AN ASSESSMENT OF THE DETERMINANTS OF REGIONAL POVERTY IN THE SUB – SAHARAN AFRICA WITH SPECIAL FOCUS ON NIGERIA: A CASE OF SOUTH –WESTERN NIGERIA.

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ABSTRACT
Poverty level in the Sub – Saharan Africa, particularly, Nigeria has worsened despite governments' efforts.This study assesses the determinants of regional poverty in Nigeria, focusing on South – Western Nigeria. The study employs primary survey and Greer and Thorbecke (1986) food energy intake methodology in the computation of poverty lines. The logistic regression results **on households' poverty level**, shows that a unit increase of measures to reduce poverty, decreases the probability of households being poor by -1.5%. Direct assistance to poor households and raising the level of education among the poor, rural development and the provision of infrastructures are recommended.

KEYWORDS: Determinants, Regional poverty, Survey, South–Western, Nigeria
JEL CLASSIFICATION: C10, I32, O18, O55, P36, R23

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INTRODUCTION

Poverty alleviation is a key policy debate in recent development literature. Many researchers of development economics have argued that the fight against poverty is a necessary condition for development (Ehinomen and Afolabi, 2016, p.27; Okurut,Odwee and Adebua, 2002,p.8). According to Ehinomen and Afolabi (2016,p.27), an enhanced entrepreneurial skill acquisition training and revolving soft- loan credit facilities should be made available and accessible to the unemployed graduate youths especially, in the developing countries with high unemployment level. About 45% of the approximately 590 million people in sub-Saharan Africa live below the national poverty lines (World Bank, 1990). Poverty may be due to national, sector-specific, community, household or individual characteristics (Poverty manual, 2005). The World Bank report (1990) noted that the burden of poverty is spread evenly among regions of the developing world, among countries within the regions and among localities within the countries. According to the World Bank (1990) report, the poorest in the world in terms of real income and having access to social services are the Sub-Saharan Africa and those of South Asia. The report further noted that vulnerability to harsh weather conditions like flooding, typhoons, lack of governance quality, property rights and their enforcement are the key correlates of poverty.

In Nigeria, which has the highest population in the Sub – Saharan Africa, the incidence of poverty has generally been on the rise since 1980, with three significant dips during 1985-1992, 1996-2004 and 2016 - 2018. In 1996, the poverty depth (P1) and poverty severity (P2) were 0.358 and 0.207, but these decreased respectively to 0.225 and 0.122 in 2004.By 1996 all states were in Poverty except one state with 44.3 percent incidence of poverty. Among those state noticeably in 2004, a total of 13 states had moved out of poverty starting with Kwara 43.25 percent poor to Lagos 11.81 percent poor (The Nigerian Living Standard Survey (NLSS), 2010).

The report noted that there was a drop in poverty from 1996 (65.6%) to 2004 (57.8%) and in 2008 (38.7%). There was an increase in the number of non-poor from 34.4 percent in 1996 to 42.2 percent in 2004 while in 2008, there was a drop to (31.0%). When this relative poverty measure was further disaggregated to two levels of poverty, about 20 percent were core poor, 38.1 percent moderately poor and 42.2 percent were non-poor. These equally showed that 10 percent had moved from Core Poor to Moderate Poor while there was no remarkable change in the moderate poor, which was 36.3 percent in 1996, 38.1 percent in 2004 and 30.3 percent in 2008 (NLSS, 2010) .

Interestingly, there was an increase in the Non-Poor rate from 1996 34.4 % to 2004 42.2% but a significant drop to 31.0 percent in 2008. The report further noted that in 1996 urban non-poor was 41.8 percent as against 64.7 percent in 2004 and 38.2 percent in 2008. There was 3 percent positive change in the moderate poor from 33.0 percent to 29.8 percent. The growing urban poverty noticed in 1996 (25.2%) has completely disappeared to 5.6% in 2004. Most importantly, Rural Non-poor moved from 30.7percent in 1996 to 35.9 percent in 2004 and 26.8 percent in 2008. The moderately poor also changed negatively from 38.2 percent to 40.5 percent in 2004 while the core poor of 31.6 percent in 1996 dropped to 23.6 percent 2004 and then witnessed an astronomical jump to 73.2 percent in 2008 (NLSS, 2010). The table below shows the percentage distribution of self-assessed poverty by zone and sectors in the country:

Table 1: Percentage Distribution of Self Assessed Poverty by Zone

Zones	Very Poor	Averagely Poor	Not Poor	Total
S/South	30.1	49.7	20.2	100.0
S/East	27.8	53.1	19.0	100.0
S/West	23.1	52.4	24.5	100.0
C/Central	22.7	58.3	19.0	100.0
N/East	27.1	55.1	17.8	100.0
N/West	14.5	57.2	28.4	100.0
Total	23.5	54.8	21.7	100.0

Sector	Poor	Not Poor	Total
S/South	79.8	20.2	100.0
S/East	80.9	19.0	100.0
S/West	75.5	24.5	100.0
C/Central	81.0	19.0	100.0
N/East	82.2	17.8	100.0
N/West	71.7	28.4	100.0
Total	78.3	21.7	100.0

Source: The NLSS report (2010)

Moreover, the NLSS report reveals that among the six geopolitical zones in Nigeria, the South-Western Nigeria ranks among the areas with the highest level of poverty. It is pertinent to note that this figures may not still have captured the true stance of poverty in the South since most of the poverty stricken populace in these regions live at the rural areas, whereas the samples is usually drawn from the urban areas. Moreover, owing to the poor statistical culture of the country the result may not actually portray a realistic view of poverty in the South-Western Nigeria, hence poverty rate in the South-West is actually more than the result portrays. A better understanding of this claim will be seen when we view poverty as a multi-dimensional issue instead of just a matter of income poverty. In as much as it is very possible to earn very big and yet be well stricken with poverty, it therefore becomes necessary to consider other determinant of regional poverty in the South-west and not only to see it from income aspect.

Although revenues from crude oil have been increasing over the past decades, Nigerians have been falling deeper into poverty (NLSS, 2010). The rate of rising poverty in Nigeria has led to a number of empirical researches on the incidence of poverty in Nigeria. These research works (see for example: Anyanwu, 2010, p.3 and Ehinomen and Adeleke, 2011, p.37), however, are one sided in the sense that they particularly focused on how government policies and programmes contribute to poverty reduction. Only two studies Omonona and Okunmadewa (2009, p.18) and Apata, Apata, Igbalajobi and Awoniyi (2010, p.87), had focused on the determinants of rural poverty in Nigeria. None of these studies had focused on regional determinant of poverty in Nigeria. This study therefore, fills the gap by investigating the determinant of regional poverty with a focus on the South Western Nigeria.

This study therefore answers the following questions: What are the determinants of regional poverty in Nigeria? What are the factors responsible for regional poverty differentials in Nigeria? How can regional food poverty lines identify poor households in Nigeria? This study therefore, assesses the determinants of regional poverty in the Sub – Saharan Africa with special focus on Nigeria which is the most populated country in the region.

LITERATURE REVIEW

According to the World Bank report (2001), central to the quest for analysis of poverty is the issue of the conceptualization of poverty. The report noted that three dominant views are identified as the meaning of poverty in the literature. Poverty reflects at once-

(i) Resource insufficiency, commonly manifest in low incomes and expenditures

(ii) Vulnerability to adverse shocks such as illness, violence and loss of livelihood, and

(iii) Powerlessness in the political social and economic life of one's community and country.

Causes of poverty

Poverty may be due to national, sector-specific, community, household or individual characteristics (Poverty manual, 2005). The report not noted key causes or correlates of poverty to include: Regional-level characteristics: these include vulnerability to flooding or typhoons and remoteness; while community level characteristics include the availability of infrastructures like good road, pipe borne water electricity supply and health care facilities. Also, important regional characteristics include, good social relation and market proximity. Household and individual characteristics: Among the most important according to Poverty Manual report include, Demographic: household side, age structure, dependency ratio, gender of head. Economic characteristics include, ownership of property, number of hours worked and employment status; while Social characteristics include, health and nutritional status, education, shelter.

Regional level characteristics

The important regional and national characteristics that affect poverty include good governance, good policy on environment, a good market structure as well as political and economic stability. Among other characteristics attributable to regions include, regional security, political participation, efficient and effective judiciary as well as intellectual property rights and expression

Community level characteristics

The Poverty manual report (2005) noted that there are a variety of community-level characteristics that may be associated with poverty for households in that community. These include: infrastructure such as roads, electricity, proximity to large markets, availability of schools and medical clinics, human resource development, access to employment, social mobility, representation and land distribution, social networks and institutions, and "social capital" (Poverty manual, 2005).

Demographic characteristics

The poverty manual report (2005) stated that household size indicators as well as structures are very vital since they indicate a high degree of association between poverty level and consumption level of households. It is also widely believed that households headed by women are poorer than those headed by men (Baulch, Chuyen and Haughton, 2002, p. 22).

Economic characteristics

There are many other economic characteristics utilized in measurement of households' poverty level. These include, employability of the household head, assets and other properties owned. The most important measures which actually define poverty level of households include, income level of the households and consumption (Van de Walle, and Gunewardena, 2001, p.179).

Social characteristics

The poverty manual report (2005) noted that aside from the demographic and economic indicators, several social indicators are correlated with poverty and household living standards. The report stated that measures widely adopted include that of health, shelter and education. On the health measures, indicators used in charactering households living standards include, (1) Nutrition , using indicators such as height for age and weight for age ; (2) Diseases , these include, infant and juvenile mortality, diarrhoea and sometimes poliomyelitis, morbidity rates as related to certain diseases such as malaria, respiratory infections; (3) Available health care facilities and service as primary health-care centres, basic health care workers, midwives, nurses, doctors, maternity facilities, hospitals and pharmacies. Equally, an important indicators include, availability of drugs and access to medical information; (4) the use of these services by poor and non-poor households.

Other measures used to characterize education in household standard of living include, the level of education achieved by household members; the availability of educational services and their proximity. The most commonly used measures include children's registration in school, the rate at which children are dropping out of school, their gender and age as well as reasons for dropping out of school. Also, another important measures include, number of older children and average spending on education per child registered (Poverty manual, 2005).

Explanations for Spatial Welfare Disparities: Concentration and Geography

According to Skoufias and Lopez-Acevedo (2009, p.8), the "concentration" hypothesis posits that poor areas arise from the persistent concentration in these areas of individuals with personal attributes that inhibit growth in their living standards. The "geography" hypothesis suggests that the primary cause of poverty and weak growth of living standards over time is the returns to individual characteristics in different geographic locations (Skoufias and Lopez-Acevedo, 2009, p. 8).

Empirical literature

Biyase and Zwane (2017, p.2) analyse the determinants of poverty and welfare in South Africa using ordinary least squares, Probit and logistic regression models on cross-sectional data for evaluation.The fixed effect and random effect results show that educational level of the household head, the race of the household head as well as gender are significant determinants of household welfare.

Adebo and Falowo (2015, p. 1) study rural household food security and coping strategies in South-West, Nigeria used structured questionnaire and observation technique from 126 farm households. The results showed that coping strategy adopted by households includes, reducing the quantity of meal taken, reducing the number of time to eat, withdraw of children from school.

Ogujiuba (2014, p.216) evaluates issues of poverty and reviews poverty reduction measures in Nigeria from 2007 to 2012. The author identifies poor targeting of recipients, lack of infrastructure and corruption as main obstacles reaching the MDG poverty target of 2015.

Apata, Apata, Igbalajobi and Awoniyi (2010, p. 87) examine rural poverty determinants in Nigeria using Probit regression model on 500 smallholder farmers. The result indicates that lack of access to micro-credit, education and livestock asset influence the probability of households exiting chronic poverty.

RESEARCH METHODOLOGY

Study Area

The study area for this research is South-west geopolitical zone in Nigeria while the target population is the households in the area. For the study, three out of the six states making up the zone are selected by stratification. These are Ekiti, Ondo and Osun states.

Ekiti State is situated entirely within the tropics. Between longitudes 40 51 and 50 451 East of the Greenwich meridian and latitudes 70 151 and 80 51 north of the equator, the state lies south of Kwara and Kogi States, East of Osun State, and is bounded by Ondo State in the East and in the south with a total land area of 5886.890 square kilometres. Ekiti State has 16 local government councils. The estimated population of the state was 2,384,212 (National Population Commission (NPC), 2006). Agriculture is the main occupation of the people, and it is the major source of income for the majority in the state. Major crops grown are cocoa, oil palm, cassava, maize and cowpea

Ondo State is well endowed with abundant human and natural resources and has an estimated land area of about 15,500 square kilometres. Bounded on the north by Ekiti and Kogi States and Ogun and Osun States on the west, and Edo and Delta States on the east. The state comprises of 18 local government. The estimated population of the state was 3,441,024 (NPC, 2006). The State is among the largest cocoa producing states in Nigeria.

Osun state is rich in human and material resources. Covering an area approximately 14,875 square kilometres, it lies between 04 00E and 05 o 5 and latitude 05 o 55 8N and 08 o 07W. The state is bounded by Ogun, Kwara, Oyo, Ondo, and Ekiti states in the south, north, west and east respectively. The state lies in the tropical rainforest. The state has a population of 3,423, 535 (NPC, 2006). There are thirty local government areas in the state Cocoa is the main export crop grown in the state and it is second only to Ondo in terms of cocoa production. Other crops include yam, maize, and cassava.

Method of Data Collection and Data Sources

The data for the study are generated through primary survey using questionnaire (structured and semi-structured) and focused group discussion. The surveys are organized for household, but they also include some characteristics for each individual in the household, such as age, gender, relationship to household head, marital, working, and migrant status, salary, health, and education. At the household level, the surveys provided extensive data on sources of income, business and agricultural enterprises, detailed household expenditures, ownership of consumer durables, poverty incidence, and housing conditions. The Variables of interest and consideration included household socio-economic characteristics, employment statistics, geographic locations and region, percentage of people in different income levels, percentage of people in different age ranges, health status, consumption and expenditures of individual households, education costs, health, fertility and household income. These datasets are disaggregated according to rural-urban division, and according to gender to fully understand the economic behaviour of the constituent groups.

Method of Data Analysis

This study adopted the Greer and Thorbecke (1986, p. 121) food energy intake methodology in the computation of poverty lines. This method was also adopted by Okurut et al. (2002, p.8) in their study of determinants of regional poverty in Uganda. The food energy intake method was adopted to compute poverty lines using information on food cost and consumption from purchases, home produced and gifts in the one month preceding the survey. The computed poverty lines are used to identify the poor household

Food energy intake (FEI) method

The FEI method of setting the poverty line stipulates the cost of attaining a predetermined level of food energy intake. There are a number of ways of estimating the total expenditure needed to arrive at the stipulated food energy intake. The common procedure is to run a regression of the cost of a basket of commodities consumed by each household over the calorie equivalent or the food energy implied from the basket of goods. The next step is to calculate how much it would cost to buy a basket of commodities that would be considered sufficient (Okurut et al., 2002, p.8). The energy intake is a predetermined value expressed in terms of calorie equivalents. Another procedure is to take a sub sample of households with total expenditure that is equivalent or close to the stipulated calorie level and compute a simple average. The FEI method automatically provides the total expenditure implied by the level of food expenditure that gives the calorie intake, since the latter is a dependent variable in the regression equation. The study used the following specific steps in the analysis of determinants of regional poverty differentials following Greer and Thorbecke (1986, p.121): The value of food total (X^*_j) each household consume, equalling the total food values household purchased (V^*_j) and the value of own production consumed (K^*_J), is determined; hence

$$X^*_j = V^*_j + K^*_J \quad \text{.....(1)}$$

The value of purchased food consumed V^*_j by each household is generated by multiplying different types of food purchased by the household (D_i) by the prices per unit (P_i).

$$V^*_j = \sum D_{ij} P_{ij} \quad \text{.....(2)}$$

where

V^*_j = is the amount of food consumed by the jth household

D_{ij} = the quantity of ith food items purchased by jth household

P_{ij} = is the jth household's prices paid for ith food item

The food consumed by through own production or donation is denoted by Kj* which is assumed to be the product of own production with donations (M_i) and the prices paid locally (P_i). While Mi denote the total quantities imputed for consumption.

$$K^*{}_j = \sum M_{ij} P_{ij} \quad \text{……(3)}$$

(b) The adult equivalent H_j for each household is the size of the household.

(c) To measure the value of food consumed by each adult is generated by dividing the value of food total by the household adult equivalent, and it denoted as:

$$x_j = \frac{X^*{}_j}{H_j} \quad \text{……(4)}$$

$X^*{}_j$ = value of food in total consumed by jth household

H_j = adult equivalent for jth household

X_j = value of food in total consumed per adult equivalent units

(d) Types and quantities of food different households consumed is converted to calories C_j thus utilising calorie equivalents

(e) A regression model is fitted to estimate parameters to be used in determining food poverty lines:

$$lnX_j = \alpha + \beta C_j \quad \text{……(5)}$$

where:

X_j = the value food in total household expended for each adult j

C_j = total value of calories consumed by each adult in the household j

α and β are parameters to be estimated.

(f) Measuring the food poverty line denoted by, Z, is the cost of acquiring the calorie equivalent to a daily allowance, is denoted as:

$$Z = e^{(\alpha+\beta R)} \quad \text{.....(6)}$$

Z = the food poverty line

R = daily allowance for consumption calories for each adult

(g) The various measures of poverty (Pα) are to be computed using the following formula:

$$(P_\alpha) = \frac{1}{n}\sum_{i=1}^{q}\left(\frac{Z - Y_i}{Z}\right)\alpha \quad \text{.....(7)}$$

where:

Z = the food poverty line

Pi = per capita food expenditure for ith household (i = 1, 2,...,q) living below the poverty line

q = number of households below the poverty line

n = total number of sampled households

α = 0, 1, 2

The simplest measure of the incidence of poverty is the proportion of households that fall below the food poverty line or the head-count index (P_o). This is equal to the number of households falling below the poverty line divided by the total number of households (Okurut et al., 2002, p.8).

The poverty-gap index (P_1) captures the total proportional shortfall or depth of poverty (i.e., the difference between per capita food expenditures and the food poverty line and then divided by the food poverty line). If we simply add up the difference between the expenditure measure and the poverty line for all those who are below, we have the total money required to eliminate poverty. The degree of inequality (distribution) is captured by the Foster–Greer–Thorbecke index (P_2). A particular strength of the P_α indicators is that they are decomposable; that is, indicators for the region can be calculated as a population weighted average of the indicators for each divides (rural-urban).

The contribution of each area to national poverty can also be calculated Okurut et al., 2002, p. 8). The relationship between the socioeconomic and demographic characteristics of the households and the poverty status was investigated using cross tabulation and an analysis of variance technique was used to test the difference between group means. Key regression variables for the poverty model identified, include: years of education of household head, household size, gender of household head, land holding in acres and total credit to the household. Other variables are access to health care proxied by the cost of treatment, household income, remittances, and proportion of children surviving and age of head of household, with poverty status as the dependent variable. The study utilised Ordinary Least Square (OLS) regression model for analysis of food and non-food expenditures, while Logistic regression models are used to identify the significant determinants of poverty. Logistic regression was chosen because of the dichotomous dependent variables and because the technique has no restrictive distribution assumptions.

Application of the Datasets to the Objectives

To achieve the objectives, we applied the framework developed by Greer and Thorbecke (1986, p.121) food energy intake methodology in the computation of poverty lines. This compares poverty lines across rural /urban divisions and regions in the country. For analytical purposes, SPSS for windows and Microsoft excel was used for estimation.

PRESENTATION OF DATA

Demographic characteristics

Table 2: State of residence

	Frequency	Percent	Valid Percent	Cumulative Percent
Ekiti	572	38.8	38.8	38.8
Ondo	468	31.8	31.8	70.6
Osun	433	29.4	29.4	100.0
Total	1473	100.0	100.0	

Source: Authors Computation from Research Survey 2018

The table above reveals that of the 1473 respondents, 572 that is 38.8% reside in Ekiti state, 468 respondents representing 31.8% of the total number of respondents reside in Ondo state and 433 respondents that is 29.4% of the respondents reside in Osun state.

Table3: Local Government

	Frequency	Percent	Valid Percent	Cumulative Percent
Ado	166	11.3	11.3	11.3
Ikole	253	17.2	17.2	28.4
Oye	153	10.4	10.4	38.8
Akure-North	112	7.6	7.6	46.4
Akure-South	230	15.6	15.6	62.1
Akoko -East	126	8.6	8.6	70.6
Ife-East	168	11.4	11.4	82.0
Ife-Central	177	12.0	12.0	94.0
Osogbo	88	6.0	6.0	100.0
Total	1473	100.0	100.0	

Source: Authors Computation from Research Survey 2018

The table above breaks the total number respondents down to the respective local governments within the states in which they reside. The statistics show that out of the 1473 respondents, 166 that is 11.3% percent reside in Ado L.G.A, 253 respondents or 17.2% reside in Ikole L.G.A, 153 representing 10.4% of the total respondents reside in Oye L.G.A, Akure-North L.G.A is occupied by 112 respondents that is 7.6% of the total number of respondents while Akure-South is home to 230 respondents that is 15.6%. In Akoko-East L.G.A resides 126 respondents representing 8.6%, while 168 respondents or 11.4% are residents of Ife-East L.G.A, 177 respondents representing 12% of the total number of respondents are domiciled in Ife-Central and 88 respondents or 6% of the entire sample are residents of Oshogbo.

Table 4: Urban/Rural

	Frequency	Percent	Valid Percent	Cumulative Percent
Urban	489	33.2	33.2	33.2
Rural	984	66.8	66.8	100.0
Total	1473	100.0	100.0	

Source: Authors Computation from Research Survey 2018

An Urban/Rural residential assessment of the respondents shows that 489 respondents that is 33.2% of our sample size are domiciled in urban regions while 984 or 66.8% of the respondents reside in rural environments.

Table 5: Sex of the respondent

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	670	45.5	45.5	45.5
Female	803	54.5	54.5	100.0
Total	1473	100.0	100.0	

Source: Authors Computation from Research Survey 2018

The table above reveals that out of the 1,473 respondents, 670 or 45.5% are Male and 803 or 54.5% are female.

Table 6: Age as at last birthday

	Frequency	Percent	Valid Percent	Cumulative Percent
31 - 40	1107	75.2	75.2	75.2
41- 50	242	16.4	16.4	91.6
51- 60	124	8.4	8.4	100.0
Total	1473	100.0	100.0	

Source: Authors Computation from Research Survey 2018

Further demographic analysis of the sample shows that of the 1,473 respondents, 1107 or 75.5% of the entire sample are between 31- 40 years of age, 242 or 16.4% are between 41- 50 years of age, and 124 or 8.4% of the respondents are between 51- 60 years of age.

The linear Regression analysis on households' food expenditure

Table 7: Descriptive Statistics

	Mean	Std. Deviation	N
How much in total did your household consume in the past 12 months?	4.3096	1.84097	1473
Over the past 12 months did you or others in your household consume any food?	1.1100	.56397	1473
How much came from own-production?	1.9437	.84391	1473
How much came from gifts and other sources?	2.0706	.83839	1473
Over the past 12 months, did your household purchase non-food items?	1.8126	.61031	1473

Source: Authors Computation from the SPSS Statistics

From the result table above, the descriptive statistics indicates that all the variables show an averaged positive mean values. The standard deviation showed that the highest standard deviation of (1.84097) is the question on how much in total did your household consume in the past 12 months? While the least standard deviation of (.56397) is the question - over the past 12 months did you or others in your household consume any food? The total number of respondents totalled 1473.

Table 8: The model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin - Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.610[a]	.372	.371	1.46041	.372	217.778	4	1468	.000	1.354

a. Predictors: (Constant), Over the past 12 months, did your household purchase non-food items?, How much came from own-production?, How much came from gifts and other sources?, Over the past 12 months did you or others in your household consume any food?

b. Dependent Variable: How much in total did your household consume in the past 12 months?

Source: Authors Computation from the SPSS Statistics

The table of the model summary show that the simple correlation result of 0.610 shows that the variables are correlated with the dependent variable to the tune of 61%, thus, indicating no lower degree of correlation. Thus, we conclude that there is no multicolinearity among the variables under consideration. The R-squared which is the coefficient of determination, shows the percentage of variation in the dependent variable that was accounted for by variations in the explanatory variables. It measures the explanatory powers of the model. It is usually between zero and one. A close inspection of the table above indicates that the specified model has a fairly high coefficient of determination. This can be seen from R -squared of 0.372, and an adjusted R -squared of 0.371. The R-squared reports that the variables can explain about 37 per cent of total variation in the dependent variable. The fitness of every regression result is based on its R-squared. The Durbin – Watson Statistic indicates whether there is serial correlation in the model. If there is serial correlation in the model, it implies that the model has lost its predictive power. The Durbin – Watson Statistic is given as 1.354, and this suggests that the model is free of autocorrelation. Consequently, the estimated model can be confidently relied upon for making inferences and for prediction purposes.

Table 9: The Analysis of Variance (ANOVA) results

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1857.900	4	464.475	217.778	.000[a]
Residual	3130.935	1468	2.133		
Total	4988.835	1472			
a. Predictors: (Constant), Over the past 12 months, did your household purchase non-food items?, How much came from own-production?, How much came from gifts and other sources?, Over the past 12 months did you or others in your household consume any food?					
b. Dependent Variable: How much in total did your household consume in the past 12 months?					

Source: Authors Computation from the SPSS Statistics

From the ANOVA table above, the results indicates that the regression model predicts the dependent variable significantly well, as can be seen from high value of the probability of the regression, $p < 0.0005$ is less than 0.05. Thus it shows that the overall regression model is significant statistically and the regression model has a good fit. Equally, the F-test result of the null hypothesis of no linear relationship between the variables under consideration (F-217.778) with 1472 degrees of freedom is therefore rejected. Thus we assume that there is a linear relationship between the variables in our model.

The Linear regression

Table 10: The Dependent variable: consumexp

Model **Coefficients**	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations	Collinearity Statistics			
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	5.251	.170		30.974	.000	4.918	5.583					
Consume	.638	.109	.195	5.864	.000	.424	.851	-.139	.151	.121	.385	2.595
Production	-1.433	.052	-.657	-27.577	.000	-1.535	-1.331	-.563	-.584	-.570	.753	1.327
giftsandothers	.079	.070	.036	1.124	.261	-.059	.217	-.088	.029	.023	.419	2.389
(non-food-purchase	.537	.072	.178	7.443	.000	.395	.679	.185	.191	.154	.747	1.338

a. Dependent Variable: How much in total did your household consume in the past 12 months?

Source: Authors Computation from the SPSS Statistics

The linear regression equation: $Y= 5.251+0.638*X_1 -1.433*X_2+0.079*X_3+0.537*X_4$

From the regression results, the coefficients of the independent variable, over the past 12 months did you or others in your household consume any food? (Consume) indicate a positive sign and it is statistically significant. It shows that for every additional expenditure on food, the households increases its consumption of food to 0.6%. The coefficient of the variable of how much came from own-production? (Production) indicates a negative sign and significant statistically. It shows that for every additional expenditure on food, the household reduces its own production to the tune of -1.4%. Also, the coefficient of the variable of how much came from gifts and other sources? (Giftsandothers), indicates a positive sign and it is insignificant statistically. It thus indicates that for every additional expenditure on food, the households increase the amount coming from gift and other sources to the tune of 0.07%. The regression result equally indicates that the coefficient of the

variable, over the past 12 months, did your household purchase non-food items? (non-food-purchase) is positive and significant statistically. The result shows that for every additional expenditure on food, the households increase their non-food purchases to the tune of 0.53%.

The logistic regression of the households' living standard effect on the poverty level

Table 11: The summary of the model

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	1444.642[a]	.317	.424
a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.			

Source: Authors Computation from the SPSS Statistics

From the result table, the Pseudo R^2 generated from the Cox and Snell and Nagelkerke R - Square estimations indicate the values as follows: 0.317 and 0.424. The results show that the explained variations in the dependent variable from our model ranges from 31% to 42% respectively.

Table 12: The dependent variable: poor

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
Variables							Lower	Upper
Povstandard(1)	-1.649	15283.347	.000	1	1.000	.192	.000	.
Povreduction(1)	-1.530	.210	53.263	1	.000	.217	.144	.327
Povincrease(1)	24.110	18127.056	.000	1	.999	2.956 E10	.000	.
Notenough(1)	-.352	.368	.916	1	.338	.703	.342	1.446
Homeless(1)	1.429	15283.347	.000	1	1.000	4.174	.000	.
Satisfied(1)	-4.224	.538	61.597	1	.000	.015	.005	.042
Constant	-20.766	18127.056	.000	1	.999	.000		
a. Variable(s) entered: Povstandard, Povreduction, Povincrease, Notenough, Homeless, Satisfied.								

Source: Authors Computation from the SPSS Statistics

The result table shows that the variable (Povreduction) indicates that a unit increase of household measures of reducing poverty, the log odds of the household being poor decreases by -1.5%. On the other hand, a unit increases in the rate at which homeless people and/or people are begging reduces the probability of the household becoming poor by 1.4%. In the case of how satisfied the households are in this area they live (satisfied), the log odds ratio of the households being poor decreases by -4.2% respectively.

SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS

It is noted that poverty situation in Nigeria has worsened despite the huge human and material resources that have been devoted to poverty reduction by successive governments with no substantial success achieved from such efforts. Poverty may be due to national, sector-specific, community, household or individual characteristics. The key causes or correlates of poverty include: Regional-level characteristics such as vulnerability to flooding or typhoons; remoteness; quality of governance; property rights and their enforcement. At the regional level, there are numerous characteristics that might be associated with poverty. The relationship of these characteristics with poverty is country-specific. The key causes of poverty include vulnerability to flooding or typhoons; remoteness; quality of governance; property rights and their enforcement. Community level characteristics: these include the availability of infrastructure (roads, water, and electricity) and services (health, education), proximity to markets, and social relationships.

The authors noted that subjective poverty has to do with whether or not individuals or groups actually feel poor. Linear rand Logistic regression models are adopted as estimation techniques. These models are used to identify the significant determinants of poverty. The study find that major determinants of poverty include, consumption level, Production and Non-food purchases of the households, as well as measures of reducing poverty adopted by the households. The Short run

policies by Federal Government against poverty should include direct assistance to poor households while long run policies should concentrate on such areas as, raising the level of education among the poor, rural development and decreasing under-employment.

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