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Assessment of Poverty Severity and its Determinants among Rural Farm Households in Southwest, Nigeria

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Abstract. Poverty still remains high among Nigerian rural households and this affects growth and productivity of the agriculture sector. The study examined factors determining poverty severity among rural farm households in Southwest Nigeria. Structured questionnaire was used to obtain primary data from 475 rural farm households through a multistage sampling technique. The study data were analysed using descriptive statistics; Foster, Greer and Thorbecke (FGT) index; and Tobit regression methods. Estimate of FGT based on US$1.25 per day showed that poverty incidence, depth and severity of the farm households were 0.79, 0.24 and 0.10 respectively. Majority (67.1%) of the households was poor based on poverty line of N49,781.29 per annum. About 19.7% of households' heads below 30 years and 12.3% of female headed households were severely poor. The poor families had 7-9 members or more. Poverty was more evident among farmers with primary education (11.5%). Non-farm-based households (10.8%), households with borrowed farmland (10.6%) and those cultivating below 2.0 hectares were severely deprived. The Tobit regression revealed that the likelihood of being poor as well as depth and severity of poverty were significantly reduced by education ($p<0.10$), and amount of credit obtained ($p<0.01$) while increase in age and household size contributed positively to poverty severity. Therefore, rural households need to adopt family planning. They should increase their farm size through cooperative efforts and farm mechanisation. Stakeholders should facilitate farmers' access to credit, extension service, and modern input delivery system in order to reduce poverty in the rural area.

Keywords: Poverty severity, Rural, Profile, farm size, Tobit model.

1. Introduction

Developing countries across the globe have continued to grapple with a number of problems ranging from poverty, widening inequality, food insecurity, environmental hazards to insecurity of lives and properties among others. More than 70 percent of total poverty is found in rural areas where majority of the inhabitants engage in agricultural production as the main source of livelihood (Olorunsanya, 2009). About 58.0% of worldwide death cases due to malnutrition, starvation and related diseases were estimated at 36 million (UNDP, 2008). The incidence of food insecurity and poverty are particularly devastating in the developing countries in spite of the resources being channeled to eradicate food insecurity and poverty by government and various international organizations (Babatunde et al., 2007).

Nord and Hopwood (2007) described food security as an important aspect in any consideration of the sustainability of the wealth of a nation. This is in view of its role as a critical factor in economic development, peace and stability. Food security is a complex and multidimensional phenomenon with poverty and it has long been used as an important macro-level indicator of agricultural stability and progress. The physical availability of food is a function of productive agriculture, effective trade infrastructure, and efficient food aid logistics (Obayelu, 2012). As food insecurity and poverty threatens, households employ coping strategies to mitigate the effects of inadequate food to meet the

household's needs. Though, poverty incidence has long-term detrimental effects on many poor people in term of severe reduction in food consumption, selling productive assets, reducing expenditures on basic needs such as health and education, and abnormal migration (Adegbega, 2009).
Meanwhile, Sub-Saharan Africa has been identified as the only region of the world in which chronic food insecurity and threats of famine remain endemic and the number of malnourished people is steadily increasing. However, rural area has been widely regarded as the main constituency of poverty (Olorunsanya and Omotesho, 2012). The low performance of agriculture sector does not only threaten the livelihood but it also affects the production capacity of natural resources base, accelerates environmental degradation and fails to address poverty and malnutrition (Ashley and Maxwell 2011).

Consequently, there is rising profile of poverty in Nigeria, which results in hunger, ignorance, malnutrition, disease, unemployment, poor access to credit facilities, and low life expectancy as well as a general level of human hopelessness despite the richly endowed resources and the country's wealth potentials in forms of natural, geographical, and socioeconomic factors (Abiola and Olaopa, 2008). The unexpected changes in climatic conditions particularly rainfall also has its attendant effects on food scarcity and income for the rural poor

Therefore, there is need for adequate knowledge about the characteristics and correlates of the poor to formulate effective policies and successfully implement sustainable projects for poverty reduction in the country. Against this background, the objectives of this study were to examine the factors determining poverty severity among rural farm households in the study area. Analyzing the recent trends of poverty and the level of household income are essential in order to provide information to guide the economic policy towards a sustainable poverty reduction. Deeper understanding of the existing level of poverty within farm households will permit planners to predict how participants will change in response to a particular farm innovation in the rural sector. It would also help policymakers to understand the benefits of project intervention that will trickle down to the concerned members of farm households.

2. Review of Literature

Poverty encompasses various dimensions of human deprivation including consumption and food security, health, education, rights, voice, security, dignity, and decent work. The statistics show that about 1.4 billion people, out of 6.5 billion around the world in 2005 lived on less than US$1.25 a day and were thus classified as extremely poor with over 850 million people going to bed without sufficient food (UNDP, 2008).

Lapriorea and Muechlhoff (2005) earlier stressed that over 70 percent of the Nigerian population live in the rural areas and below poverty line. Omotola (2008) observed that noticeable success has not been achieved in the direction of poverty reduction in spite of the huge human and material resources that have been devoted to it by successive governments. The poor condition is characterized by limited access to resources, subsistence production, and low opportunities for income generation. The difference between the rich and the poor, continue to increase among urban and rural areas as evident in there socioeconomic characteristics.

Okpe and Abu (2009) notably remarked that Nigeria has witnessed a monumental increase in the level of poverty. The Human Development Index (HDI) of 0.423 ranks the country 142 out of 169 countries in 2010 with estimated GNI per capita of $2156 and Multidimensional Poverty Index (MPI) of 0.368 (UNDP, 2010). The reason could be attributed to the wrong approach to rural poverty reduction which is centered on agricultural development without consideration for a holistic approach which gives the rural households access to the basic needs of life such as adequate food, drinkable water, health care, shelter, electricity, education and shelter among other infrastructural facilities (Edoumiekumo *et al*., 2014). For example, Khandker et al. (2009).found that access to rural electricity had an increasing effect on rural household's income thereby reducing household poverty in Bolivia

Oluwatayo (2008) reported that the variations in the level of income obtained by people within the rural areas are on the increase and could be linked to the growing dimension of poverty among the rural households. More so, the differential between rural and urban incomes, most times, accounts for the rural-urban migration and hinders food security. The main factors affecting household income include household size, age, gender of household members, composition of the household, education, health, social capital, assets ownership, and employment, among others. There are also community factors that significantly determine household income such as weather, prices and infrastructure (Benin and Randriamamonj, 2008).

Tuyen et al. (2014) found that the size and composition of households are closely associated with household income. Household size and dependency ratio significantly reduced household income per capita thereby leading to incidence of poverty. Adenegan *et al* (2007) and Babatunde *et al* (2007) found a positive relationship between income and food consumption. They stated that the percentage of food insecure households was increasing because of inequalities in income and poverty status of majority of the rural households. Cuong (2008) confirmed that access of rural households to both formal and informal credit improved their living standards while increased farm size had a positive effect on household income. The survey of Haggblade *et al.*(2007) confirmed that incomes from the non-farm economic activities account for about 35% of rural incomes in Africa and about 50% in Asia.

Meanwhile, Senadza (2013) pointed out that non-farm income constituted a greater share of total income for richer households compared to poorer households. But, high productivity in non-farm activities generally accrue to wealthier households because the poor usually do not have the skills, contacts and assets required for accessing such jobs. The diverse economic activities in rural areas allow accumulation of capital investments in small scale enterprises. It also offers more income portfolios for rural households.

Agwu and Orji (2013) investigated income inequalities and food security status of farmers in Abia State, Nigeria. They reported that there was high income inequality in the study area and the majority 68.6% of the respondents were food insecure. Penda and Asogwa (2011) argued that growth can only have a meaningful impact on poverty when it occurs in sectors in which a large proportion of the poor derive their livelihood. Meanwhile, agricultural sector remains the important sector in rural Nigeria where more than 70 percent of the population derive their livelihood.

Mendola, (2007) affirmed that the root causes of inefficient farm household behavior are market failure or behavioral response to risk, which is exacerbated by income inequality and poverty. Behavioral responses to risk indicated that poverty also influences the *ex-ante* ability to reduce uncertainty at the household level. He explained that there is exposure to uninsured risk which affects investment decisions among farm households. This process may produce *poverty traps*, in which poor farmers are forced to forego risky but more profitable opportunities by which they can move out of poverty. In the same vein, Kurt (2011) stated that economic growth or production efficiency would solve the problem of poverty.

Ogwumike and Akinnibosun (2016) concluded that policies should take the peculiar features of the zones into consideration in advancing measures to reduce poverty. Therefore, government policies should aim at promoting rapid economic growth through development of rural infrastructure in order to reduce poverty.

3. Methodology

3.1 The Study Area

The study area is South-west geo-political zone of Nigeria, Thezone comprises of six States namely; Lagos, Ogun, Oyo, Osun, Ondo, and Ekiti State and it covers about 114, 271 kilometres square or 12 percent of Nigeria's total land mass (Adepoju *et al*., 2011). The total population of the Southwest is 27,581,992 who are mainly Yoruba ethnic group and predominantly agrarian (NPC, 2007). The climate has two distinct seasons namely wet and dry seasons, characterized by minimum rainfall of 1211mm and a maximum of 1264mm, mean temperature of 27 ^{0}C and daily sunshine powers of 4.4 from August to February. The average monthly temperature ranges from 18^0-24^0C during the rainy season and 30^0-35^0C during the dry season. Therefore, several million metric-tonnes of food crops areproduced in the region annually including cassava, maize, yam, melon and fruits such as mango, pineapple, citrus, spicesand vegetable among others.

Figure 1: Map of Nigeria Showing the Southwest Geopolitical Zone.

3.2 Method of Data Collection and Sampling Technique

Primary data were basically used in this study with secondary data sourced from research publications like bulletins, journals, conference papers and monographs. The primary data were collected using questionnaire which were administered through personal contact and interview schedule with the respondents. Data were obtained on the socioeconomic characteristics of the farming households, farm and non-farm activities and income from the livelihood sources.

The respondents were selected through a multistage sampling technique. In the first stage, two (2) States namely Oyo and Ogun States were selected for the study from Southwest geopolitical zone of Nigeria. In the second stage, two (2) agricultural zones namely Ibadan/ Ibarapa (rain forest) and Ogbomosho (Guinea savannah) representing two different agro-ecological zones were selected in Oyo State while Ikenne and Ilaro Agricultural zones were selected in Ogun State. Subsequently, two (2) agricultural blocks were selected from each of the agricultural zones while three cells / farming communities were selected from each block. A sample of twelve (12) to fifteen (15) farmers was randomly selected for interview from each of the farming communities. Responses from a total of four hundred and seventy-five farmers (475) were used in the data analyses based on completeness of responses.

3.3 Analytical Techniques

The poverty profile of the households was captured by estimating the poverty indices against the socioeconomic characteristics of the households' head such as age, education, per capita income, major occupation, marital status and household size etc (Omotola, 2008). The Foster-Greer-Thorbecke (FGT) poverty measure was adopted in line with Oyinbo amd Olaleye (2016) as follows;

$$P_\alpha = \frac{1}{n}\sum_{i=i}^{q}\left(\frac{Z-y_i}{Z}\right)^\alpha$$

Where; $\boldsymbol{\alpha}$ = Poverty aversion parameter
n = Total number of households in the sample,q = Total number of poor households,
Z = Poverty line and y_i= Income of households below poverty line *i =1, 2, ...q.*

According to Hagos and Holden (2002), the FGT class of poverty measure is found to meet the fundamental axiomatic requirements of consistency and additive decomposability among other indices developed for poverty measures.The head count ratio index that measures the incidence of poverty in the sample i.e. the proportion of the poor is given as;
$\boldsymbol{\alpha} = 0 \longrightarrow P_0 = \frac{q}{n}$.

The poverty gap estimates of the average distance separating the poor from the poverty line. The gap could be understood as the amount of income transfer needed to close up the gap and it is measures as;
$\boldsymbol{\alpha} = 1 \longrightarrow P_1 = \frac{1}{nz}\sum_{i=1}^{q}(Z - y_i)$.
The measure of the severity of poverty is given as;

$\alpha = 2 \longrightarrow P_2 = \frac{1}{nZ^2} \sum_{i=1}^{q} (z - y_I)^2$

It depicts the severity of poverty by assigning each individual a weight equal to his or her distance from poverty line. Hence, P_2 takes into account not only the distance separating the poor from the poverty line, but also the inequality among the poor.

3.4 Poverty Status of Rural Farm Households in the Study Area

The income-poverty approach was adapted in measuring the poverty status of the rural farm households.according to the international standard of U.S. $1.25 per day in income. The majority of national governments and development agencies use the income-poverty approach for their analyses of poverty and anti-poverty policies (Garba, 2006). A relative poverty line was constructed based on the Mean Per Capita Household Income (MPCHI) of the households. This method is in line with Oyinbo and Olaleye (2016). The head count ratio was used to calculate the number of households whose members have MPCHI below the poverty line (Edoumiekumo et al., 2014).

3.5 Tobit Regression Model

The Tobit model (Tobin,1958) was use to examine the determinants of poverty among the rural farm households following Asogwa *et al*. (2012) and .Oyinbo and Olaleye (2016). The Tobit model is expressed as:

$X_i \beta = Y_i^* + u_i$, $\quad i = 1, 2, 3\ldots, n$

$Y_i = Y_i^* \quad if \quad Y_i^* > 0$

$Y_i = 0 \quad if \quad Y_i^* \leq 0$

The standard Tobit model is more appropriate than OLS estimates for the cornerstone solution and it is possible to include continuous and binary explanatory variables in the model (Haji, 2006. and Yimer, 2011). The Tobit estimating equation of the model is given as:

$Y_i^* = \beta_0 + \sum_{i=1} \beta_i X_i + u_i$.

Explicitly, the equation is specified as;

$Y = (P_i / 1-P_i) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \ldots + \beta_{14} X_{14} + ei$

Where;

Y = The head count ratio index that measures poverty severity of farm households

X_1 = age of the household's head,

X_2 = age square of the household's head,

X_3 = gender of the household's head (1, if male and 0, if otherwise),

X_4 = household size (number of persons in a household)

X_5 = education of the household's head (year),

X_6 = primary occupation of the household head (1, if farming and; 0, if otherwise)

X_7 = farming experience of respondents (years)

X_8 = size of cultivated farm (hectares)

X_9 =extension contact

X_{10} =farm distance km

X_{11} =proportion of inherited land (size of inherited farmland divided by total farm size cultivated in hectare)

X_{12} =proportion of female labour per household (quantity of female worker divided by total number of farm worker)

X_{13} =non-farm income share (amount of income from non-farm activities divided by total household income)

X_{14} =amount of credit obtained (naira)

4. Results and Discussion

The relative household income was estimated as the mean value which measures the poverty line of the rural households in the study area. The results in Table 1 shows that the poverty line is N49,781.29 per annum. This shows that majority (67.1%) of the rural farm households was poor while 32.8% was non-poor. The mean income per person/day was further estimated at ₦ 136.39. This is an equivalent of U.S. $1.0371 per person / day which is below the international standard of U.S. $1.25 per day. In spite of this, the poor could not afford balanced food requirements apart from other basic needs such as health care, good shelter and productive assets.

Table 1: Distribution of Rural Farm Households by Poverty Status

Poverty Status	Estimate	Percentage
Poverty line per annum	₦ 49,781.29	
Poor	319	67.16
Non-poor	156	32.84
Total	475	100

Results of field data, 2017

4.1 Poverty Profile of the Rural Farm Households

The poverty profile of the households was examined by estimating the poverty indices against the socioeconomic characteristics of the households' head using the Foster-Greer-Thorbecke (FGT) measuring index.

The estimates revealed that 80.0% of households' heads below 30 years of age had poverty incidence and 19.7% were severely deprived while 84.9% of farmers aged above 60 years were prone to poverty with 11.4 % in poverty severity.. This poor condition could reduce the access of youths below 30 years to productive resources and lead to low productivity in the agriculture sector.

Female headed household (87.5%) were prone to poverty incidence with 12.3% vegetating in severe poverty. Poverty severity could hinder the participation of rural women in adoption of innovation, farm production, agricultural processing and marketing. More so, 100.0% of single-headed households were experiencing poverty incidence with 7.4% in severe poverty. Similarly, 83.3% of the poor households' heads was either a widow(er) or separated with 10.8% severely deprived. The findings also showed that 100.0% of the poor families had 7-9 members or more. The evidence of poverty severity among large households could be due to high dependency ratio and consumption of larger proportion of their farm output with little or no marketable surplus for income generation.

Farmers with primary education (85.7%) and those with tertiary education (100.0%) were prone to poverty incidence while 11.5% and 12.0% of them were suffering in severe poverty respectively. This could be attributed to inadequate knowledge among primary school leavers while those with tertiary education were probably pensioners whose productivity and income declined due to age.

Meanwhile, 82.2% of non-farm-based households were poor with 10.8% in poverty severity vegetating at equivalent per capita income of US$0.9584 per person/day. About 80.2% of farmers that borrowed farmland and 73.3% of those that purchased land were poor while 10.6% and 15.7% of them were experiencing poverty severity respectively. The mode of land acquisition implies limited access to farmland which could militate against increased farm production or farm mechanisation and reduced household income.

The estimates further showed that poverty was more pronounced among small farm holders (80.5%) cultivating 1-2 hectares while 8.3% of them were trapped in severe poverty. Probably, this was as a result of low farm size, low marketable surplus and farm income and lack of modern farm practices, among others. However, traditional method of farming is associated with low productivity and low returns.

Table 8: Household Poverty Profile and Per Capital Income

Characteristics	Per capita Income		FGT Poverty Indices		
	Naira/year	US$/day	P_0 Incidence	P_1 Depth	P_2 Severity
Mean per Household	49,781.2946	1.0371	0.7933	0.2369	0.0970
Age of Heads					
Below 30	37,508.3500	0.7814	0.8000	0.3881	0.1966
31- 40	50,506.6633	1.0522	0.8776	0.2090	0.0795
41-50	52,991.0433	1.1040	0.7629	0.2288	0.1066
51-60	54,382.2417	1.1330	0.6786	0.1638	0.0596
Above 60	43,940.6817	0.9154	0.8495	0.2960	0.1136
Gender of Heads					
Male	50,574.0469	1.0536	0.7778	0.2296	0.0922
Female	45,619.3452	0.9504	0.8750	0.2754	0.1225
Marital Status					
Single	47,748.8889	0.9948	1.0000	0.2042	0.0736
Married	52,842.5149	1.1009	0.6515	0.1763	0.0598
Once Married	48,917.8735	1.0191	0.8333	0.2540	0.1075
Household Size					
≤ 3	75,254.7959	1.5678	0.4082	0.0183	0.0009
4-6	53,683.7160	1.1184	0.7557	0.1554	0.0519

7-9	34,210.1394	0.7127	1.0000	0.4298	0.2002
≥ 10	36,100.5231	0.7521	1.0000	0.3983	0.1647
Year of Schooling					
No Formal Education	53,870.3163	1.1223	0.8605	0.1601	0.0541
6.00	45,131.4704	0.9402	0.8571	0.2740	0.1149
12.00	57,440.4711	1.1967	0.5851	0.1957	0.0832
≥ 15.00	41,998.0801	0.8750	1.0000	0.3000	0.1201
Primary Occupation					
Farm-based	73,658.6949	1.5346	0.6098	0.0810	0.0303
Non-Farm-based	46,001.4745	0.9584	0.8224	0.2616	0.1076
Mode of Land Acquisition					
Leased Farmland	72,317.9205	1.5066	0.7188	0.0727	0.0238
Purchased Farmland	47,460.9761	0.9888	0.7333	0.3349	0.1573
Borrowed Farmland	47,090.3542	0.9810	0.8022	0.2565	0.1058
Farm size					
Below 1Ha	52,096.7318	1.0853	0.8077	0.2880	0.1327
1-2Ha	48,941.8585	1.0196	0.8050	0.2158	0.0831
Above 2Ha	49,203.2541	1.0251	0.6364	0.2480	0.0969

Result of Field Data, 2017

4.2 Factors Influencing Poverty Severity among the Rural Farm Households

The results in table 3 show the estimate of the Tobit model for factors influencing poverty incidence, poverty depth and poverty severity among the respondents. The F-value of the model and regression parameters are significant at $p<0.01$ indicating that the model has significant explanatory power of the fitted data. The estimates of poverty severity were selected for interpretation.

The results show that age of the household head has a significant coefficient (0.0152) at $p<0.01$ showing positive relationship with poverty. This implies that poverty depth of the households increased with increase in age. The coefficient of age-square (-0.0002) is significant ($p<0.01$) but negative indicating a reduce effect on household poverty. This probably implies that some household's heads are young in the life cycle and were non-poor due to their active age to generate adequate income for a good living.

Household size (0.0506) contributed positively to the poverty severity among the households at significant level of $p<0.01$. This could be attributed to large family size or high dependency ratio and its consequence on per capita income. More so, a large farm household would consume a larger proportion of the farm output leading to little or no marketable surplus for income generation. However, education (-0.0013) had a negative relationship with poverty at $p<0.10$ significant level implying that higher education reduces poverty depth among the farmers. This could be attributed to the role of education in the adoption of new farming innovations. The coefficient of primary occupation (0.0722) revealed that primary occupation in non-farm activities significantly increased poverty severity of the rural farm households at $p<0.01$. This implies that farming contributed the largest proportion of the household income.

Farming experience (0.0018) had positive and significant relationship with poverty at $p<0.05$. This implies that the farmers did not have adequate knowledge in modern farm practices that could be beneficiary to increased level of farm income. This indicates that extension services and training are necessary to the farmers through group and personal contacts.

Farm distance (-0.0015) also has negative and significant ($p<0.01$) relationship with poverty depth among the households. This is possibly due to ownership of multiple farms perhaps due to farm diversification and risk reduction thereby leading to increased income earning. The coefficient of non-farm income share (-0.6039) significantly ($p<0.01$) reduced the poverty depth of the households. This means that income from non-farm sources was important in augmenting the income of the rural farm households in order to reduce poverty.

Meanwhile, coefficient of credit obtained by farmers (-0.0014) also had asignificant reducing effect on poverty among the households at p<0.01. Thus, credit use had increasing effect on farm production or increased farm size thereby enhancing per capita income of the households.

Table 3: Tobit Model Estimates for Determinants of Poverty Severity

Explanatory Variable	Likelihood of Poverty P_0		Depth P_1		Severity P_2	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	5.3031***	10.30	0.5656***	6.68	0.2090***	3.42
Age	0.0258*	1.66	0.0153***	4.27	0.0152***	5.91
Age square	-0.0003**	-1.96	-0.0001***	-3.99	-0.0002***	-5.74
Gender	0.1864***	3.22	0.0329***	2.63	0.0074	0.71
Household size	0.1077***	10.26	0.0889***	41.55	0.0506***	25.1
Education	-0.0203***	-5.45	-0.0016**	-2.11	-0.0013*	-1.83
Primary occupation	-0.2299*	-1.83	0.0927*	1.89	0.0722***	4.41
Farm experience	0.0047	0.81	-0.0004	-0.31	0.0018**	1.96
Farm size	-0.0737***	-5.24	-0.0005	-0.14	0.0004	0.11
Extension contact	0.0786	1.33	-0.0211*	-1.81	-0.0045	-0.5
Farm distance km	-0.0039**	-2.05	-0.0019***	-4.83	-0.0015***	-5.14
Proportion of inherited land	0.3324**	2.52	0.0374	0.55	0.0156	0.79
Proportion of female labour	-0.6762***	-5.19	0.0262	0.94	0.0289	1.32
Non-Farm income share	-0.1501	-0.49	-1.1395***	-11.48	-0.6039***	-14.16
Amount of credit	-0.0019***	-5.17	-0.0023***	-17.13	-0.0014***	-17.74
Sigmaσ	0.0502		0.0553		0.0384	
Log pseudo likelihood	270.3600		322.9286		423.8264	
Pseudo R^2	5.8090		5.8689		3.8486	
F-value	30.75***		299.21***		121.03***	
No. of observation	300		300		300	

Result of Field Data, 2017 Significant ***(p<0.01) **(p<0.05) *(p<0.10)

5. Conclusion and Recommendation

The findings of this study revealed that majority (67.1%) of the rural farm households heads were poor comprising of youths below 30 years of age, women and single parents. Poverty severity was pronounced among farmers that were aged above 60 years, farmers with low level of education, farmers with, at least, a household size of 7 members, those that borrowed or have limited access to farmland and farm holders of less than two (2) hectares. However, high level of education and amount of credit accessed had significant reduction effect on poverty.

Therefore, rural households should adopt family planning to control the family size. Cultivated farm size should be increased through cooperative efforts and farm mechanisation. Youths and women should be encouraged into farming and related activities through training and empowerment programmes. Stakeholders should facilitate farmers' access to credit, extension service, and modern input delivery system in order to reduce poverty in the rural area.

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