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MULTIDIMENSIONAL POVERTY AMONG RURAL HOUSEHOLDS IN OGUN STATE, NIGERIA

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Abstract. This study was carried out to estimate factors influencing the multidimensional poverty status of rural households in Ogun State, Nigeria. A multistage sampling technique was used to select 240 rural households. Data was obtained through the use of a structured interview schedule, and was analyzed with descriptive techniques, multidimensional poverty index and logistic regression models. The result revealed that 69% of the rural households are multidimensionally poor. It was found that (on average) the rural poor households were deprived in 41% of the weighted indicators. Another finding is that rural households were deprived in 28% of total deprivations they could experience. It was also revealed that deprivation in infrastructure contributed most to the total deprivation experienced, followed by deprivation in living standard, social capital, health and education. The study further found that household size ($p < 0.05$), gender ($p < 0.01$), off-farm income ($p < 0.1$), availability of community health extension workers ($p < 0.05$) and availability of public market ($p < 0.1$) significantly influence the poverty status of rural households. The study concluded that an increase in household size increases the likelihood of being multidimensionally poor while an increase in off-farm income, access to public market and health extension services reduce the likelihood of being poor. The study recommended that rural farmers diversify their livelihood sources into off-farm activities during their lean periods as this will be instrumental in reducing their poverty status. Also, infrastructural facilities such as good healthcare services and public markets should be put in place as this will go a long way in reducing the poverty status of the rural farmers.

Keywords: poverty, Multidimensional Poverty Index, logistic regression

INTRODUCTION

Poverty is the most dehumanizing aspect of life; it is a problem facing every nation of the world as pointed out by Chen and Ravallion (2010). In its multidimensional nature, Chukwuma (2013) define poverty as the source of all human and social ills capable of constraining the creative ability of man, making him think of just mere existence. UNDP (2014) estimated the multidimensional poverty headcount for 91 developing countries to be 1.5 billion people, thus suggesting that a significantly high number of people are multidimensionally poor. In 2017, the Oxford Poverty and Human Development Initiative (OPHI) observed that 17.5% of Nigerians remained vulnerable to poverty while 32.8% lived in severe poverty (OPHI, 2017). In Nigeria, poverty is especially severe in rural areas where social services and infrastructural facilities are limited (IFAD, 2012). Poverty incidence in rural Nigeria rose from 68.4% to 70% between 2008 and 2017 (OPHI, 2017). The agricultural sector that used to be the backbone of the Nigerian economy had suffered neglect since the discovery of crude oil in the 1960s, and had failed to contribute significantly to poverty alleviation, women empowerment and improved human nutrition through the provision of balanced diets. Unfortunately, Nigeria has risen from a low poverty level status in the 1960s to become the country with the highest poverty level in the world (Olawale, 2018). Efforts are now been

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made by the government to restore agriculture back to its original status before the oil boom to and stamp out food insecurity and poverty (Ojo and Adebayo, 2012). Successive governments have adopted various poverty alleviation strategies such as National Accelerated Food Production Project (NAFPP), Operation Feed the Nation (OFN), Agricultural Development Program (ADP), Structural Adjustment Program (SAP), National Poverty Eradication Program (NAPEP), National Economic Empowerment and Development Strategy (NEEDS), National Fadama Development Project I, II and III, Community Social Development Projects, Seven Point Agenda, Vision 20:2020, Millennium Development Goals (MDG), Agricultural Transformation Agenda (ATA) and Agricultural Promotion Policy (APP). Sadly, these strategies have failed to achieve the objectives for which they were established. The failure of these measures has been ascribed to political and policy instability, lack of mechanisms for the sustainability of the programs and lack of effective targeting mechanisms for the poor (Obadan, 2001; Garba, 2006; Adepoju, 2018). Targeting mechanisms become effective in poverty alleviation efforts if poverty is treated as being multidimensional. However, proper identification of the most vulnerable households and better understanding of the determinants of incidence and severity of poverty experienced by the people will help achieving desirable outcomes. It is against this background that this research is carried out, although there is growing literature on multidimensional poverty and its determinants in Nigeria. Available studies include Oyekale and Oyekale (2013), Adeoti (2014), Amao et al. (2017), Adepoju (2018) and Aboaba et al. (2019). These authors focus on multidimensional poverty on a countrywide basis whereas research on multidimensional poverty at state level is scarce, particularly in Ogun State. Hence, this study attempts to estimate multidimensional poverty among rural households in Ogun State using the Alkire–Santos method. It was identified as essential in assessing individual welfare because it is related to Sen's concept of the capability approach. This study will describe the socioeconomic characteristics of rural households, estimate the multidimensional poverty indices, identify the contribution of different dimensions to poverty intensity, and estimate the factors influencing the multidimensional poverty status of rural households.

LITERATURE REVIEW

The African Development Bank Group (AfDBG, 2015) reported that Nigeria made up 26.2% of the Sub-Saharan African (SSA) poor as at 2010, with a national poverty rate of 68.0%. This assertion was confirmed in a study by Alkire and Housseini (2014) who estimated that 71.2 million Nigerians are multidimensionally poor; this represents 15.4% of the total number of Sub-Saharan African (SSA) poor. The European Commission Joint Research Center (EC, 2014) used Multidimensional Poverty at regional level (MPI-reg) to measure the poverty level in 23 European Union (EU) countries in 2010, 24 EU countries in 2007 and 2011, and 25 countries in 2008 and 2009. The results show that the level of poverty in the EU ranges from 2–3% to 15–25%, with Denmark and Sweden being unequivocally the least poor countries, and Latvia, Bulgaria and Romania the poorest ones. Dudek and Lisicka (2015) used the income and expenditure approach to measure the poverty status of employed households in Poland based on data from the Household Budget Survey (HBS). They reported that household size, living in a rural area and being a blue-collar worker are variables positively correlated with the probability of being poor while secondary education and residence in cities are negatively correlated. Amao et al. (2017) analyzed multidimensional poverty and its determinants in Nigeria using the Alkire and Foster approach. They found that the headcount poverty ratio was 78.1% when the cut-off level is 30 as compared to 58.8% for a cut-off level of 40 and 23.6% for a cut-off level of 60. The result further revealed that living conditions contributed the most (59.9%) to multidimensional poverty, followed by education (14.3%), health (13.4%) and assets (12.4%). Similarly, Aboaba et al. (2019) used a tobit regression model to analyze the influence of livelihood diversification on multidimensional poverty using cross-sectional data from diversified farmers. The result revealed that the multidimensional headcount ratio was 31%, the incidence of poverty was 50% and the MPI was 16%. They further found that gender ($p < 0.01$), level of diversification ($p < 0.05$) and membership of cooperative society ($p < 0.1$) negatively affect the poverty status while years of formal education ($p < 0.1$) positively affects multidimensional poverty.

METHODOLOGY

Study area, sampling techniques and sample size

The study was carried out in Ogun State, the southwest geopolitical zone of Nigeria. A multistage sampling technique was used for this study. The first stage involves a purposive selection of one (1) block from each of the four (4) Agricultural Development Project (ADP) zones in the state. The second stage consists in a purposive selection of a cell from each of the selected blocks. The third stage is a random selection of three (3) villages from each of the selected cells. The last stage involves a purposive selection of twenty (20) rural households from each of the selected cells, making a total sample size of two hundred and forty (240) respondents. However, during data cleanup, only two hundred and twenty five (225) questionnaires were found to be fit for analysis.

Data source, type and collection method

Data for this study was obtained from a primary source (i.e. rural households) through the use of a structured interview schedule or guide. This study collected data on such socioeconomic characteristics as age, gender, education level, household size, primary occupation, secondary occupation, income, etc. Also asked were questions on the rural households' poverty status, such as school enrolment rate, adult literacy rate, living standards etc.

Table 1. Dimensions, indicator thresholds and weights of the Multidimensional Poverty Index

Dimensions	Indicators	Weight
Health	At least one household member does not take three square meals a day	1/10
	The household had one or more children within the age bracket of 0–5 years dead	1/10
Education	No household member has completed six years of school	1/10
	At least one school-age child is not attending school in year 1 to 6	1/10
Standard of living	The household is not connected to the national electricity grid	1/30
	The household does not have access to clean drinking water (i.e. boreholes, hand pump, tap water, covered well, protected spring or rainwater); clean drinking water is within a walking distance of 30 minutes (round-trip)	1/30
	The household does not have access to adequate sanitation (i.e. water closet, pit latrine, pan/bucket latrine)	1/30
	The household uses "dirty" cooking fuel (dung, wood or charcoal)	1/30
	The house has a dirt floor (non-concrete floor, mud or thatched floor)	1/30
	The household owns no more than one of these assets: car, truck or similar motorized vehicle, bicycle, motorcycle, radio, refrigerator, telephone or television, farm assets, ownership of home	1/30
Infrastructure	No hospital within 2 km distance from home	1/20
	No market in the neighbourhood to display produce	1/20
	Unavailability of an all-season road	1/20
	The household does not have access to good transport facilities	1/20
Social capital	Household can't get support from those than family members in times of hardship	1/15
	The household is being excluded from social and cultural activities	1/15
	The household does not have control in making decisions that affect their everyday life	1/15

Source: elaboration based on Alkire et al., 2011.

Analytical technique and model specification

Data for this study was analyzed using both descriptive and econometric techniques. Descriptive techniques employed include: frequency counts, percentages, means, and standard deviation; the econometric technique employed was logistic regression analysis.

Multidimensional Poverty Index

This measure was first developed in 2007 in an effort to construct poverty measurement methods that could be used with discrete and qualitative data as well as continuous and cardinal data. Theoretically, it aimed at re-examine the identification step (addressing the question 'who is poor?'). This poses a much greater challenge when there are multiple dimensions. The Multidimensional Poverty Index (MPI) provides an aggregated poverty measure that reflects the prevalence of poverty and the joint distribution of deprivations. Also, it complements money-based measures by considering multiple deprivations and their overlap. Based on the MPI by (Alkire et al., 2011), two dimensions and seven indicators were added to the 3 dimensions and 10 indicators in order to better capture the multidimensional poverty in the study area. These additional dimensions are infrastructure and social capital while the indicators include transportation facilities, hospitals, market, roads, groups and networks, information and communication, empowerment and political actions. The maximum score is 100% (or 1), with each dimension (Education, Health, Standard of Living, Infrastructure and Social Capital) being equally weighted.

Multidimensional poverty indices

Multidimensional headcount ratio (H)

The headcount is the proportion of people who are poor; the multidimensional head count ratio (*H*) is expressed as:

$$H = \frac{q}{n} \qquad (1)$$

with q as the number of multi-dimensionally poor, and n as the total population.

Intensity (or breadth) of poverty (A)

It is the average deprivation score for the multidimensionally poor and can be expressed as:

$$A = \frac{\sum_{i=1}^{n} c_i(k)}{q} \qquad (2)$$

where:

$c_i(k)$ is the censored deprivation score of individual i, and q is the number of multidimensionally poor.

Following Alkire et al. (2011) and Aboaba et al. (2019), the Multidimensional Poverty Index is mathematically expressed as:

$$MPI = H \times A \qquad (3)$$

A household was considered multidimensionally poor if it had a total deprivation of no less than 20% (or 0.2) because it shows that the household had been deprived in one or more of the weighted dimensions.

Logistic regression model

Logistic regression was used to estimate the determinants of rural poverty status. The poverty status of rural households was determined by the Multi-dimensional Poverty Index (MPI). Following Gujarati (2004) and Green (2005), the functional form of the logit model is specified as follows:

$$P(Y_i = 1) = \frac{1}{1 + e^{-zi}} \qquad (4)$$

where:

$P(Y_i = 1)$ is the probability that a household is multidimensionally poor

$P(Y_i = 0)$ is the probability that a household is not multidimensionally poor

z_i is the function of a vector of explanatory variables.

Then, $1 - P(Y_i = 1)$ represents the probability that households are multidimensionally poor.

$$1 - P(Y_i = 1) = \frac{1}{1 + e^{-zi}} \qquad (5)$$

$$\frac{P(Y_i = 1)}{1 - P(Y_i = 1)} = e^{zi} \qquad (6)$$

Equation (7) is the ratio between the probability that a household is multi-dimensionally poor and the probability a household is not multidimensionally poor, taking the natural logarithm of equation (6)

$$L_i = L_n \frac{P(Y_i = 1) = Z_i}{1 - P(Y_i = 1)} \qquad (7)$$

$$Z_i = \delta_0 + \delta_1 X_1 + \delta_2 X_2 + \delta_3 X_3 + \delta_4 X_4 + \delta_5 X_5 + \delta_6 X_6 + \delta_7 X_7 + \delta_8 X_8 + \varepsilon_0 \qquad (8)$$

where:

Z = poverty status of rural households (poor = 1, non-poor = 0)

X_1 = age of farmers (years)

X_2 = level of education (years)

X_3 = household size (number of people)

X_4 = gender (male = 1, female = 0)

X_5 = marital status (married = 1, otherwise = 0)

X_6 = farming experience (years)

X_7 = off-farm income (NGN)

X_8 = membership of a farmer association (member = 1, otherwise = 0)

Z_9 = contact with a community health extension worker (had contact = 1, otherwise = 0)

Z_{10} = availability of public market (available = 1, otherwise = 0)

ε_0 = error term

$\delta_1, \delta_2 \ldots \delta_{10}$ are the parameters to be estimated

δ_0 = intercept

However, for a comprehensive interpretation of the coefficients of the logistic regression model, Gujarati (2004) and Green (2005) suggested the derivation of the marginal effects of independent variables. Hence, marginal values of the explanatory variables were estimated to show their predictive power. According to Green (2005), by differentiating equation (8), the marginal effect will be obtained as:

$$\delta_j = \frac{\partial P_i}{\delta X_i} = P_j[\beta_j - \sum_{k=0}^{j} P_k \beta_k] = P_j[\beta_j - в] \qquad (9)$$

RESULTS AND DISCUSSION

Socioeconomic characteristics

Table 1 revealed that majority (73.33%) of rural households were headed by a male while 26.67% were female-headed. Gender distribution has an implication on the level of the household income; the dominance of males over females may be attributed to the fact that farming work is tedious and requires strength beyond what a female may be able to provide (Adetunji et al., 2007). Also, most men are saddled with the sole responsibility of catering for the food needs of their family; this conforms with the finding of Ahmed et al. (2015). Most (39.56%) rural household heads are over 60; 4.89% are below 30 years old; 13.78% are within the age bracket of 31–40 years old; 20.89% are within the age bracket of 41–50 years old; and 20.89% are within the age bracket of 51–60 years old. The average age of the rural household heads was ca. 54 years, implying

that most rural household heads are old, not energetic and non-vibrant. This suggests that their productivity might have started to decline, which is consistent with

Table 2. Socioeconomic characteristics of the respondents

Variable	Frequency	Percentage	Mean	Standard deviation
Gender				
Female	60	26.67		
Male	165	73.33		
Total	225	100.00		
Age				
≤ 30 years	11	4.89	54	14.102
31–40 years	31	13.78		
41–50 years	47	20.89		
51–60 years	47	20.89		
> 60 years	89	39.56		
Total	225	100.00		
Marital status				
Single	17	7.56		
Married	131	58.22		
Divorced	55	24.44		
Widowed	22	9.78		
Total	225	100.00		
Household size				
1–3 persons	32	14.22	6	2.439
4–6 persons	99	44.00		
6–9 persons	80	35.56		
9–12 persons	14	6.22		
Total	225	100.00		
Cultivated area				
≤ 1 ha	54	24.00	3.02	2.768
1.1–5 ha	150	66.67		
5.1–10 ha	14	6.22		
> 10 ha	7	3.11		
Total	225	100.00		

Source: computed from field survey data, 2018.

the findings of Sauerborn et al. (1996) and World Bank (1993) that economic productivity of an individual rises from early twenties to around 40 and declines steadily afterwards. The study revealed that majority (58.22%) of rural household heads were married, 7.56% were single, 24.44% were divorced while 9.78% were widowed. This shows that most of the households were married and implies that most household heads are mature, responsible to cater for their households and have a clear knowledge of their wellbeing. They also have an implanted sense of responsibility as marital status prompts commitment to business because of the family needs that must be met; this would subsequently enhance productivity. The survey revealed that most (44%) rural households were composed of 4–6 persons, 14.22% had between 1–3 persons, 35.56% had between 6–9 persons while 6.22% had between 9–12 persons. The mean household size was ca. 6 persons, implying that most rural household heads had many household members to help them on their farms in order to minimize labor costs and maximize profits. This result agrees with the findings of Ezeibe et al. (2015) and Oparinde et al. (2018) who reported that the mean size of sampled households was 6 persons. The result revealed that majority (66.67%) of rural household heads cultivated between 1.1–5 hectares of land, 24% cultivated less than one hectare of land, 6.22% cultivated between 5.1–10 hectares of land while 3.11% cultivated more than 10 hectares of land. The mean area of cultivated land was ca. 3 hectares, implying that most rural farmers were smallholders. This may have an influence on their productivity and poverty status. The above results support the findings by Osabuohien et al. (2018) who reported that rural farmers in Ogun State are smallholders with an average farm size of 2 hectares.

Multidimensional poverty status of rural households

The estimates of the multidimensional poverty index are presented in Table 3. The multidimensional poverty index was used to determine the poverty level of rural households in the study area. The result revealed that the multidimensional headcount ratio was 0.69 which implies that 69% of rural households are multidimensionally poor. Hence, 69% of people live in households with a malnourished person, no clean water, no electricity, no good healthcare services, no education, a dirt floor, unimproved sanitation, inadequate infrastructures, etc. The above is in line with the findings of Amao et al. (2017)

Table 3. Multidimensional poverty indices of rural households

Variable	Value
Deprivation cut-off (c)	0.20
Total deprivation score (k)	370.093
Multidimensionally poor people (q)	908
Total population (n)	1 324
Multidimensional headcount ratio (H)	0.69
Poverty intensity (A)	0.41
Multidimensional Poverty Index (MPI)	0.28

Source: computed from field survey data, 2018.

according to whom the multidimensional headcount ratio in southwest Nigeria was 67.4%. It also supports the findings of Adekoya (2014) who discovered that the prevalence of poverty among farm households in Ogun State was high (78.1%). In turn, this result is above the 26.4% poverty incidence in Ogun State reported by the Oxford Poverty and Human Development Index (OPHI, 2017). The intensity of poverty among rural households in the study area was 0.41, implying that (on average) the rural poor households were deprived in 41% of the weighted indicators. This means they are deprived in 41% of clean water, electricity, education, health services, improved sanitation, etc. The above result is similar to the findings by Oxford Poverty and Human Development Initiatives (OPHI, 2017) which revealed that poverty intensity in Ogun State was 42.5%. This is also similar to the findings of Amao et al. (2017) according to whom poverty intensity in southwest Nigeria was 47.2%. However, this is below the level reported by Adekoya (2014) who claimed that the poverty intensity among farm households in Ogun State was 55.8%. The multidimensional poverty index was 0.28 which implies that rural households are deprived in 28% of the total deprivations they could experience. These findings differ from those of OPHI (2017) and Amao et al. (2017) who found that the multidimensional poverty status in Ogun State and southwest Nigeria is 11.2% and 31.8%, respectively.

Relative contribution of dimensions to poverty intensity

Table 4 below revealed that the following deprivations contributed to poverty intensity: education (7.31%),

Table 4. Contribution of dimensions to poverty intensity

Variable	Deprivation score	Intensity	Relative contribution
Education	27.1	0.03	7.31
Health	38.8	0.04	9.76
Standard of living	99.495	0.11	26.83
Infrastructure	114.65	0.13	31.71
Social capital	90.048	0.10	24.39
Total	370.093	0.41	100.00

Source: computed from field survey data, 2018.

health (9.76%), living standard (26.83%), infrastructure (31.7%) and social capital (24.39%). These results show that infrastructure contributed most to poverty intensity followed by living standard, social capital, health and education. This implies that deprivation in infrastructural facilities such as good roads, hospitals, markets etc. contributed most to poverty intensity among rural households in the study area.

Relative contribution of dimensions to Multidimensional Poverty Index (MPI)

Table 5 revealed that deprivation in infrastructure contributed most (31.12%) to the total deprivation experienced, followed by deprivation in living standard (28.57%), deprivation in social capital (25%), deprivation in health (10.71%) and deprivation in education (7.14%). This implies that deprivation in infrastructural

Table 5. Contribution of dimensions to Multidimensional Poverty Index (MPI)

Variable	Multidimensional Poverty Index	Relative contribution
Education	0.02	7.14
Health	0.03	10.71
Standard of living	0.08	28.57
Infrastructure	0.09	31.12
Social capital	0.07	25.00
Total	0.28	100.00

Source: computed from field survey data, 2018.

facilities contributed most to the multidimensional poverty index of rural households in the study area.

Factors affecting the poverty status of rural households

A logit regression model was used to estimate the factors affecting the poverty status of rural households in the study area. MPI was used to categorize households into poor and non-poor. Households with a deprivation cut-off greater than or equal to 0.2 are considered poor while households with a deprivation cut-off below 0.2 are considered non-poor. The result as shown in Table 6 below revealed that the chi-square value of 43.60 means the variables in the model are fit to explain the determinants of the poverty status of rural households. Also, the probability value of 0.0000 for the chi-square shows the overall significance of the model at a 1% probability level ($p < 0.01$). The pseudo R-squared revealed that 18.07% of variation in poverty status of rural households was jointly explained by the significant explanatory variables. The result also revealed that household size ($p < 0.05$), gender ($p < 0.01$), off-farm income ($p < 0.1$), community health extension worker ($p < 0.05$) and availability of public market ($p < 0.1$) have significant effects on the poverty status of rural households in the study area. The marginal effects of household size revealed that an increase in household size increases the probability of being poor by 3.39%. This implies that the larger the household, the higher the probability of being poor. The above is in line with the findings by Okurut et al. (2002), Gang et al. (2002), Bokosi (2006), Anyanwu (2010), Masood and Iqbal (2010) and Adekoya (2014) who reported a positive relationship between household size and probability of being poor. The marginal effects

Table 6. Logistic regression estimates of determinants of poverty status of rural households

Variable	Marginal effects	Coefficient	Standard error	t-value	p-value
Age	0.0013692	0.0075374	0.0160361	0.47	0.638
Education level	0.0019638	0.0108108	0.0379274	0.29	0.776
Household size	0.0338776	0.1864968**	0.0760321	2.45	0.014
Gender	−0.455455	−2.50728***	0.4829231	−5.19	0.000
Marital status	−0.0175371	−0.096542	0.3570244	−0.27	0.787
Farming experience	0.0001664	0.0009161	0.0144224	0.06	0.949
Off-farm income	−6.87e–07	3.78e–06*	2.08e–06	−1.82	0.069
Membership of farmer associations	−0.0677365	−0.372891	0.3796054	−0.98	0.326
Community health extension worker	−0.1547144	−0.851706**	0.3471226	−2.45	0.014
Public market	−0.1420457	−0.7819646*	0.434154	−1.80	0.072
Constant		1.564154*	0.8686549	1.80	0.072
Diagnostic test					
Wald chi^2(10)	43.60				
Prob > chi^2	0.0000				
Pseudo R^2	0.1807				
Log likelihood	−120.44789				
Number of observations	225				

Source: computed from field survey data, 2018.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

of gender showed that male-headed households are less likely to be poor. This implies that the poverty level of male-headed households would be 45.55% lower compared to female-headed households. This may be because male-headed households have greater access to productive capital and assets than their female-headed counterparts. The above corroborates the findings by Adeoti (2014), Adekoya (2014) and Amao et al. (2017). The marginal effects of off-farm income revealed that an increase in off-farm income reduces the likelihood of being poor. This is consistent with the findings by Amao et al. (2017) who reported that off-farm income is inversely correlated to the poverty status of rural Nigerians. The marginal effects of access to health extension workers revealed that the poverty status of rural farmers that have access to a community health extension worker is likely to reduce by 15.47% compared to their counterparts that have no access to health extension workers. The marginal effects of access to public

market revealed that the poverty status of rural farmers that have access to public market is likely to reduce by 14.21% compared to their counterparts that have no access to public markets.

CONCLUSION AND RECOMMENDATIONS

This study was carried out to estimate factors influencing the multidimensional poverty status of rural households based on the classical and neo-classical theories and on the social exclusion theory of poverty. The findings revealed that most rural farmers were aged males with a fairly large household size. The study also found that the multidimensional headcount ratio was 0.69 which implies that 69% of the rural households are multidimensionally poor. This means that 69% of people live in households with a malnourished person, no clean water, no electricity, no good healthcare services, no

education, a dirt floor, unimproved sanitation or inadequate infrastructure. The findings further revealed that poverty intensity was 0.41, implying that (on average) the rural poor households were deprived in 41% of the weighted indicators, that is they were deprived in 41% of clean water, electricity, education, health services, improved sanitation, etc. The result revealed that the multidimensional poverty index was 0.28 which implies that rural households were deprived in 28% of the total deprivations they could experience.

It was revealed that deprivation in infrastructure contributed most (31.12%) to the total deprivation experienced, followed by deprivation in living standard (28.57%), social capital (25%), health (10.71%) and education (7.14%). The result revealed that household size ($p < 0.05$), gender ($p < 0.01$), off-farm income ($p < 0.1$), availability of community health extension workers ($p < 0.05$) and availability of public market ($p < 0.1$) significantly influence the poverty status of rural households. The study concluded that an increase in household size increases the likelihood of being multidimensionally poor while an increase in off-farm income and access to public market and health extension services reduce the likelihood of being poor. The study recommended that rural farmers engage themselves in off-farm activities during their lean periods as this will be instrumental in reducing their poverty status. Also, infrastructural facilities such as good healthcare services and public markets should be put in place as this will go a long way in reducing the poverty status of the rural farmers.

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REFERENCES

Aboaba, K. O., Adenle, S. M., Sowunmi, E. O., Akinade, A. I. (2019). Nexus between Poverty and Livelihood Diversification among Rural Households in Nigeria: A Multidimensional Poverty Index Approach. Int. J. Adv. Res. Pub., 3(5), 168–175.

Adekoya, O. A. (2014). Analysis of Farm Households Poverty Status in Ogun States, Nigeria. Asian Econ. Fin. Rev., 4(3), 325–340.

Adeoti, A. I. (2014). Trend and determinants of multidimensional poverty in Rural Nigeria. J. Dev. Agric. Econ, 6(5), 220–231.

Adepoju, A. (2018). Determinants of Multidimensional Poverty Transitions among Rural Households in Nigeria. 30th International Conference of Agricultural Economist, Vancouver.

Adetunji, M. O., Olaniyi, O. A., Raufu, M. O. (2007). Assessment of Benefits Derived by Cocoa Farmers from Cocoa Development Unit Activities of Oyo State. J. Human Ecol., 22(3), 211–214.

AfDBG (2015). Eliminating extreme poverty in Nigeria. Working paper series no 223. African Development Bank Group.

Ahmed, F. F., Eugene, C. E., Abah, P. O. (2015). Analysis of Food Security among Farming Households in Borno State, Nigeria. J. Agric. Econ. Env. Social Sci., 1(1), 130–141.

Alkire, S., Housseini, B. (2014). Multidimensional Poverty in Sub-Saharan Africa: Levels and Trends. OPHI working papers no 81.

Alkire, S., Roche, J. M., Santos, M. E., Seth, S. (2011). Multidimensional Index 2011. Brief Methodological Note. Oxford Poverty and Human Development Initiative.

Amao, O. J., Ayantoye, K., Fanifosi, E. G. (2017). An analysis of multidimensional poverty and its determinants in rural Nigeria. J. Dev. Agric. Econ., 9(11), 303–311.

Anyanwu, J. D. (2010). Poverty in Nigeria: A gendered analysis. Afr. Stat. J., 11, 1–15.

Bokosi, F. K. (2006). Household poverty dynamics in Malawi. MPRA Paper No.1222. Retrieved March 2011. Available from: http:// mpra.ub.uni-muenchen.de/1222.

Chen, S., Ravallion, M. (2010). The Developing World is Poorer than we Thought, but no Less Successful in the Fight against Poverty. Quart. J. Econ., 125(4), 1577–1625.

Chukwuma, D. C. (2013). Poverty Trap in Nigeria. A Multidimensional perspective. Department of Economics. Awka, Nigeria: Nnamdi Azikiwe University.

Dudek, H., Lisicka, I. (2015). Determinants of poverty – binary logit model with interaction terms approach. Retrieved Nov 21st 2019 from: https://www.researchgate.net/publication/270285045

EC (2014). Monitoring multidimensional poverty in the regions of the European Union. Joint Research Centre science and policy report. Luxembourg: European Commission.

Ezeibe, A. B., Edafiogho, D. O., Okonkwo, N. A., Okide, C. C. (2015). Gender differences and challenges in cassava production and processing in Abia State, Nigeria. Afr. J. Agric. Res., 10(22), 2259–2266.

Gang, I. N., Sen, K., Yun, M. S. (2002). Caste, ethnicity and poverty in rural India. Departmental Working Paper No. 200634. New Brunswick Rutgers University.

Garba, A. (2006). Alleviating Poverty in Northern Nigeria. A Paper presented at the annual convention of Zumunta Association, Minneapolis, MN, USA, July 28-29.

Greene, W. H. (2005). Econometric Analysis. New York: Pearson Education.

Gujarati, D. N. (2004). Basic Econometric. New Delhi: Tata McGraw Hill.

IFAD (International Fund for Agricultural Development) (2012). Enabling Poor People to Overcome Poverty. Retrieved Aug 2012 from: www.ifad.org

Masood, S.A., Iqbal, N. (2010). Determinants of urban poverty: The case of medium sized city in Pakistan. Pakistan Institute of Development Economics (PIDE), Working Paper.

Obadan, M. I. (2001). Poverty Reduction in Nigeria: The Way Forward. CBN Econ. Fin. Rev., 39(4), 159–188.

Ojo, E. O., Adebayo, P. F. (2012). Food Security in Nigeria: An Overview. Eur. J. Sust. Dev., 1, 199–222.

Okurut, F. N., Odwee, J. O., Adebua, A. (2002). Determinants of regional poverty in Uganda. Nairobi: African Economic Research Consortium.

Olawale, S. (2018). Nigeria Poverty Statistics and Poverty Rate in Nigeria. Retrieved Aug 2018 from: http//www.naijaquest.com/Nigeria-poverty-statistics/

Oparinde, L. O., Ogunbusuyi, O., Aturamu, O. A., Oladipo, C. O. (2018). Food Crop Farmers' Health and Poverty Status Nexus in Ondo State, Nigeria. J. Povert. Invest. Dev., 43, 47–55.

Osabuohien, E., Okorie, U., Osabohien, R. (2018). Rice Production and Processing in Ogun State, Nigeria: Qualitative Insights from Farmers' Association. In: E. Obayelu (Ed.). Food Systems Sustainability and Environmental Policies in Modern Economics (pp. 188–215). Hershey, PA: IGI Global. DOI: 10.4018/978-1-5225-3631-4.ch009.

OPHI (Oxford Poverty and Human Development Initiative) (2017). OPHI Country Briefing 2017: Nigeria. Retrieved from: www.ophi.org.uk/multidimensional-poverty-index/

Oyekale, T. O., Oyekale, A. S. (2013). Assessment of Multidimensional Poverty in Rural and Urban Nigeria: Evidence from Demographic and Health Survey (DHS). J. Human Ecol., 42(2), 141–154.

Sauerborn, R. N., Noutaga, A., Hiem, M., Diesfeld, H. F. (1996). Seasonal Variation of Household Costs of Illness in Burkina Faso. Soc. Sci. Med., 43(3), 281–290.

UNDP (2014). Sustaining Human Progress: Reducing Vulnerability and Building Resilience. Human Development Report. New York: Oxford University Press.

World Bank (1993). World Development Report: Investing in Health. Oxford University Press, New York.