

# Food and Non-Food Expenditure Differential across Poor and Non-Poor Households in South-East Nigeria.

\*\*\*Obisesan Omobolaji Olubukunmi,

\*\*Salman Kabir Kayode,

\*Daramola Adebukola Yewande,

(Corresponding Author)

Rufai Adedoyin Mistura,

Ogunniyi Adebayo.

**Abstract:** This paper examined the expenditure differential patterns of food and non-food items in rural and urban South-East Nigeria with emphasis on poor and non-poor households as subdivided by the Nigeria National Bureau of Statistics' Household Expenditure Survey Data of 2009/2010 (NBS\_HhExp\_2009/2010). Descriptive statistics and Econometric models were used to profile the pattern of household expenditure on food and non food items, expenditure patterns of food and non-food items across poverty status and an estimation of the effects of household characteristics on food and non-food expenditures. Household characteristics included age, sex, sector (rural/urban), living status of spouse. Mean per-capita expenditure for the non-poor in the urban area is greater than that of the non-poor in the rural area; mean per-capita expenditure for the non-poor was greater in relation to non food items than food items. The mean per-capita food and non-food expenditures in the urban area was ₦77, 181.27 while the mean per-capita expenditure of households in the rural area was ₦67, 621.61. Disaggregating the data into core/moderately/non-poor, the mean per-capita food and non-food expenditures was ₦21, 866.55k; ₦38, 949.09k and ₦1,100, 88.00k respectively. There is need to up scale the living standards of the rural poor and enhance the productive capacities of the able bodied age groups to reduce the disparity observed as in relation to food and non-food expenditure differences among poor and non-poor households of south-eastern Nigeria.

**Key words:** Food and Non-food Items, Expenditure differential, Ordered Probit, Poor and Non-poor households, Rural and urban, South-east Nigeria.

## 1. Introduction

Food production, distribution and consumption is of major concern today, this has been a subject of both scientific, social and economic concerns with various researches and diverse researchers looking for answers as regards the issue of food availability, sustainability and food security in line with production, distribution and consumption (Nigerian Bureau of Statistics)[14]. Different studies carried out on food has shed more light on food intake, availability, non-availability, food expenditure and consumption, production and other related aspects [15][22]. This feat has not left out international, national and non governmental bodies in a bid to achieve robust nutritional and better food policies for the teeming population [14]). The issue of food consumption and expenditure is especially of utmost importance in developing countries because food and non-food expenditures accounts for a larger share of what depletes household income on a regular basis [15]. It is common knowledge that if a particular household does not have adequate access to other essential commodities of life, their access to food must not be affected or tampered with [6]. Access to food and non food commodities is an important issue, it has a direct link to poverty and insecurity, and it is directly related to the living standards and household resource<sup>1</sup> accumulation or depletion both in the short-run and in the long-run [5]. The

demand for food and non food items depends on the population, the dietary habits of the populace, taste/preference and the per capita income of the people under consideration [6]. Those living in the rural areas and in the villages of Asia and Africa are characterized as poor by majority of indices [8], these people are overwhelmingly dependent on agriculture for their sustenance, food and non food consumption expenditure and they have fewer alternative sources of income and or employment thus predisposing them to vulnerable conditions and crises [8]. A large number of these people migrate to cities in search of employment, making the population of those in the towns and larger cities over-shoot their bounds in developing countries [8]. It has been estimated by the International Food and Policy Research Institute [11], [26] that about half of the world's hungry people are smallholder farming communities, surviving on their marginal lands which is prone to a lot of factors such as natural disasters, drought and flood, lack of modern agricultural inputs to mention but a few [11][26]. Those who are poor and hungry are increasing rapidly along with the world's total urban population [24]. Food and non food consumption expenditure are necessary pre-requisites needed to measure poverty, determine the diverse consumption patterns, calculation of consumer aggregate price index, and short-run/long-run availability of food and non food items to the household [10]. To determine the living standards of households, income and consumption expenditures are the most popular approaches. Income refers basically to the earnings from productive activities of the economy and current transfers made by the populace [6]. Income tends to vary widely from week to week or month to month, so information on consumption is much easier to get than that of income, particularly in agricultural communities and those who are self-employed [20]. Measuring

<sup>1</sup>\*\*\* Corresponding Author,

Obisesan Omobolaji Olubukunmi, is currently running a PhD programme at the University of Ibadan, Department of Agricultural Economics, University of Ibadan, Ibadan, Oyo State Nigeria.

[omobolajironke@gmail.com](mailto:omobolajironke@gmail.com), [bolronk@yahoo.co.uk](mailto:bolronk@yahoo.co.uk)

+234-8153711278, +234-8028251974.

expenditure is usually done over a week or month and these provides an indication of a household's consumption habits and expenditure patterns over a year. Hence, measures' using consumption and expenditure is therefore a better indicator of living standards [14]. It is worthy of note that food expenditure involves spending/expenses on food items (consumables) e.g. pulses, bread, cereals etc [15], while non food expenditure is spending/expenses on non edible items like payment for electricity bills, rent on houses, communication etc[6].

The poor as defined based on the Multidimensional Poverty Index [13],[26] are those who are unable to obtain adequate income, find a stable jobs, own a property or maintain healthy living conditions; they also lack an adequate level of education and cannot satisfy their basic needs. People can also be referred to as poor when their measured standard of living in terms of income or consumption is below the poverty line. A poverty line is a measure that separates the poor from the non poor [9],[16]. The poverty line is not the same everywhere because it is relative to what is the norm in a particular country [13],[28]. Poverty could also be general scarcity, or the <sup>2</sup>state of one who lacks a certain amount of material possessions or money [11],[26].

[18] said the poor has no access to the basic necessities of life such as food, clothing and decent shelter; are unable to meet social and economic obligations; they lack skills and gainful employment, have few if any economic assets; and sometimes lack self esteem. Poverty can also be defined as the inability to attain a minimum standard of living [25]. Poverty is multifaceted and it is characterized by a lack of purchasing power, exposure to risk, insufficient access to social and economic services and limited opportunities for income generation [25]. The multi-dimensionality of the subject does not only consider the absolute but also the relative positions as it relates to people's levels, so the concept of who is poor by standard, tools to be used to measure poverty both at the absolute and the relative terms needs to be addressed both in a concise and precise manner [25]. However, for the purpose of this study, the poverty decomposition indices of the Harmonized Nigerian living standard survey 2009/2010 [10] was used, where in poverty was subdivided into core-poor, moderately poor and non-poor (based on 2/3<sup>rd</sup> per capita expenditure), the household expenditure was de-lineated into food and non-food expenditures. Hence, this research carried out an analysis of expenditure differences among rural and urban dwellers in south-east Nigeria, putting into consideration the core poor, moderately poor and the non poor.

## 1.2 Objectives of the study

The main objective of this study is to determine the food and non-food expenditure differential pattern across poor and non-poor household in south-eastern Nigeria, while the specific objectives are to:

- 1) Profile the pattern of expenditure on food and non food items in south-east Nigeria.
- 2) Profile the expenditure pattern of food and non-food items across poverty status of households in south-east Nigeria.
- 3) Estimate the effects of household characteristics on food and non-food expenditure in south-east Nigeria.

## 2. Methodology

This research used the Harmonized Nigeria Living Standard Survey (HNLSS) 2009/2010 of Nigerian Bureau of Statistics. The HNLSS is a combination of the Nigeria Living Standard Survey (NLSS) and the World Bank's Core Welfare Indicator Questionnaire (CWIQ) (NBS, 2012). Hence the data used for this study can also be called the NBS\_HhExp\_2009/2010 (National Bureau of Statistics' Household Expenditure survey Data of the year 2009/2010. The total population size for NBS\_HhExp\_2009/2010 is 33012; however, since this study is focusing more on the south-eastern part of Nigeria because of their agrarian lifestyle and incidence of high disparity among the rural and urban, poor and non-poor population [21], the data was sorted and the other five geo-political zones were dropped, as a result, a population size of 4405 corresponding to the South-eastern part of the country was obtained using STATA12 statistical/econometric software. South-East Nigeria is one of the six geo-political zones in Nigeria with major occupation consisting mainly of agriculture, tourism and natural resource exploitation [21]. The zone consists of five states which are: Abia, Anambra, Ebonyi, Enugu and Imo states.

Harmonized living Standard survey data (HNLSS) was used for categorizing the poverty status of the respondents into either poor/non-poor or into an in depth division of core poor, moderate poor and non-poor households based on a 3000 calories index division [14], so it is on these premise that this research work bases its poverty line and division of the respondents into poverty status of poor/non-poor and core poor/moderately poor/no-poor.

For the purpose of this study, the food and non food items were categorized as obtained from HNLSS data, seventeen food groups were used these are rice, maize, other cereals, bread, tubers and plantain, poultry, meats, fish and sea foods, milk( cheese, eggs), oils and fats, fruits, Vegetables, beans and pulses, sugar(jam, honey), non alcoholic, alcoholic and food items not mentioned which formed the miscellaneous category [15], while the non-food items used in this study were categorized into education(tuition), health, transportation, fuel, water, rent, electricity [15].<sup>3</sup>

The effects of household food and non food expenditure was analyzed using the functional form exponential regression equation, while the Ordered Probit regression model [23] was used to determine the effect of poverty status on household characteristics and expenditure on food and non food items. This was chosen on theoretical and statistical criteria. Total

---

<sup>2\*\*</sup>Salmann Kabir Kayode

Senior Lecturer, Agricultural Economics Department,  
University of Ibadan, Ibadan Oyo State Nigeria,  
[kksalman@gmail.com](mailto:kksalman@gmail.com)  
+234-708677606.

---

<sup>3\*</sup> Daramola Adebukola Yewande is a Senior Research Fellow at the Nigerian Institute of Social and Economic Research, P.M.B. 5 Ojoo Ibadan, Oyo State Nigeria.  
[bukidaramola@yahoo.co.uk](mailto:bukidaramola@yahoo.co.uk).  
+234-8023451396.

per capita Food and non food expenditure was the dependent variable for the Exponential regression equation, while the poverty level based on 3000 calories index was the dependent variable for the Ordered Probit regression equation. The following explanatory variables were used in the equations sector (rural or urban), household size, household sex, household structure, the living status of the spouse (Does spouse live), Age of household head. Household marital status was removed due to the effect of multi-co linearity with other variables in the exponential regression model, while it was included as part of the explanatory variables in the Ordered probit model. The result of the analysis is presented in table 7 and 8.

**2.1 Analysis of Expenditure Differential across Households in South-East Nigeria.**

Expenditure was used as a proxy for income in this research in favor of the “permanent income hypothesis” by [7] which argues that household expenditures are more stable across times than current incomes which may fluctuate for groups within the self employed range, employees as well as due to uncertainties in life, events and other circumstances like savings, debt and running up and down [3], [29], [12].

**Model specification:** The Exponential regression model and the Ordered Probit regression models were used, with these models, this research was able to see/identify the level of interaction of the dependent variables (total per capita expenditure) and the poverty status on the various independent variable i.e the X(s) which are household size, household sex, sector (rural/urban), household structure, living state of spouse (does spouse live). The exponential model was used because it gave an output of a robust coefficient of determination that supported expenditure based on economic theory and statistical significance.

**2.2 The Exponential regression model specification is expressed as:**

$$\ln Y = f(X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + U) \text{-----(1)}$$

Where, Ln Y = Total per capita household expenditure (Naira),

X<sub>1</sub> = Household size

X<sub>2</sub> = Household marital status,

X<sub>3</sub> = Household sex,

X<sub>4</sub> = Household structure

X<sub>5</sub> = Living State of Spouse in the household (Does spouse live)

X<sub>6</sub> = Sector (Rural or Urban)

X<sub>7</sub> = Occupation of household head

U = Error term and is assumed to be normally distributed having a mean of zero and constant variance. This error term is representing variations that are due to variables not specified in the model.

**2.3 The Ordered Probit Model can be expressed as:**

$$Y^* = \beta' X + U \text{-----(2)}$$

Y is the dependent variable and Y\* is the sub-division of the poverty status of the households,

$$\begin{aligned} \text{i.e } Y^* = 1 \text{ (core poor)} & \text{ if } Y^* < U_1 \text{-----(3)} & Y^* = 2 \\ \text{(Moderately poor)} & \text{ if } U_1 < Y^* < U_2 \text{--(4)} & Y^* = 3 \text{ (Non-poor)} \\ \text{if } Y^* > U_1 / U_2 & \text{-----(5)} \end{aligned}$$

β ‘ is the vector of estimated parameters, X(s) are the explanatory variables, U is the error term.

U<sub>1</sub> and U<sub>2</sub> are threshold variables of the Probit regression model.

**3. Results and Discussion**

Table 1 gives an overview of the mean amount spent by poor and non-poor household and the maximum per capita expenditure spent on major non food items and commodities like education, transportation fare, water, electricity, rent, communication, clothing etc. The mean amount spent by non-poor households on education as deduced in this research is ₦2, 948.87k per month with a total per capita expenditure of ₦273, 200.00k per annum. The mean amount spent on education by non-poor households was ₦5,748.55k per month while the total per capita expenditure for the year for the non-poor household is ₦440, 990.00k.

The major food items purchased by households in south-east Nigeria is represented in Table 2, it can be seen from this table that Non-alcoholic beverages gulps the least amount of household expenditure in relation to food items of both poor and non-poor expenditure pattern on food. ₦8, 516.66k and ₦7, 178.33k was spent on non alcoholic beverages by the poor and non-poor respectively. The non poor spent more on fruits, meats, sugar, jam, honey, chocolates and confectionaries in consonance with the results of Obayelu et.al 2009 that those who can afford it, prefers to eat out indulging in foods not prepared at home at times, the total amount spent on these items by the non-poor are ₦51, 343.33, ₦66, 919.67, ₦74, 946.75 respectively while the poor spends ₦35, 648.33, ₦36, 500.00 and ₦37, 716.67 respectively. Also, from table 2 it is obvious that the poor spends more on rice, other cereals, bread, fish and sea foods which may signify the fact that the poor has no option than to cook their food and these is also a reflection of the dietary habits of rural south eastern Nigeria in that they prefer homemade with a lot of fish delicacies (Pius, 2014). The poor spends ₦103, 416.70k, ₦19, 466.67k, ₦60, 833.33k and ₦33, 458.33k on rice, other cereals, bread and fish and sea foods respectively, while the non-poor spends ₦94, 291.67k, ₦29, 200.00k, ₦33, 215.00k, ₦20.683.33k respectively on these food items.

The aggregate for the poor and non-poor based on this study is shown in Table 3 with the poor amounting to 2,175 respondents and the non-poor accounting for 2230 based on the poverty count used by the HNLSS survey of 3000 per calorie weight. The total per-capita food expenditure was ₦48, 006.19k while the total per-capita non-food expenditure for poor households was ₦46, 554.16. The total per capita food and non-food expenditure for the non-poor household was ₦744, 139.63k and ₦878, 216.76k respectively. This shows a wide disparity between the non-poor and the poor and what they spend on per time.

It was also discovered that 16.6% of the poor live in the urban area while 83.4% of the poor live in the rural area of south-eastern Nigeria as shown in tables 4 and 5. The mean per-capita expenditure for those in the urban area is ₦77, 181.27, while the mean per-capita expenditure for those in the rural



area is ₦67, 621.61. When the data set was disaggregated into core/moderately/non-poor the mean per-capita food and non-food expenditure for the core poor is ₦21, 866.55k; the mean per-capita expenditure for the moderately poor is ₦38, 949.09k, while the mean per-capita expenditure for the non-poor was ₦1,100, 88.00k. This division into core poor/moderately poor and non-poor shows that there is a wide gap in south-east Nigeria among the so called class system and the poor are so disadvantaged while the non-poor(rich) have all the advantages, since it was discovered based on this research that over a million naira is spent by the non-poor on their food and non-food items, while the core poor and the moderately poor can barely exist with ₦21, 866.55k and ₦38, 949.09k considering their family size, marital status and other necessities of life.

Table 5 shows that 77% of male headed households were poor while 23% of the female headed households were poor based on poor/non-poor food 3000 calorie weight generated by the HNLSS survey data in concordance with the research of [19]. This implies that the overall burden of taking care of the household is more on the male headed household than on the female headed household based on the result from this study. This result follows what was obtained by [6] in a household survey conducted in Egypt and with [4] in a research conducted on Lagos Metropolis of South West Nigeria.

Cross tabulation of the aggregate ages was delineated into (15-30) years, (31- 46) years, (47- 62) years and (> 62) years against the poor/non-poor 3000 calorie food index, as shown in Table 6 depicting that the age range (47-62) years with 55% in the poor category since they spend about 42.1% of their total per-capita expenditure on both food and non-food items. The age range (15-30) and (31-46) were not left out of these poverty incidence, this age group forms the major productive group in the south-east economy and it can be understood if they fall more under the poor category because they have to provide for themselves as well as those that depend on them. This result is in synchrony with the study carried out by [1] where the burden on female productive age range was brought out, this research showed how they have limited access to asset accumulation (non-food items). [17] also attested to the fact of a serious burden on the productive age groups in Nigerian societies in their own research work as it relates to human capital, capabilities and poverty. Thus it can be deduced that there is a high level of demand or financial burden on the productive age groups of south-eastern Nigeria in the provision of food and non-food items causing there to be expenditure differences as compared to the older men and women of these societies.

### 3.1 Regression Results: Estimating the Effect of Household Characteristics on food and non-food expenditure in south-east Nigeria.

The result in table 7 shows that sector (rural/urban), household size, household structure, living state of the spouse (does spouse live), and the age of the household head has a strong influence on total per capita expenditure among household, both poor and non-poor. These variables are all significant at the 1% ( $P \leq 0.01$ ), although some had a negative sign, showing an inverse relationship as compared to the norm. Those in the urban areas of south-east Nigeria based on the result from this study spends more on both food

and non-food items than those in the rural areas and this is in line with a study carried out by Babalola and Isibor (2014) on Lagos state an urban area in south west Nigeria, since the people in the rural areas produce some of their food and it is only the food commodities they don't produce that they eventually buy. Also those in the rural areas are used to lack of some basic non-food commodities and the ones they eventually use must be of a lower cost or else there will be low/no patronage if the asking/purchase price is too high. Household with more people are expected to spend more on food and non-food items, however from the results of the exponential regression, it shows that the amount spent on food and non-food items has a negative sign, the reason for this is not farfetched, many families in this region of the country has other means of supporting the family/themselves especially when the individuals in these households are many [2]. The Coefficient of determination ( $R^2$ ) explains the ability of the independent variable to explain the variability in the dependent variable and it shows that 65% of all the variations in household total per-capita expenditure on food and non-food items are caused by these independent variables. The F- ratio is significant at 1 percent providing an overall test of significance, showing that the model was a good fit.

The result in Table 8 shows that the sector (rural/ urban), size of household, sex of household head (The negative sign for the household sex implies that the female headed household are worse hit by poverty and they have a higher per-capita expenditure on food and non-food items as compared to their male counterparts and this is rightly so because based on a study carried out by [1] women are more sensitive to the needs of their families and so they go all out to see to meeting these needs even if at their own detriment'), age(s) of individuals in the household, marital status of household head (single, married monogamous, married polygamous, divorced, widowed), the status of spouse (living/dead) are household characteristics that has very high significant effect on total per-capita expenditure of food and non-food items as gotten from the Ordered Probit regression after delineating the household into core-poor, moderately poor and non poor based on the 3000 calorie index used by the HNLSS survey data.

### 4. Conclusion

The main objective of this study was to determine the food and non-food expenditure differential pattern across poor and non-poor household in south-eastern Nigeria, it is vivid based on the results gotten that sector (rural/urban), household sex (with male headed household having a higher per-capita non-food expenditure than female headed households, while the female headed households had an overall high per-capita expenditure on both food and non food items), household size, age of household head, household structure, the living state of the spouse (does spouse live) has a positive/negative and significant impact on total per capita income of households. It was deduced from the study that the age group of range (31-62) years formed the major productive sector of the sampled households and these group are the most hit by poverty because they have to cater not only for themselves but other members of the family hence they spend more on both food and non food items in the study area. It is also apparent that the poor spends less on non-food items/commodities like education, water, rent,

transportation fares, communication etc because many of them though appreciate these facilities but they go for cheaper means of getting these needs met, while the non-poor capitalizes on how to see to it that their living standards are improved at all cost, this explains the high amount in per capita differential as experienced when varying the amount spent by the poor to the non-poor on non food items. There are more poor people living in the rural areas (3583) of south east Nigeria than in the urban (822) based on the sector analysis. The mean per-capita expenditure for those in the urban area was ₦77, 181.27, while the mean per-capita expenditure for the rural area was ₦67, 621.61. When the data was further disaggregated into core/moderately/non-poor, the mean per-capita food and non-food expenditure for the core poor is ₦21, 866.55k, the mean per-capita expenditure for the moderately poor was ₦38, 949.09k, while the mean per-capita expenditure for the non-poor was ₦1, 100, 88.00k.

## 5. Recommendations

- i) Particular attention should be placed on rural areas of south east Nigeria in order to up-scale their living standards as more poor households dominate this area based on the result from this study.
- ii) Household heads (males and females), rural and urban dwellers needs help, information and enhancement on ways and importance of generating more income in order to have a proper balance on both food and non food items.
- iii) There ought to be a concise and targeted attention on enhancing the productive capacities of the able bodied in south-east Nigeria, because it is striking to note from this study that the productive age group (15-30), (31-46), (47-62) are still very much in the poor standard of living category.

## 6. References

[1] Adeoye .O. (2015). Asset Ownership and Poverty Reduction among Rural Women in Nigeria. An Unpublished PhD Thesis of the Department of Agricultural Economics University of Ibadan.

[2] Akerele E.O and Ambali O.I, (2012). Consumption and Savings Pattern among Rural Farming Households in Abeokuta North Local Government area of Ogun State, © 2012 Cenresinpub.org ISSN 2277-0062.

[3] Atkinson A.B (1998): Poverty in Europe, Oxford Blackwell.

[4] Babalola D.A and Isibor S.U (2014). Analysis of Determinants of Food Expenditure Patterns among Urban Households in Nigeria: Evidence from Lagos State. IOSR Journal of Agricultural and Veterinary Science (IOSR-JAVS) e-ISSN: 2319-2380. P-ISSN: 2319-2372. Volume 7, Issue 5 Ver.III (May 2014), PP 71-75 [www.iosrjournals.org](http://www.iosrjournals.org).

[5] Chambers, R, (1995, 2011). Poverty and livelihood; whose reality counts? A Policy Paper commissioned by UNDP for the World Summit for Social Development (March 1995), Retrieved 3rd May 2011.

[6] Dawoud and Seham. A.Z (2013). Econometric analysis of the changes in food consumption expenditure patterns in Egypt, Journal of Development and Agricultural Economics,

Vol.6 (1),pp. 1-11, January, 2014. DOI: 10.5897/JDAE2013.0511, ISSN 2006-9774 c 2014 Academic Journals. <http://www.academicjournals.org/JDAE>.

[7] Friedman, Milton (1957). A theory of Consumption Function, Princeton.

[8] FAO Statistics (2013). Food and Agricultural Organization, 2013.

[9] Foster J. E, J. Greer and E. Thorbecke.(1984): A class of decomposable poverty measures, *Econometrica* 52(1): 761-766.

[10] HNLSS (2009/2010). Harmonized Nigeria Living Standard Survey (HNLSS) 2009/2010.

[11] IFPRI (2014). Publication on Poverty Nov 2014, [http://en.wikipedia.org/wiki/poverty#cite\\_note\\_webster-1](http://en.wikipedia.org/wiki/poverty#cite_note_webster-1).<http://iresearch.worldbank.org/PovcalNet/Index.html>.

[12] Meyer, Bruce, Sullivan, Jim (2006). Three Decades of Consumption and Income Poverty. A Conference of National Poverty Center 'Consumption, Income and the Well being of Families and Children', Washington, May 4-5, 2006.

[13] [Multidimensional Poverty Index July \(2010, 2013\):. www.globalpolicy.org/social-and-economic-policy/povrty-and-economic-policy-and-development/general-analysis-on-poverty-and-development/49379.html](http://www.globalpolicy.org/social-and-economic-policy/povrty-and-economic-policy-and-development/general-analysis-on-poverty-and-development/49379.html).

[14] NBS, (2012). National Bureau of Statistics 2009/2010 Consumption Report. Consumption Pattern in Nigeria, 2009/2010.

[15] Obayelu, A. E., Okoruwa, V. O. and Oni, O. A. (2009). Analysis of rural and urban households' food consumption differential in the North-Central, Nigeria: A Micro-Econometric Approach. *Journal of Development and Agricultural Economics* Vol. 1(2), pp. 018-026, May, 2009 Available online at <http://www.academicjournals.org/JDAE> © 2009 Academic Journals.

[16] Okunmadewa, F.Y., S.A. Yusuf, and B.T. Omonona (2005). Social capital and poverty reduction in Nigeria. Research Report Submitted to the African Economic Research Consortium (AERC), Nairobi for the Second Phase Collaborative Poverty Research. Project.<http://www.sarpn.org.za/documents/d0002275/index.php>.

[17] Olaniyan.O. and S. Abiodun (2005). Human capital, capabilities and poverty in rural Nigeria. Research Report submitted to the African Economic Research Consortium (AERC), Nairobi for the Second Phase Collaborative Poverty Research.

[18] Olayemi J.K. (1995). Approaches to Poverty Alleviation. A Paper Presentation at the NCEMA National Workshop on Integration of Poverty Alleviation Strategies into Plans and Programmes in Nigeria. Ibadan.

[19] Oni, O.A., and S. A. Yusuf (2007). Determinants of expected poverty among rural households in Nigeria. [www.csaee.ox.ac.uk/conferences/2007-EDiA-LaWBiDC/papers/434-Oni.pdf](http://www.csaee.ox.ac.uk/conferences/2007-EDiA-LaWBiDC/papers/434-Oni.pdf).

[20] Per Pinstrup-Andersen,(2009). Food security: Definition and Measurement, Per Pinstrup- Andersen, *Food Sec.* (2009) 1:5–7 DOI 10.1007/s12571-008-0002-y.

[21] Pius (2014). South East Nigeria, an overview, This Day Newspaper 2014.

[22] Professor Pasquale De Muro and Professor Matteo Mazziotta, (2010/2011). Towards a Food Insecurity Multidimensional Index (FIMI). Masters in Human Development and Food security (2010 / 2011).

[23] Robinson G.M. (1998). Methods and Techniques in Human Geography. Professor of Geography, Kingston University, Surrey.

[24] UNICEF (2013). United Nations Children's Fund, 2013.

[25] World Development Report Volume 33, Issue 1, January 2005, pages 1- 19, why are we worried about Income? 'Nearly everything that matters is converging'.

Sciencedirect.com. Retrieved 24<sup>th</sup> October 2010. World Development Report: 1990, 2009, 2013.

[26] [www.science-direct.com](http://www.science-direct.com), [www.globalpolicy.org/social-and-economic-policy/poverty-and-development/general-analysis-on-poverty-and-development/493979.html](http://www.globalpolicy.org/social-and-economic-policy/poverty-and-development/general-analysis-on-poverty-and-development/493979.html).

[27] World Food Summit, 1996.

[28] [www.ifpri.org/event](http://www.ifpri.org/event)

[29] Zaidi, Asghar, de-Vos, Klass (2001). Trends in Consumption based poverty and inequality in European Union during the 1980(s). Journal of Population Economics, Vol.14, S.367-390.

## 7. Appendix

Table 1: Non-food Expenditure for Poor and Non-poor Household in South East Nigeria

Variable (Non-food Item)	Observations		Mean		Maximum Expenditure Per Capita	
	Poor	Non-Poor	Poor	Non-Poor	Poor	Non-Poor
Education	2175	2230	2948.87	5748.55	273,200.00	440,990.00
Health	2175	2230	10601.94	46916.40	257,455.40	1,173,214.00
Water	2175	2230	631.01	1233.63	78,000.00	156,000.00
Electricity	2175	2230	1791.41	3188.67	146,000.00	146,000.00
Fuel(Kerosene)	2175	2230	2261.35	2483.09	14,600.00	14600.00
Fares	2175	2230	5066.35	9239.21	127,494.00	152980.00
Rent	2175	2230	1925.02	4031.22	46,963.33	399,066.70
Communication	2175	2230	3850.37	6434.89	71,783.33	152,083.30
Clothing	2175	2230	3109.75	5524.14	122,824	128950.00

Source: Computed based on data from HNLSS (Harmonized living Standard Survey 2009/2010).

Table 2: Food Expenditure Pattern across Poor and Non-Poor Households In South-East Nigeria.

	N	Maximum	Mean	Poor	Non-poor
	Statistic	Statistic	Statistic		
Rice purchased	4405	153300.00	6984.9448	103,416.70	94,291.67
Maize purchased	4405	48666.67	404.4581	19,466.67	29,200
Other cereals purchased	4405	246983.33	321.6115	19,466.67	18,250
Bread and the like products purchased	4405	166075.00	3992.7617	60,833.33	33,215
Tubers and plantains purchased	4405	210240.00	7946.3170	40,150.00	79,083
Meats purchased	4405	208658.33	6339.6868	36,500.00	66,916.67
Poultry purchased	4405	120450.00	1073.1359	77,866.67	13,991.67
Fish and seafood purchased	4405	243333.33	10801.1836	33,458.33	20,683.33
Milk, cheese and eggs purchased	4405	238223.33	1640.1136	23,725	14,356.67
Oils, fats and oil-rich nuts purchased	4405	126533.33	2683.9805	26,158.33	104,633.3
Fruits purchased	4405	66916.67	811.2501	35,648.33	51,343.33
Vegetables excludes pulses purchased	4405	285065.00	7218.9175	62,901.67	7,665.00
Pulses (beans and peas) purchased	4405	101105.00	6385.5997	32,606.67	43,337.67
Sugar, jam, honey, chocolate and confectionary purchased	4405	99766.67	637.4063	37,716.67	74,946.75
Alcoholic beverages purchased	4405	76041.67	1420.8706	16,425.00	49,275.00
Non-alcoholic purchased	4405	254976.83	2644.5526	8,516.66	7,178.33
Food items not mentioned above purchased	4405	122153.33	1096.1131	237,128.30	237,128.30

Source: Computed based on data from HNLSS (Harmonized living Standard Survey 2009/2010).

Table 3: Per capita food and non-food expenditure across poor and non-poor households In South

East Nigeria.

Poor /Non poor Food (3000cal)	₦	Minimum	Maximum	Mean
<b>Poor</b>	Per capita food	2175	464.03	48006.19
	Per capita non-food	2175	977.49	46554.16
	Per capita household expenditure	2175	4186.26	57388.52
<b>Non-Poor</b>	Per capita food	2230	2871.50	744139.63
	Per capita non-food	2230	2705.72	878216.76
	Per capita household expenditure	2230	33604.12	1300692.08

Source: Computed based on data from HNLSS (Harmonized living Standard Survey 2009/2010).

Table 4: Sectoral Analysis across Poor and Non-Poor Household In South-East Nigeria

Poor /Non poor Food (3000cal)	Frequency	Percent	Poor/ Non-poor	Core poor/Moderately Poor/Non-poor
<b>POOR</b>			3583	143 ₦21,866.55k
<b>URBAN</b>	360	16.6		
<b>RURAL</b>	1815	83.4	₦67, 621.61.	742 949.09k ₦ 38.
<b>Total</b>	2175	100.0		
<b>NON-POOR</b>			822	2230 00,88.00k ₦ 1,1
<b>URBAN</b>	462	20.7	₦ 77,181.27	
<b>RURAL</b>	1768	79.3		
<b>Total</b>	2230	100.0		

Source: Computed based on data from HNLSS (Harmonized living Standard Survey 2009/2010).

Table 5: Sex of Household head \* Poor /Non poor Food (3000cal) Cross-tabulation

	Sex of Household Head	Poor	Non-Poor	Total
Sex of Household head	Male	1675	1353	3028
	% within Sex of Household head	55.3%	44.7%	100.0%
	% within Poor /Non poor Food (3000cal)	77.0%	60.7%	68.7%
	Female	500	877	1377
	% within Sex of Household	36.3%	63.7%	100.0%

head				
	% within Poor /Non poor Food (3000cal)	23.0%	39.3%	31.3%
Total		2175	2230	4405
	% within Sex of Household head	49.4%	50.6%	100.0%
	% within Poor /Non poor Food (3000cal)	100.0%	100.0%	100.0%

Source: Computed based on data from HNLSS (Harmonized living Standard Survey 2009/2010).

Table 6: Age-Cohorts \* Poor /Non poor Food (3000cal)

Age-Cohorts			Poor /Non poor Food (3000cal)		Total
			Poor	Non-Poor	
>62	Count		554	825	1379
	% within age-cohorts		40.2%	59.8%	100.0%
	% within Poor /Non poor Food (3000cal)		25.5%	37.0%	31.3%
15-30	Count		120	201	321
	% within age-cohorts		37.4%	62.6%	100.0%
	% within Poor /Non poor Food (3000cal)		5.5%	9.0%	7.3%
31-46	Count		586	464	1050
	% within age-cohorts		55.8%	44.2%	100.0%
	% within Poor /Non poor Food (3000cal)		26.9%	20.8%	23.8%
47-62	Count		915	740	1655
	% within age-cohorts		55.3%	44.7%	100.0%
	% within Poor /Non poor Food (3000cal)		42.1%	33.2%	37.6%
Total	Count		2175	2230	4405
	% within age-cohorts		49.4%	50.6%	100.0%
	% within Poor /Non poor Food (3000cal)		100.0%	100.0%	100.0%

Source: Computed based on data from HNLSS (Harmonized living Standard Survey 2009/2010).

Table 7: Exponential Regression Results for Total per capita (Food and Non-food) Expenditure of Households in South-East Nigeria.

Total Per-Capita (Food and Non-Food) Expenditure (Based on 3000 calories index)	Coefficient	Standard Error	T	P>[t]
Sector	11473.45	2633.95	(-4.36)***	0.000
Household Size	-12699.24	513.2573	(-24.74)***	0.000
Household Sex	14063.16	9162.06	1.53	0.125
Household Structure	-9983.85	2734.27	(-3.65)***	0.000
Does spouse live	28820.34	3642.53	(7.91)***	0.000
Age of Household Head	406.7528	71.51681	(5.69)***	0.000
Constant	81893.82	11663.18	6.99	0.000

Source: Computed based on data from HNLSS (Harmonized living Standard Survey 2009/2010). Numbers in parenthesis are t values and are significant at 1%

Probability > F = 0.0000

R-squared = 0.6577

Adjusted R-squared = 0.1966



Table 8: Ordered Probit Results: Poverty status of household on food and non-food Expenditure

Poverty status (Core Poor, Moderate Poor and Non-poor) based on 3000 calories index.	Coefficient	Standard Error	Z	P>[Z]
Sector	0.32183	0.04908	-6.56	(0.000)***
Household Size	-0.28128	0.00997	-28.20	(0.000)***
Household Sex	-0.22572	0.33652	-0.67	(0.005)**
Age of Household Head	0.008311	0.00134	6.17	(0.000)***
Household Marital Status	-0.08524	0.04850	-1.76	(0.079)*
Household Structure	0.11599	0.12877	0.90	0.368
Does Spouse live	0.12295	0.0688	1.79	(0.074)*
Cut 1	1.92966	.3417842		
Cut 2	1.38990	.3413716		

Source: Computed based on data from HNLSS (Harmonized living Standard Survey 2009/2010). \*\*\* Significant at 1%, \*\*Significant at 5%, \*Significant at 10%

Probability >  $\chi^2 = 0.0000$  Psuedo  $R^2 = 0.1376$  LR  $\chi^2 = 1212.52$

Log Likelihood = -3798.6439 Number of Observation = 4356

### Authors and Co-Authors Details.

**\*\*\*Obisesan Omobolaji Olubukunmi**

**(Corresponding Author)**

PhD Student, Agricultural Economics Department,  
University of Ibadan, Oyo State, Nigeria.

Tel: +234-8153711278, +234-8028251974

Email: [omobolajironke@gmail.com](mailto:omobolajironke@gmail.com)

[bolronk@yahoo.co.uk](mailto:bolronk@yahoo.co.uk).

\*Daramola Adebukola Yewande

Nigerian Institute of Social and Economic Research,  
(NISER) P.M.B 5 Ojoo Ibadan, Oyo State, Nigeria.

Tel: +234-8023451396.

Email: [bukidaramola@yahoo.co.uk](mailto:bukidaramola@yahoo.co.uk).

Ogunniyi Adebayo

Agricultural Economics Department,

University of Ibadan, Oyo State,

Nigeria.

Tel: +234-8067879846.

Email: [bayogunniyiconsult@gmail.com](mailto:bayogunniyiconsult@gmail.com)

\*\*Salman Kabir .Kayode

Agricultura Economics Department,  
University of Ibadan,Oyo State,Nigeria

Tel: +234-708677606.

Email: [kksalman@gmail.com](mailto:kksalman@gmail.com).

Rufai Adedoyin Mistura,

Agricultural Economic Department,

University of Ibadan, Oyo State,

Nigeria.

Tel: +234-8033707134

Email: [demisty28@yahoo.co.uk](mailto:demisty28@yahoo.co.uk).

\*\*\*Corresponding Author

\*\*Senior Lecturer University of Ibadan

\*Senior Researcher Fellow Nigerian Institute of Social and Economic Research.

IJSER