54.3% were non-poor. This implies that some of the respondents in the study area were low income earners, hence their likelihood of being poor. The poverty incidence, gap and severity indices was found to be 0.46, 0.50 and 0.25, respectively. The 0.46 incidence of poverty represent the head count (about 46%) of those who fell below the poverty line, while the poverty gap of 0.50 implies that about 50% of the poverty line is required by the poor households to come out of poverty and poverty severity of 0.25 implies that 25% of the poor households are in situation of extremely being poor. Meanwhile, the poverty severity index does not takes into account only the distance separating the poor from the poverty line, but also the inequality among the poor. This result is in consonance

with the findings of Kwaghe and Amaza (2009) who reported 0.62 incidence of poverty, 0.44 poverty depth and 0.18 poverty severity. All these poverty indices (head count, poverty gap and severity) are the most frequently used measurements of poverty (Oladimeji, 2015).

Table 2: Distribution of respondents based on their poverty status

Poverty Status	Frequency	Percentages
Poor	64	45.71
Non-poor	76	54.29
Total	140	100.00

Poverty Indices

Poverty line/month = ₦18,472.13

Poverty incidence = 0.4571

Poverty gap = 0.50

Poverty severity = 0.25

Source: Field Survey, 2019

Determinants of Poverty among the Respondents

The Probit regression estimates on the determinants of poverty among the rural households in the study area is presented in Table 3. It revealed pseudo-R-square value of 0.8413 implying that about 84% variation in poverty status of the respondents was explained by the predictor variables specified in the model. The chi-square value of 159.81 at 1% level of probability and log likelihood of -15.0693 signifies the overall model goodness of fit. From the z – value of the regression, six variables (households, education, farming experience, farm size, access to credit and extension) out of the eight variables included in the model were found to be statistically significant at 10%, 5% and 1% level of probability.

The z-value of household size (2.51) was positive and significant at 1% level of probability implying a direct relationship with poverty status of the respondents. Thus, as the household size of the respondents increases, the likelihood of being poor increases. This could be attributed to the fact that larger household size requires more mouth to feed which increases the consumption needs and dependency ratio of the rural households. In a situation where the rural household could not meet up with the family demand, the likelihood of being poor increases. On the other hand, large household size tends to supply the needed family labour in agricultural production.

Table 3: Probit regression estimates on the determinants of poverty status

Variables	Coefficient	Standard error	Z value
Age	0.0135025	0.0410027	0.33
Marital	-0.1766758	0.94641	-0.19
Household size	0.2957603	0.1180435	2.51***
Education	-0.4643359	0.1107699	-4.19***
Experience	-0.1007282	0.0542879	-1.86*
Farm size	-0.2881516	0.1298349	-2.22**
Access to Credit	-1.710023	0.8234915	-2.08**
Extension Contact	-1.718495	0.6169312	-2.79***
Constant	-6.545133	1.898623	-3.45***
Pseudo R ²	0.8413		
Chi-squared	159.81		
Log likelihood	-15.0693		

Source: Field Survey, 2019

Note: *, ** and *** implies significant at 10%, 5% and 1% probability level, respectively.

The z-value of education (-4.19) was negative and significant at 1% level of probability indicating an inverse relationship with poverty status of the respondents. This implies that, as the education level of the respondents'

increases, the likelihood of being poor decreases. This means that acquiring education decreases the chances of an individual being poor as there is high hope that education place an individual in a better condition. Thus, the level of educational attainment by an individual enhances their ability to adopt various poverty alleviation strategies.

The z-value of farming experience (-1.86) was negative and significant at 10% level of probability indicating an inverse relationship with poverty status of the respondents. This implies that, as the farming experience of respondents increases, the likelihood of being poor decreases. It therefore means that farming experience decreases the situation of being poor as farmers will be able to diversify their income sources for increased income. In general, experienced farmers have a higher probability of engaging in livelihood diversification that could help alleviate poverty.

The z-value of farm size (-2.22) was negative and significant at 5% level of probability indicating an inverse relationship with poverty status of the respondents. This implies that, as the farm size of respondents' increases, the likelihood of being poor decreases. This is because large farm size allows for expansion of agricultural production for greater output which in turn increase farmers' income thereby reducing the poverty situation of the rural households.

The z-value of access to credit (-2.08) was negative and significant at 5% level of probability indicating an inverse relationship with poverty status of the respondents. This implies that, as access to credit by the respondent increases, the likelihood of being poor decreases. This could be attributed to the fact that access to credit enhances the capacity of rural households to acquire productive resources and invest in income generating activities that will alleviate their situation of being poor.

The z-value of extension contact (-2.79) was negative and significant at 1% level of probability indicating an inverse relationship with poverty status of the respondents. This implies that, as respondents have more contact with extension agents, the likelihood of being poor decreases. This is because the respondents' contact with extension agents enhances effective extension service delivery which is expected to boost the production output and productivity thereby alleviating their poverty situation.

However, the marginal effect of the Probit regression estimates as presented in Table 4 explained the contribution of each significant variables in the model in relation to the likelihood of the respondents being poor. The household size had a direct relationship; it therefore implies that a unit increase in the household size of the respondents, increase the likelihood of them being poor by about 2%. Meanwhile, other significant variables had an inverse relationship; a unit increase in educational status of the respondents, decrease the likelihood of being poor by about 3%; a unit increase in the farming experience of the respondents, decreases the likelihood of being poor by about 1%; a unit increase in farm size of the respondents, decreases the likelihood of being poor by about 2%; a unit increase in access to credit by the respondents, decreases the likelihood of being poor by about 10% and a unit increase in access to extension service by the respondents, increases the likelihood of being poor by about 10%.

Table 4: Marginal effect on the determinants of poverty status

Variables	Marginal effect	Z value
Household size	0.017434	2.71***
Education	0.0273709	-5.55***
Farming experience	0.0059376	-1.91*
Farm size	0.0169855	-2.41**
Access to credit	0.1007996	-2.27**
Extension contact	0.1012989	-3.06***

Source: Field Survey, 2019

Note: * implies significant at 10%, ** implies significant at 5% and *** implies significant at 1% probability level

Poverty Alleviation Strategies Adopted by the Respondents

The result of poverty alleviation strategies adopted in study area is presented in Table 5. The main poverty alleviation strategies adopted by the respondents were crop diversification ($\bar{X} = 2.46$), mixed farming ($\bar{X} = 2.14$) and non-farming activities ($\bar{X} = 2.09$) ranked 1st, 2nd and 3rd, respectively. This implies that the respondents engaged in both the farm and non-farm activities for poverty alleviation. Agriculture is the main source of

livelihood for rural households. Rural farmers are resource-poor that engaged in various farming systems (such as crop diversification, livestock diversification and mixed farming among others) and low wage non-farm economic activities for poverty alleviation. This result is in agreement with Birthal and Negi (2012) who posited that considerable expansion in crop and livestock production has higher impact on poverty reduction as most of the non-poor farm households in their study are those who diversified their livelihood into non-farm economic activities. Also, Zeeshan *et al.* (2019) found that participation in non-farm economic activities prevented farm households from falling into poverty, thus the need for greater investment in encouraging farm households to diversify their livelihood into non-farm economic activities to harness its pro-poor growth potential.

Other poverty alleviation strategies adopted were acquiring formal education ($\bar{X} = 2.06$), marketing of agricultural produce ($\bar{X} = 2.04$), participation in rural programmes ($\bar{X} = 2.02$) ranked 4th, 5th and 6th, respectively. Education is regarded as an investment in human capital needed to raise the skills and quality of an individual particularly in agricultural production. The level of educational attainment by an individual determines his ability to adopt different livelihood strategies for poverty alleviation. This agrees with the findings of Ajayi *et al.* (2020) who observed that higher education could enhance access to information on poverty alleviation strategies for better livelihood. Marketing of agricultural produce in the urban markets helps add value and price to the goods for higher income generation that could alleviate the poverty situation of an individual. Also, participation in agricultural programmes exposed people to lot of opportunities that could better their livelihood. According to Omoare and Oyediran (2017), rural infrastructures (good road network) play a vital role in empowering people, connecting communities and providing rural people with access to urban markets for value addition.

Table 5: Distribution of respondents based on poverty alleviation strategies adopted

Strategies	HA (3)	A (2)	NA (1)	WS	WM	Rank	Remark
Crop diversification	78(55.7)	48(34.3)	14(10.0)	344	2.46	1 st	Adopted
Mixed farming	34(24.3)	92(65.7)	14(10.0)	300	2.14	2 nd	Adopted
Non farming activities	45(32.1)	62(44.3)	33(23.6)	292	2.09	3 rd	Adopted
Acquiring formal education	36(25.7)	77(55.0)	37(19.3)	289	2.06	4 th	Adopted
Marketing of agricultural produce	30(21.4)	85(60.7)	25(17.9)	285	2.04	5 th	Adopted
Participation in rural programmes	35(25.0)	73(52.1)	32(22.9)	283	2.02	6 th	Adopted
Asset accumulation	30(21.4)	78(55.7)	32(22.9)	278	1.99	7 th	Not Adopted
Skills acquisition training	34(24.3)	70(50.0)	36(25.7)	278	1.99	7 th	Not Adopted
Urban migration	29(20.7)	61(43.6)	50(35.7)	259	1.85	8 th	Not Adopted
Borrowing from friends/relatives	24(17.1)	49(35.0)	67(47.9)	237	1.69	9 th	Not Adopted

Source: Field Survey, 2019

Note: Highly Adopted (HA) = 3, Adopted (A) = 2, Not Adopted (NA) = 1, WS=Weighted Sum and WM=Weighted Mean, Rmk = Remark. Bench Mean Score = 2.0

CONCLUSION AND RECOMMENDATIONS

Based on the empirical evidence from the findings of this study, it could be concluded that majority of the respondents were males, married and highly experienced in farming activities. Some of the respondents were found to fell below the poverty line, thus classified as poor. However, severity of poverty was lower among the rural household in the study area. Household size, education, experience, farm size, access to credit and extension contact were the determinant of poverty among the rural household in the study area. Poverty alleviation strategies adopted by rural households include crop diversification, mixed farming and non-farm activities. It was therefore recommended that extension agency should provide adequate extension services (transfer of agricultural technologies) to the rural households that will help boost agricultural production and enhances poverty alleviation. Also, Government and Non-Government organizations should intensify their poverty alleviation drive by adopting more practicable approaches that will benefit the communities.

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