Journal of Community & Communication Research
ISSN: 2635-3318
Volume 9, Number 1, June 2024
Accessible at: https://jccr.sccdr.org

ANALYSIS OF POVERTY STATUS AMONG SMALLHOLDER RICE FARMERS IN KANO STATE, NIGERIA.

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ABSTRACT

The study examined the poverty status among smallholder rice farmers in Kano State, Nigeria. A multistage sampling technique was used to select 210 smallholder rice farmers from a population of 914 smallholder rice farmers using a well-structured questionnaire. Data were analyzed using Descriptive statistics, a Multi-dimensional Poverty Index, and a Logit regression model. The results revealed that the households which ranged between 5.55 - 19 were not multidimensional poor represented 18.57%. Households that ranged between 20 - 33.3 were near multidimensional poor but not exactly multi-dimensional poor representing 46.19%, and households that ranged between 33.4 - 50 were multi-dimensional poor representing 27.62%, while households that ranged between 50-72.15 were in multidimensional poor, representing 7.61 %. The factors influencing the multidimensional poverty status of smallholder rice farmers in Kano State were household size ($p<0.1$), farm size ($p<0.1$), and cooperative membership ($p<0.1$). It was concluded that the majority of the smallholder rice farmers in the study area were multi-dimensionally poor. The study recommended that the fewer rice farmers identified as non-poor should intensify their rice production and other income-generating activities, to be above the poverty line to avoid falling into poverty easily either by the occurrence of natural disaster or any form of shock in the enterprise

Keywords: Poverty Status, Smallholders, Farmers, Kano.

INTRODUCTION

Nigeria is considered one of the poorest and most unequal societies globally. Empirical evidence and reports appear to support this stance (Mbanasor *et al*, 2014; Ajakaiye *et al*., 2016; Anderson *et al.*, 2016; Eigbiremolen, 2018; Kharas *et al*, 2018; Kataya and Wadhwa, 2019; and National Bureau of Statistic, 2020). Moreover, the rising poverty figure in the country further confirms this. For instance, as cited by Dauda (2017), the National Bureau of Statistics (NBS, 2012) shows that the proportion of Nigerians considered moderately and extremely poor rose from 21% and 6.2% in 1980 to 34.2% and 12.1% respectively in 1985. By 2010, approximately 30.3% and 38.7% of the country's population remained moderately and extremely poor in that order. Similarly, the number of people in absolute poverty increased from 17.1 million in 1980 to 34.7 million in 1985, and by 1986, it had surged to 67.1 million and about 112.47 million in 2010. Nevertheless, the figure has declined to 84.0 million in 2019 (NBS, 2020). UNDP (2016) has argued that measuring poverty from one dimension like income may not reveal "more about the depth and overlapping nature of people's non-income deprivations." It is therefore imperative to view poverty from a multidimensional aspect, and this explains why the Multidimensional Poverty Index (MPI) was introduced. However, available evidence on non-monetary measures of poverty in Nigeria places the country among the poorest nations globally. It is apparent that Nigeria is nonetheless battling with a high poverty burden, given the greater proportion of her population in various forms of multidimensional poverty (Rasaki *et al*, 2021). Mgbakor *et al*, (2013) asserted that this situation causes capital constraints for productive activities, inability to increase production levels and also diminishes household risk bearing ability. As a result, the farmer is unable to upgrade from peasantry to large-scale agriculture, which is a most desired transition, especially during this period of agricultural development efforts to increase self-sufficiency in food production and diversify the country's economy from its mono-commodity status. A typical Nigerian farmer is indeed credit-constrained (Omonona *et al*, 2010) and has difficulty in obtaining formal loans (Anyiro, 2015). These conditions (partly) explain the state of the nation's food crop production subsector (Lipton, 2013) and the current economic recession. There is therefore, the need to critically examine the determinants of poverty status among Rice farmers with a view to targeting such factors in any poverty alleviation programme aimed at improving the productivity of smallholder rice farmers. As a results, the study aimed to achieve the following objectives; determine the poverty status of the smallholder rice farmers and determine the socio-economic factors influencing poverty status among the smallholder rice producers.

METHODOLOGY

The Study Area

Kano State is located in the North Western region of Nigeria. The State has been a commercial and agricultural State, which is known for the production of groundnuts as well as for its solid mineral deposits. It has a total land area of 20,760 square kilometers with 1,754,200 hectares of fertile agricultural land; of which 85,600 is exclusively fadama land. About 75,000 hectares are made up of grazing lands (Olofin *et al.,* 2008). Administratively, the State is divided into 44 Local Government Areas. The state leads with over 13 million people in the latest official figures (NBS 2018).

Some of the crops grown in the area include Rice, Wheat, Maize, Millet, Tomato, Onion, Sugarcane, Cucumber, Cabbage, and Watermelon. The State is the most significant and biggest among the commercial centers found in North Nigeria. It grants a steady and continuous market for both semi-processed and manufactured products.

Sampling Procedure

A multistage sampling technique was used. In the first stage, three major rice producing Local Government Areas (Kura, Garun Mallam, and Bunkure) were purposively selected out of the 44 Local Government Areas in the State based on a high concentration of rice production area in the State. Secondly, major rice producing Wards were purposively chosen from each of the selected Local Government Areas based on the highest number of producers of the targeted crop. Thirdly, major rice producing villages were purposively selected from the chosen Wards based on the highest concentration of smallholder rice farmers. Furthermore, by using the Raosoft sample size calculator at a 90 % confidence level, a sample size of 210 smallholder rice farmers from a population size of 914 smallholder rice farmers was used. The sample size for each village was randomly selected which involved the simple random selection of 210 smallholder rice farmers. See Table 1.

Table 1. The proportion of Smallholder rice farmers selected from Wards and Villages

LGAs	Wards	Villages	Sample frame	Sample size
1. Kura	Dan Hassan	Katsinawa	115	25
	Dukawa	Kunshama	96	22
	Dalili	Fegin Yawo	102	24
2. Garun Malam	Dakasoye	Dakasoye	99	23
	Kadawa	Kadawa	111	26
	Chiromawa	Chiromawa	105	24
3. Bunkure	Bunkure	Zangon Buhari	100	23
	Gafam	Gafam	91	21
	Gwamma	Tsamabaki	95	22
Total			**914**	**210**

Source: (Local Government Areas Department of Agriculture)

The data used for this study were mainly from primary sources that involved face-to-face interviews through the use of a structured questionnaire, with the help of trained enumerators who understood the local language. The analytical tools used in achieving the objectives of this study were descriptive statistics, **the** Multi-dimensional Poverty Index, and the Logistic Regression Model

RESULTS AND DISCUSSION

Poverty Status of Smallholder Rice Producers in the Study Area

The global Multidimensional Poverty Index (MPI) is an international measure of acute multidimensional poverty covering over 100 developing countries. It complements traditional monetary poverty measures by capturing the acute deprivations in health, education, and standards of living that a person faces simultaneously. The results of the poverty status are presented in Table 2.

The results in Table 2 revealed that households that ranged between 5.55 – 19, were not multidimensional poor represented by 18.57%, households that ranged between 20 - 33.3 were near multidimensional poverty, but not exactly multi-dimensional poor represented by 46.19%, and households which ranged between 33.4 – 50 were in multi-dimensional poor, represented by 27.62%, while household that ranged 50 - 72.15 were in multidimensional poor represent by only 7.61 percent. This result was based on the indicator of multidimensional poverty cutoff of 33.3% which was equivalent to 1/3 of the weighted indicators which was used to distinguish between the poor and non-poor among the smallholder rice farmers in the study area. The study

further discovered the result of the total headcount ratio of poverty in the study area, which showed that the total headcount ratio was 65.90% implying that 65.90% of people in the study area lived in poor households. This result showed a severe multidimensional poverty situation in the study area. The result of the Intensity of poverty indicated that the average poor rice farmer person was deprived in 42.94% of the weighted indicators, while the multidimensional poverty index value indicated that 28.30% of the population of smallholder rice farmers were multidimensional poor in the study area. This implied that only a few percent of the smallholder rice farmers in the study area were not multidimensional poor. The implication of this finding to the small holder rice farmers in the study area was that the rice farmers will not be able to access formal credit facilities easily, due to the lack of collateral security required by the financial institutes that will help them to access the credit facilities and boost their rice farming productivity. Most of the financial institutions will require collateral security before granting credit facilities to the farmers, so as to safeguard their money. This will result in low productivity as well as the rate of output of the smallholder rice farmers in the study area. This is in line with the findings of Danaan, (2018) in his study Analyzing Poverty in Nigeria through Theoretical Lenses who asserted that no matter how hard successive governments both military and democratic have tried to reduce poverty, it has been to no avail. Thus, poverty is a major impediment to Nigeria's socio-economic development and has been persevered despite various interventions.

Table 2: Poverty Status of Smallholder Rice Producers in the Study Area.

Grouping of rice farmers household respondents based on multidimensional poverty index (MPI)	Frequency	Percentage
5.55 - 19	39	18.57
Non-multidimensional poor		
20 - 33.3	97	46.19
Population Near multidimensional poverty		
33.4 - 50	58	27.62
Population in multidimensional poor		
50 - 72.15	16	7.61
Population in severely multidimensional poor		
Total	210	100.00
Headcount ratio (incidence)		65.90
Intensity of poverty		42.94
Multidimensional poverty index (MPI) value		28.30

Source: (Field survey, 2020).

Note: A cutoff of 33.3% which is equivalent to 1/3 of the weighted indicators was used to distinguish between the poor and non-poor among the smallholder rice farmers

Factors Influencing Multidimensional Poverty Status of Smallholder Rice Farmers in Kano State

The results of logistic regression analysis of factors influencing poverty status of smallholder rice farmers in Kano state are presented in Table 3.

From the results in Table 3, the likelihood ratio test was 180.648 with one degree of freedom. This implied that variables included in the model had a significant influence on poverty status and the Cox & Snell R Square was 0.119 which implied that about 11.90% of the variation in the poverty status of smallholder rice farmers was explained by the explanatory variables included in the model. The chi-square statistics value of 26.719 was significant at the 5% level, which implied that the model was the best fit for the expression and an indication of the overall significance of the regression. The positive values of the coefficient implied that increasing the

independent variables by one unit would increase the poverty level by the value of the coefficient, while negative values of the coefficient implied that increasing the independent variable by one unit would reduce the poverty level by the value of the coefficient. The study depicted that the coefficient of household size was positive with a value of 0.076 and significant at the 10% level. This implied that a unit increase in the household size would increase the poverty level of smallholder rice farmers by a magnitude of 0.076. This conformed to *a prior* expectation. This agrees with the findings of Ajewole, *et al,* (2016) in their study on gender analysis of poverty among rice farming households in Nigeria's rice hub, that Household size was significant for the male and female-headed households at 1% and 10% respectively. A unit increase in the household size by 1 % will increase the level of poverty by 0.26. The female-headed households however will be more affected by increase in the household size, a unit increase in the household size of the female-headed household will increase the poverty by 0.86. This suggests that large households do not necessarily mean high productivity, especially when the increase is an increase in dependency ratio and not active labour. Innovation in rice farming can better be an option to increase the income from productivity instead of increasing the family population. The coefficient of farm size was negative -0.284 and significant at a 10% level. This implied that a unit increase in the farm size will decreases the poverty level of smallholder rice farmers by 0.284. This confirmed the findings of Ajewole, *et al,* (2016) that the Area of upland cultivated for rice production is significant for the female-headed household head at 10%. An increase in the unit of upland farming practice will reduce the incidence, depth, and severity of poverty in female-headed households by 3.57%.

The coefficient of cooperative membership was also negative and significant at the 10% level with a value of -1.187. This implied that a unit increase in the cooperative membership will decreases the poverty level of smallholder rice farmers by -1.187. The other variables such as marital status, educational level, and access to credit facilities were negative but not significance at any level. This is in line with *a prior* expectation that any additional unit of such variables will decreases the level of poverty. The coefficient of credit utilization and off farm income was positive but not significance at any level which is not in line with a prior expectation that any additional unit of such variable will increase the level of poverty.

Table 3: Factors Influencing Multidimensional Poverty Status of Smallholder Rice Farmers in Kano State

Variables	B	S.E.	Wald	Df	Sig.	Exp(B)
Marital Status	-0.346	0.543	0.406	1	0.524	0.708
Household Size	0.076	0.040	3.542	1	0.060*	1.079
Educational level	-0.012	0.168	0.005	1	0.943	0.988
Farm Size	-0.284	0.134	4.480	1	0.034*	0.753
Cooperative Membership	-1.187	0.428	7.677	1	0.006**	0.305
Access to credit	-0.694	0.428	2.622	1	0.105	0.500
Credit utilization	0.000	0.000	0.122	1	0.727	1.000
Off-farm Income	0.000	0.000	1.962	1	0.161	1.000
Constant	4.789	1.542	9.643	1	0.002**	120.194
Number of observations	210					
-2 Log likelihood	180.648					
Cox & Snell R Square	0.119					
Nagelkerke R Square	0.190					
Chi-square	26.719**					

Source: (Field Survey, 2020).

CONCLUSION AND RECOMMENDATION

Based on the findings of this study, it can be inferred that the majority of the smallholder rice farmers in the study area were multi-dimensionally poor. The factors significantly influencing the multi-dimensional poverty status of the smallholder rice farmers were household size, farm size, and membership of the cooperative society. It is recommended that smallholder rice farmers should diversify their income-generating activities, to help them acquire more income that would put them out of the poverty line.

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