

Measurement and Identification of Poverty in Preparation for the 'World we want after 2015'

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Abstract: *The main objective of the research work was to review the different measure of poverty with a view of highlighting the best that can be used to identify the poor in the society for proper poverty alleviation policy implementation in both rural and urban areas of Nigeria. To achieve this primary data were collected from Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. Questionnaires were administered to 200 household heads but 140 questionnaires were successfully returned. The data collected through the administration of questionnaires were analyzed using the Multidimensional Poverty Index (MPI) approach in line with Alkire-Foster Multidimensional measurement. The testing was done at 33.33% deprivation level of multidimensional poverty. The major findings showed that there is no multidimensional poverty in Egbeda Local Government Area, Ibadan and 52 out of the 140 people investigated was multidimensional poor. This research work also shows the current situation of the people in Egbeda Local Government Area and the different indicators of multidimensional poverty in which the people in this study area are deprived. The recommendations of this work suggest that the government should incorporate other poverty attributes instead of focusing primarily on moving people out of certain income poverty level. Amongst others, some recommendations in this work suggest that there is need to improve the access to electricity and also prioritize the rehabilitation of the health care facilities in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria.*

Keywords: *Multidimensional Poverty, Food poverty, Post-MDG, Poverty alleviation*

I. Introduction

Having met in Rio de Janeiro, Brazil, from 20 to 22 June 2012, the United Nations conference on sustainable development attendees (the Heads of State and Government and high-level representatives) adopted the outcome document entitled, "The future we want", and recognize poverty eradication as one of the task after 2015. Various evaluations has shown that performance of the Millennium Development Goals (MDGs) has varied by country and region; some regions are closer to meeting the targets, while others such as Africa are not as close. But Africa has an accelerated progress on the MDGs despite unfavourable initial conditions, being the region with the lowest starting point. Thirty-four out of 54 countries that are classified as Least Developed Countries (LDCs) are in the African region, representing a disproportionate share of low-income countries (LICs). It is therefore inappropriate to assess the continent's performance on the same basis as the more advanced regions; when assessments take into account the initial conditions of the continent, it emerges that the pace of progress on the MDGs in Africa has accelerated since 2003. Indeed, an assessment of performance based on effort reveals that eight of the top ten best performers (i.e. those experiencing the most rapid acceleration) are in Southern, East, Central and West Africa with Burkina Faso ranking the highest in MDG acceleration. Furthermore, progress was more rapid in LDCs than in non-LDCs. Debate on what should follow the Millennium Development Goals (MDGs) has begun in earnest with the central theme being eradication of poverty and inequalities. Despite all efforts to meet the first Millennium development goal, economic inequality is rapidly increasing in the majority of countries. The wealth of the world is divided into two: almost half going to the richest one percent; the other half to the remaining 99 percent. The World Economic Forum has identified this as a major risk to human progress. Recent studies have shown that not all growth has benefited all groups equally as some have been characterized by widening inequalities. According to Oxfam (2014), it has been found that the wealth of the richest 85 people in the World today is almost equal to the wealth of 50% of the World population who are at the bottom level of income. Oxfam (2014) further shows that in Indonesia, China, India, Pakistan and Nigeria the richest 10 percent of the population have acquired a much greater share of national income than the poorest 40 percent over the past 30 years, with the trend likely to continue.

An assessment of the Millennium Development Goal in Nigeria shows that the poverty situation in Nigeria is precarious not only in terms of income but other indicators like food, health, environment etc. According to the National Development Goals Report (2004), food poverty is very rampant, the proportion of the underweight (children under five years), which occur as a result of food poverty, stood at 35.7% in 1990,

28.3% in 1993 and rose to 30.7% in 1999. According to this National Development Goals Report (2004), the problem appears to be more in the rural areas than in the urban areas. Statistics have it that, poverty incidence was 28.1% in 1980; this rose to 46.3% in 1995 but dropped to 42.7% in 1985 before rising to 65.6% in 1996. Most of these assessments are on the aggregate level. There is the need to assess poverty on individual basis. This is what this paper is out to do. It assesses the poverty level in the rural area of Nigeria and tries to identify the poor in these areas. It takes Egbeda local government of Oyo state as a case study. Egbeda LGA is part of Ibadan Metropolis the capital of Oyo State. The metropolis is composed of 11 local government areas; 6 at the outskirts (Egbeda is one of these) and 5 at the centre. The population of Ibadan, according to 2006 census figure in Nigeria is 2,559,850. Egbeda LGA was created in 1989 when it was carved out of Lagelu Local Government Area, a structure that has been in existence since 1961. It is bounded in the East by Osun River, in the North by Lagelu Local Government Area, in the South by Ona-Ara Local Government Area and in the West by the Lagos-Ibadan Express Road. It has an area of 191 km² and a population of 281,573 at the 2006 census (Nigeria Population Commission, 2006). Egbeda Local Government Area is subdivided into 11 wards: Erunmu, Ayede/Alugbo/Koloko, Owo Baale/Kasumu, Olodan/Ajiwogbo, Olodo/Kumapayi I, Olodo II, Olodo III, Osegere/Awaye, Egbeda, Olode/Alakia, and Olubadan Estate.

II. Poverty and Poverty Alleviation in Nigeria.

In Nigeria, like any other country, poverty has always existed. In pre-colonial period, people exchange what they produced for what they needed through trade by barter. This ability to meet their needs was limited to the quantity of their production. During the colonial era, there was self-sufficiency in food but per capital income and social services were low. The oil boom of between 1973 and 1980 brought mixed blessings to Nigeria. The increased revenue was diverted to develop infrastructures, social services, increase in wages especially in non-agricultural sectors and per capital income which had serious adverse consequences on the agricultural sector leading to a drastic fall (from 60% in 1960 to 31% in early 1980s) in the contribution of agriculture to the Gross Domestic Product (GDP). Consequently, Nigeria became a net importer of food. Hence, when oil prices began to fall in 1982, the welfare system was affected, per capital income and private consumption dropped. That marked the beginning of real poverty in Nigeria. According to World Bank reports, poverty in Nigeria is endemic and visible. It is found to be more prevalent in the rural areas.

There is no universally accepted definition of poverty. A basic feature of the concept of poverty is its complex and multidimensional nature which makes the plurality of definitions inescapable. According to English dictionary, the word 'poverty' refers to the state of lack and deprivation. The dictionary meaning is a general definition, lacking in specificity contextually. There is ambiguity as to the sense in which poverty is expressed. The word can be understood to mean the whole scope of deprivations which may be economic, social, political, cultural or in fact environmental. Clarity in terminology in this regard requires the need to make some distinction. Distinction can be made between material and non-material deprivation. Material deprivation has always been emphasized and this relates to, on one hand, lack of physical necessities, assets and income. And, on the other hand, it has to do with the general condition of deprivation such as social exclusion, vulnerability, lack of access to productive resources and basic social services and so on. In a more operational sense, material deprivation can be categorized into income poverty and human poverty. The former is understood as living with low income, low consumption, poor nutrition and poor living conditions. Human poverty, on the other hand, describes the conditions of low health and low education. Whereas, the separation of income and human poverties is needful to achieve operational objectives and for the purpose of appreciating action points for poverty eradication, the two are nonetheless not really mutually exclusive. Income poverty, in most cases, is associated with the so-called human poverty in a vicious circular manner. As a matter of fact both culminate in social deprivations, namely high vulnerability to adverse events such as diseases, economic crisis or natural disaster, voicelessness in the society and powerlessness to improve living circumstances.

Poverty is depicted as a situation in which a parent watches his or her child dying helplessly due to inability to provide medical attention due to finance constraint meeting the daily needs of the household is difficult, and paying school fees of children becomes an uphill task Kpakol (2007). The United Nations defines poverty as a denial of choices and opportunities, a violation of human dignity. World Bank (2011) defines it as pronounced deprivation in well-being in a multi-dimensional manner; while Abiola and Olaopa (2008) affirmed that the scourge of poverty in Nigeria is an incontrovertible fact which results in hunger, ignorance, malnutrition, disease, unemployment, poor access to credit facilities, low life expectancy and increasing level of hopelessness. This agrees with the poverty index that was devised in 1964 by Mollie Orshansky of the US security administration. It was a measure of need based on the finding of a study that showed approximately one third of a poor family's income was spent on food but recent reports indicate more than 90% of the income is spent on food alone.

Poverty is expressed in terms of household income or consumption. By this definition, people are considered poor if and only if they do not have sufficient income to enjoy a certain level of well-being. In the operational sense, a person is considered poor if his income or consumption is below a predetermined poverty line \$1.25. Another definition, developed by UNICEF identifies certain basic needs, such as food, clothing and shelter that must absolutely be fulfilled to keep body and soul together. Poverty, in this sense, is defined as deprivation in the material requirements for minimally acceptable fulfillment of human needs, including food. This concept of deprivation goes far beyond a lack of private income: it includes the need for basic health and education and essential services that must be provided by the society to prevent people from falling into poverty.

The complexity of the manifestation of poverty in the lives of Nigerians is visible through efforts aimed at tackling poverty through sectoral and multi-sectoral approaches. Sectoral approaches include agriculture, health, education, transport, housing and the financial sectors, while the multi-sectoral approach includes the National Directorate of Employment (NDE), Directorate of Food, Roads and Rural Infrastructures (DFRR1), Better Life for Rural Women, Family Support Programme and National Poverty Eradication Programme (NAPEP) to mention a few (see Arogundade, Adebisi and Ogunro, 2011 and Lewu, nd for details). After these various poverty in 2010, the poverty issue of the Nigerian economy in terms of food and income improved and as can be seen in the table and figure below. The percentage of non-poor in these poverty measures improved in both urban and rural sectors of the country.

Table 1: 2010 poverty Number for Absolute, Relative, Dollar/Day and Food Poverty

Sector		Food Poverty		Absolute poverty		Relative Poverty		Dollar per day based on Adjusted PPP	
		Poor	Non-poor	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor
	Urban	26.7	73.3	52.0	48	61.8	38.2	52.4	47.6
	Rural	48.3	51.7	66.1	33.9	73.2	26.8	66.3	33.7
	National	41.0	59.0	60.9	39.1	69.0	31.0	61.2	38.8

Source: Nigeria poverty Profile (2012)

From the table 1 above, only 26.7% 48.3% and 41.0%, are poor in the urban areas, rural areas and National, in terms of food. The absolute poverty figures higher; 52.0% 66.1% and 60.9% in urban, rural and National respectively. The relative poverty and dollar per day poverty are still on the high side. This trend reflect policy of poverty alleviation programmes where production of food were focused (Arogundade, Adebisi and Ogunro, 2011 and Lewu, nd for details). And in Nigeria, the people believe that if we take food out of poverty, poverty has been rendered powerless.

Fig 1: Food Poverty in Nigeria 2010

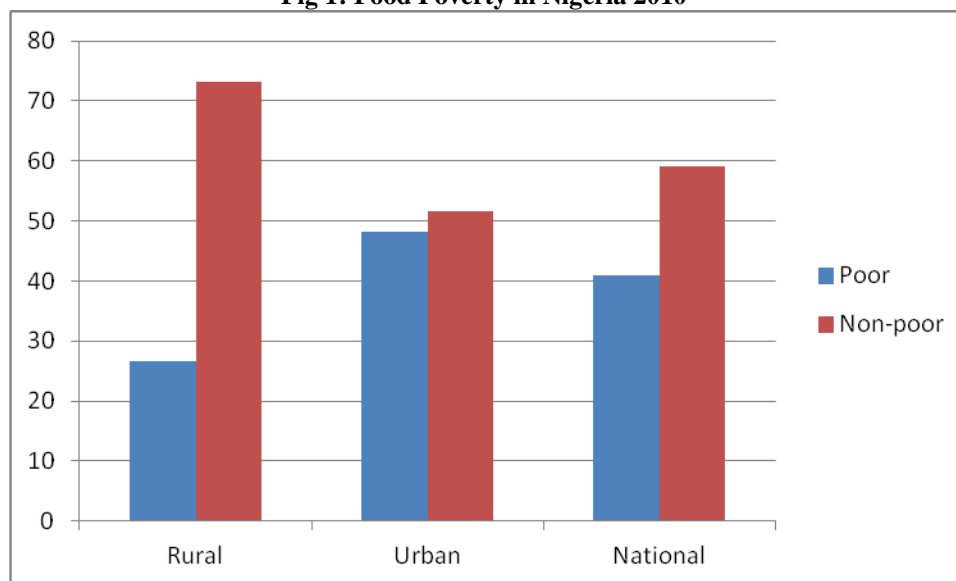


Fig 2: Absolute poverty

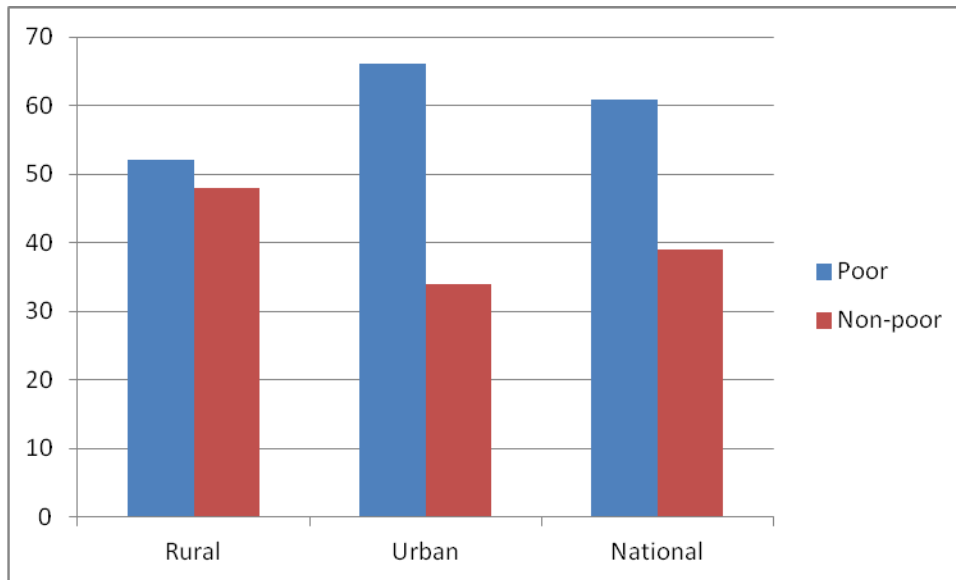


Fig3: Moderately Poor Bases on 2/3 of the Weighed Mean Household per Capita Expenditure (Relative Poverty).

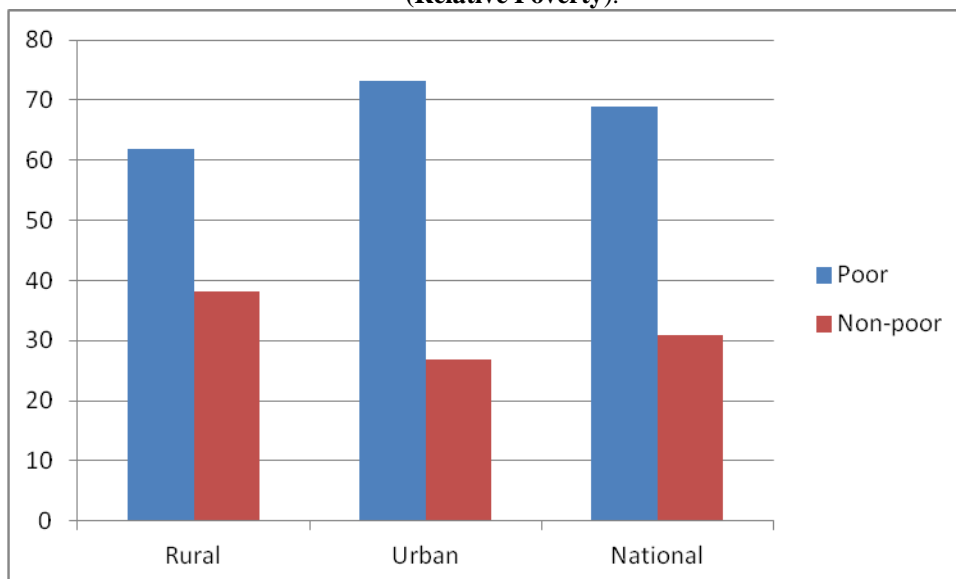
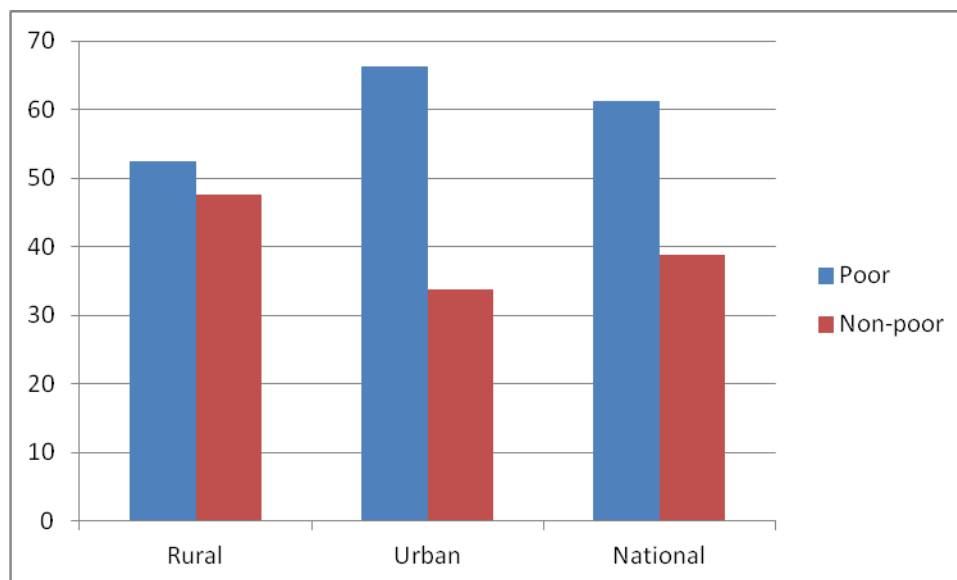


Fig 4: Dollar per Day Based on an Adjusted PPP.



Sources: Authors' computation (2015)

III. Measures and Indicators of Poverty

Economists have differed as to whether poverty should be measured in absolute sense, defining poverty as people falling below some fixed minimum income or consumption level; or whether it should be defined in relative terms, so that poverty means inability to afford what average people have. If an absolute measure is accepted, it is at least conceivable to have everybody lifted above the poverty line whereas if poverty is measured in relative sense, some people will at least fall below the so called poverty line, which means the poor will always be with us.

Poverty line is a basic measure and an instrument for identifying and measuring income poverty. It is defined as an arbitrary income measure, usually expressed in constant dollars (e.g. \$1.25 per day), used as a basis for estimating the proportion of a country's population that exists at bare level of subsistence. Based on household income or consumption, poverty lines quantify absolute poverty in monetary terms and characterize people in terms of their monetary income or consumption, particularly of food. Thus, a poverty line is just a cut-off line (or threshold) used to distinguish between "poor" and "non-poor" households

Setting a poverty line permits the calculation of the following poverty indicators

- poverty rate or incidence of poverty
 - depth of poverty or poverty gap
 - severity of poverty
- **The poverty rate or incidences of poverty**, is simply an estimate of the percentage of people living below the poverty line of \$1.25 per day.
 - **The depth of poverty is measured** as the average distance below the poverty line, expressed as a percentage of that line. It is also called the poverty gap as it shows the average distance of the poor from the poverty line.
 - **The severity of poverty** is measured as a weighted average of the squared distance below the poverty line, expressed as a percentage of that line. The weights are usually given by each individual gap. Since the weights increase with poverty, this measure is sensitive to inequalities among the poor.

One final measure of poverty, credited to the United Nations Development Programme (UNDP) in its 1997 Human Development Report, was introduced against the background of dissatisfaction with the dollar – a – day World Bank income measures.

IV. Multidimensional Poverty

Under this, "Poverty has many faces. It is much more than low income. It falls into three dimensions(Health, Education and Living Standard) and 10 indicators (Nutrition, Child mortality, Year of schooling, School attendance, cooking fuel, Sanitation, water, Electricity, floor and assets) [UNDP, Human Development Report, 1997]. Hence, in place of the World Bank's notion of income poverty, the UNDP developed a measure of human poverty – that is, human poverty index (HPI). The HPI constructed is a multidimensional measure of poverty, incorporating three key deprivations in respect of survival, knowledge, and economic provisions. The deprivation in longevity (survival) is measured as the percentage of people not expected to survive to age 40, and the deprivation in knowledge is measured by the percentage of adults who are

illiterate. The third deprivation, economic provisions, relates to a decent living standard. It is represented by a composite of three variables, namely the percentage of people without access to safe water, the percentage of people without access to health services, and the percentage of malnourished children under five.

The measure, HPI, provides a quantitative and more comprehensive poverty indicator when compared to income poverty index. Income poverty, no doubt, needs to be measured, but income alone is too narrow a measure. Thus, HPI developed by UNDP, provides a more robust and broad measure of poverty indicator, summarizing the extent of poverty along several dimensions. The index makes possible a ranking in relation to a combination of basic deprivations and also serves as a useful complement to other measures of poverty and human deprivation-including income poverty. A shortcoming of HPI, however, is that it is somehow aggregative as it is not possible to associate the poverty incidence with a specific group of people or number of people.

Multidimensional Poverty Index Concept

Ravallion (2010) documented that the Multidimensional Poverty Index (MPI) was developed by Alkire and Santos in a work done for the 2010 Human Development Report and . The authors chose the 10 components for the MPI which are Nutrition, Child Mortality, years of schooling, school attendance, cooking fuel, sanitation, water, electricity, floor and assets. According to them, a household is identified as being poor if it is deprived across at least 33.33% of the weighted indicators. While the HDI uses aggregate country-level data, the MPI uses household-level data, which is then aggregated to the country level. Alkire and Santos construct their MPI for more than 100 countries. The MPI is intended to inform policy making. Alkire and Santos argue that:

“The MPI goes beyond previous international measures of poverty to identify the poorest people and aspects in which they are deprived. Such information is vital to allocate resources where they are likely to be most effective.”

Alkire and Santos (2010) identify three dimensions to be included in the MPI: health, education, and the standard of living. These dimensions mirror the HDI. They have been chosen as consensus that any multidimensional poverty measure should at least include these three dimensions for the ease of interpretability, and for reasons of data availability.

Since poverty is multidimensional in nature, it is usually perceived using different criteria. This causes the numerous attempts in defining multidimensional poverty; each definition tries to capture the perception of what multidimensional poverty is. With multidimensional poverty analysis, it is possible to identify the main causes of poverty and adopt policies to reduce its intensity. Development economists have further justified analytical approach by viewing development as improvement in an array of human needs and not just growth of income (Streeten, 1981). AGV Naidoo (2007) affirmed that a multidimensional poverty index is a non-constant function that gives the extent of poverty associated with the various attributes of poverty. The multidimensional poverty index is an index of acute multidimensional poverty. It reflects deprivations in very rudimentary services and core human functioning for people across 104 countries (Sabina Alkire and Maria Emma Santos, 2010). The multidimensional poverty index is an aggregation of shortfalls of individuals and the shortfalls involve the levels of basic needs (Tsui, 2000).

Sivakumar and Dhanya cited the World Bank (2001) and explained that from the perspective of this multidimensionality, poverty can be viewed not only as low income and consumption but also achievement in education, health, nutrition and other aspects of human development. Borrowing from wiki progress, the multidimensional poverty index is a composite measure of the percentage of deprivations that the average person would experience if the deprivations of poor households were shared equally across the population.

Sakiko Fukuda-Parr describes the multidimensional poverty measures developed by UNDP's Human Development Reports since 1990. According to him, opportunities in human life are literally in number, but some are basic, and deprivations in those areas foreclose many other opportunities. Fukuda-Parr and Kumar (2009) documented that the Multidimensional Poverty Index focuses on the progress of deprived people in the community. It is a summary measure of human development and it measures average achievements in a country in three basic dimensions of human development – a long and healthy life, access to knowledge and decent standard of living.

Dotter and Klasen (2014) affirm that MPI is, in principle, able to make statements about the extent of global multidimensional poverty in a way the World Bank's \$1-a-day poverty line makes about global absolute income poverty. They believe that the MPI should most sensibly be seen as the multidimensional analogue, or multidimensional 'competitor' of the international income poverty line. Just as the HDI is the multidimensional analogue to GDP per capita to measure average well-being, the MPI does that on the poverty front. MPI, through its base on household survey information, is a much more actionable and policy-relevant indicator for countries and agencies.

Dotter and Klasen cited Alkire and Foster (2011) and documented that MPI is based on an ordinal version of the dual-cutoff multidimensional poverty measures which tries to navigate between the allegedly empirically unappealing union and intersection approaches to multidimensional poverty identification, and MPI is also based on the weighted aggregation of deprivations across dimensions, some using ordinal data. As summarized

by Subramanian (Jayaraj and Subramanian, 2010), very similar formulations were proposed by Jayaraj and Subramanian (2002, 2005, 2007, 2010), Brandolini and D'Alessio (2010), Bourguignon and Chakravarty (2003), and Chakravarty and d'Ambrosio (2012). The multidimensional poverty index has some of its indicators more important than others.

V. Methodology

This section contains a summary of the responses of the respondents. The objectives of the study are to identify the poor and measures for the study area, and investigate the current situation and intensity of poverty in households in Egbeda Local Government Area, Oyo State. The statistical analysis and testing of hypotheses was carried out using the Alkire-Foster methodology. The test was done at 33.33% deprivation level of multidimensional poverty. For this study, a total of 200 questionnaires were administered but only 140 were successfully returned for analysis. In the survey, 72 (51.4%) of the respondents are males 68 (48.6%) are females. 37(26.4%) of the respondents fall into the age group of 18-30 years, 70 (50%) fall into the age group of 31-45 years, 25(17.9%) fall into the age group of 46-65 years, and 5.7% fall into the age group of above 66 years. From this, it can be concluded that majority of the household heads and respondents in this area fall into the age group of 31-45 years. 69.3% of the respondents have households consisting of 3-6 people, 26.4% of the respondents have households consisting of 7-10 people, 4.3% of the respondents have households consisting of 11 people and above. From this, it can be concluded that the most members of a household in this area falls in the bracket of 3-6 people.

Ten indicators under 3 dimensions of poverty are used. The dimensions are Health, Education and Living Standard while the indicators under these are Nutrition, Child Mortality, years of schooling, school attendance, cooking fuel, sanitation, water, electricity, floor and assets. These are numbered 1-10 respectively. The respondents are numbered horizontally from 1-140. To identify the poor, the Alkire- Foster (AF) method is used. This method first counts the overlapping deprivation that a person suffers in different indicators of poverty. In this, the indicator carries different weight of;

- Years of Schooling – Weighted at 1/6
- Child School Attendance – Weighted at 1/6
- Child Mortality – Weighted at 1/6
- Nutrition – Weighted at 1/6
- Electricity – Weighted at 1/18
- Sanitation – Weighted at 1/18
- Drinking Water – Weighted at 1/18
- Floor – Weighted at 1/18
- Cooking Fuel – Weighted at 1/18
- Assets Ownership – Weighted at 1/18

A poverty cutoff is set for each dimension. This step establishes the first cutoff in the methodology. Every person can then be identified as deprived or non-deprived with respect to each dimension. For example, if the dimension is schooling ('How many years of schooling have you completed?'), '6 years or more' might identify non-deprivation, while '1-5 years' might identify deprivation in the dimension. Poverty thresholds can be tested for robustness, or multiple sets of thresholds can be used to clarify explicitly different categories of the poor (such as poor and extremely poor).

This section determines the departure of observed responses by carefully choosing appropriate technique of analysis. The expectation is to know the different major types of deprivation in Egbeda Local Government Area and identify the current situation and intensity of poverty in the households in this area of study.

According to the Alkire-Foster methodology, any person experiencing 33.33% or more of the weighted deprivations is multidimensionally poor. The MPI formula used is;

$$MPI = H \times A$$

Where H is incidence and is derived by dividing the number of people who are multidimensionally poor (q) by the total population (n);

$$H = \frac{q}{n}$$

A is intensity and it is the average deprivation score of the multidimensionally poor people which can be expressed as;

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

Where $c_i(K)$ is the censored deprivation score of individual i and,

q is the number of people who are multidimensionally poor.

This can be explained more explicitly given the following analysis. The Alkire-Foster methodology can be intuitively introduced in 12 steps. The first 6 steps are common to many multidimensional poverty measures; the remainder are specific to the Alkire-Foster method. According to Alkire-Foster (2014)

Step 1: Choose Unit of Analysis. The unit of analysis is most commonly an individual or household but could also be a community, school, clinic, firm, district, or other unit.

Step 2: Choose Dimensions. In practice, most researchers implicitly draw on five means of selection, either alone or in combination:

- Ongoing deliberative participatory exercises that elicit the values and perspectives of stakeholders. A variation of this method is to use survey data on people's perceived necessities.
- A list that has achieved a degree of legitimacy through public consensus, such as the universal declaration of human rights, the MDGs, or similar lists at national and local levels.
- Implicit or explicit assumptions about what people do value or should value. At times these assumptions are the informed guesses of the researcher; in other situations they are drawn from convention, social or psychological theory, or philosophy.
- Convenience or a convention that is taken to be authoritative or used because these are the only data available that have the required characteristics.
- Empirical evidence regarding the value of people, data on consumer preferences and behaviours, or studies of what values are most conducive to people's mental health or social benefit.

Clearly these processes overlap and are often used in tandem empirically; for example, nearly all exercises need to consider data availability or data issues, and often participation, or at least consensus, is required to give the dimensions public legitimacy.

Step 3: Choose Indicators. Indicators are chosen for each dimension on the principles of accuracy (using as many indicators as necessary so that analysis can properly guide policy) and parsimony (using as few indicators as possible to ensure ease of analysis for policy purposes and transparency). Statistical properties are often relevant—for example, when possible and reasonable, it is best to choose indicators that are not highly correlated.

Step 4: Set Poverty Lines. A poverty cutoff is set for each dimension. This step establishes the first cutoff in the methodology. Every person can then be identified as deprived or non-deprived with respect to each dimension. For example, if the dimension is schooling ('How many years of schooling have you completed?'), '6 years or more' might identify non-deprivation, while '1–5 years' might identify deprivation in the dimension. Poverty thresholds can be tested for robustness, or multiple sets of thresholds can be used to clarify explicitly different categories of the poor (such as poor and extremely poor).

Step 5: Apply Poverty Lines. This step replaces the person's achievement with his or her status with respect to each cutoff; for example, in the dimension of health, when the indicators are 'access to health clinic' and 'self-reported morbidity body mass index,' people are identified as being deprived or non-deprived for each indicator. The process is repeated for all indicators for all other dimensions.

Step 6: Count the Number of Deprivations for Each Person. Equal weights among indicators are assumed for simplicity. General weights can be applied, however, in which case the weighted sum is calculated.

Step 7: Set the Second Cutoff. Assuming equal weights for simplicity set a second identification cutoff, k , which gives the number of dimensions in which a person must be deprived in order to be considered multidimensionally poor. In practice, it may be useful to calculate the measure for several values of k . Robustness checks can be performed across all values of k .

Step 8: Apply Cutoff k to Obtain the Set of Poor Persons and Censor All Non-poor Data. The focus is now on the profile of the poor and the dimensions in which they are deprived. All information on the non-poor is replaced with zeros (0).

Step 9: Calculate the Headcount, H . Divide the number of poor people by the total number of people. In our example, when $k = 4$, the headcount is merely the proportion of people who are poor in at least 4 of d dimensions. The multidimensional headcount is a useful measure, but it does not increase if poor people become more deprived, nor can it be broken down by dimension to analyze how poverty differs among groups. For that reason we need a different set of measures.

Step 10: Calculate the Average Poverty Gap, A . A is the average number of deprivations a poor person suffers. It is calculated by adding up the proportion of total deprivations each person suffers (for example, if Person 1 suffers 4 out of 6 deprivations and Person 4 suffers 6 out of 6) and dividing by the total number of poor persons. $A = (4/6 + 6/6)/2 = 5/6$.

Step 11: Calculate the Adjusted Headcount, M_0 . If the data are binary or ordinal, multidimensional poverty is measured by the adjusted headcount, M_0 , which is calculated as H times A . Headcount poverty is multiplied by

the 'average' number of dimensions in which all poor people are deprived to reflect the breadth of deprivations. In our example, HA = 2/4 × 5/6 = 5/12.

Step 12: Decompose by Group and Break Down by Dimension. The adjusted headcount M₀ can be decomposed by population subgroup (such as region, rural/urban, or ethnicity). After constructing M₀ for each subgroup of the sample, we can break M₀ apart to study the contribution of each dimension to overall poverty. To break the group down by dimension, let A_j be the contribution of dimension j to the average poverty gap A. A_j could be interpreted as the average deprivation share across the poor in dimension j. The dimension-adjusted contribution of dimension j to overall poverty, which we call M_{0j}, is then obtained by multiplying H by A_j for each dimension.

VI. The Result of the Analysis

Table 1 a: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	1	2	3	4	5	6	7	8	9	10
1	1/6	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%
2	1/6	0%	100%	0%	100%	100%	100%	0%	0%	0%	0%
3	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4	1/6	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%
5	1/18	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
6	1/18	100%	0%	0%	0%	100%	100%	100%	100%	0%	100%
7	1/18	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%
8	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
9	1/18	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%
10	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weighted Score		16.67 %	22.22 %	38.89 %	38.89 %	27.78 %	33.33 %	16.67 %	16.67 %	16.67 %	38.89 %
Status		Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)

Table 1 b: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	11	12	13	14	15	16	17	18	19	20
1	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	1/6	0%	0%	0%	0%	0%	100%	100%	0%	100%	0%
3	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4	1/6	0%	0%	100%	100%	0%	0%	0%	100%	0%	0%
5	1/18	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%
6	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
7	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
8	1/18	0%	0%	0%	100%	100%	0%	100%	100%	0%	0%
9	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weighted Score		0%	0%	16.67 %	27.78 %	5.56%	16.67 %	22.22 %	27.78 %	16.67 %	5.56%
Status		Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)

Table 1 c: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	21	22	23	24	25	26	27	28	29	30
1	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	1/6	100%	0%	0%	100%	0%	100%	100%	0%	0%	0%
3	1/6	100%	0%	100%	0%	0%	0%	100%	0%	0%	0%
4	1/6	100%	0%	0%	100%	100%	0%	0%	0%	0%	0%
5	1/18	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%
6	1/18	100%	0%	0%	100%	0%	0%	100%	100%	0%	0%
7	1/18	100%	100%	0%	0%	0%	0%	100%	0%	100%	0%
8	1/18	0%	100%	0%	100%	0%	100%	100%	100%	100%	0%
9	1/18	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%
10	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Measurement and Identification of Poverty in Preparation for the 'World we want after 2015'

Weighted Score		61.11 %	11.11 %	16.6%	50%	22.22 %	33.33 %	55.56 %	16.67 %	22.22 %	11.11 %
Status		MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)

Table 1 d: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	31	32	33	34	35	36	37	38	39	40
1	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	1/6	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%
3	1/6	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%
4	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
5	1/18	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%
6	1/18	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%
7	1/18	0%	0%	100%	100%	0%	0%	0%	100%	100%	0%
8	1/18	0%	0%	100%	100%	100%	0%	100%	0%	100%	0%
9	1/18	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
10	1/18	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Weighted Score		5.56%	5.56%	55.56%	50%	27.78%	5.56%	11.11%	5.56%	16.67%	5.56%
Status		Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)

Table 1 e: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	41	42	43	44	45	46	47	48	49	50
1	1/6	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%
2	1/6	0%	100%	0%	100%	0%	0%	100%	0%	0%	0%
3	1/6	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
4	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
5	1/18	100%	100%	0%	100%	100%	100%	100%	0%	0%	100%
6	1/18	0%	0%	100%	100%	0%	0%	100%	100%	100%	100%
7	1/18	0%	0%	100%	0%	0%	0%	100%	100%	100%	100%
8	1/18	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%
9	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Weighted Score		22.22 %	22.22 %	11.11 %	27.78 %	5.56%	22.22 %	38.89 %	33.33 %	16.67 %	44.44 %
Status		Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)

Table 1 f: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	51	52	53	54	55	56	57	58	59	60
1	1/6	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%
2	1/6	100%	0%	100%	0%	0%	0%	0%	0%	100%	100%
3	1/6	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%
4	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
5	1/18	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
6	1/18	100%	100%	100%	100%	100%	0%	100%	0%	0%	100%
7	1/18	100%	100%	0%	100%	100%	0%	100%	0%	100%	100%
8	1/18	100%	0%	100%	100%	0%	100%	100%	0%	0%	100%
9	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	1/18	100%	100%	100%	100%	100%	100%	100%	100%	0%	0%
Weighted Score		44.44%	66.67%	55.56%	44.44%	44.44%	16.67%	27.78%	11.11%	27.78%	72.22%
Status		MPI Poor (≥33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)

Table 1 g: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	61	62	63	64	65	66	67	68	69	70
1	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	1/6	100%	0%	100%	100%	100%	100%	100%	100%	100%	100%
3	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
5	1/18	100%	0%	0%	100%	0%	0%	100%	0%	100%	100%
6	1/18	100%	0%	100%	0%	100%	100%	0%	100%	100%	100%
7	1/18	100%	0%	100%	100%	100%	0%	100%	0%	100%	100%
8	1/18	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%
9	1/18	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%
10	1/18	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%
Weighted Score		44.44 %	0%	27.78 %	38.89 %	27.78 %	22.22 %	38.89 %	22.22 %	38.89 %	44.44 %
Status		MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	MPI Poor (≥33%)

Table 1h: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	71	72	73	74	75	76	77	78	79	80
1	1/6	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
2	1/6	0%	100%	0%	100%	100%	0%	0%	0%	0%	100%
3	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
5	1/18	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%
6	1/18	0%	100%	100%	100%	0%	0%	0%	0%	100%	0%
7	1/18	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%
8	1/18	100%	100%	0%	100%	0%	0%	0%	0%	0%	0%
9	1/18	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%
10	1/18	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%
Weighted Score		5.56%	44.44 %	22.22 %	38.89 %	27.78 %	5.56%	5.56%	27.78 %	11.11 %	38.89 %
Status		Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)

Table 1 i: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	81	82	83	84	85	86	87	88	89	90
1	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	1/6	0%	0%	100%	100%	100%	0%	0%	100%	100%	0%
3	1/6	0%	100%	0%	0%	0%	100%	100%	0%	0%	0%
4	1/6	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%
5	1/18	100%	0%	100%	100%	100%	100%	0%	100%	100%	100%
6	1/18	100%	100%	100%	100%	100%	100%	100%	0%	100%	0%
7	1/18	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8	1/18	100%	100%	100%	100%	0%	0%	0%	100%	100%	0%
9	1/18	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%
10	1/18	100%	100%	0%	100%	100%	100%	100%	0%	0%	0%
Weighted Score		27.78 %	38.89 %	38.89 %	44.44 %	61.11 %	38.89 %	33.33 %	38.89 %	44.44 %	27.78 %
Status		Not MPI Poor (<33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)

Table 1 j: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	91	92	93	94	95	96	97	98	99	100
1	1/6	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%
2	1/6	100%	0%	0%	100%	0%	0%	0%	0%	100%	0%
3	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4	1/6	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%
5	1/18	100%	100%	100%	100%	100%	100%	100%	0%	0%	100%
6	1/18	100%	100%	0%	0%	0%	0%	0%	0%	100%	100%
7	1/18	100%	100%	0%	100%	0%	100%	0%	0%	0%	100%
8	1/18	0%	100%	0%	100%	0%	0%	0%	0%	0%	100%
9	1/18	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%
10	1/18	0%	0%	0%	100%	0%	0%	0%	0%	100%	0%
Weighted Score		33.33 %	22.22 %	22.22 %	61.11 %	22.22 %	11.11 %	5.56%	16.67 %	27.78 %	27.78 %
Status		MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)

Table 1 k: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	101	102	103	104	105	106	107	108	109	110
1	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	1/6	100%	100%	100%	100%	100%	0%	100%	100%	0%	100%
3	1/6	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%
4	1/6	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
5	1/18	100%	100%	100%	0%	100%	100%	100%	100%	100%	100%
6	1/18	100%	100%	0%	0%	100%	0%	0%	0%	0%	0%
7	1/18	0%	0%	100%	100%	100%	100%	100%	0%	100%	0%
8	1/18	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%
9	1/18	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%
10	1/18	0%	0%	100%	0%	100%	0%	100%	0%	0%	100%
Weighted Score		27.78 %	27.78 %	77.78 %	22.22 %	55.56 %	11.11 %	38.89 %	22.22 %	16.67 %	27.78 %
Status		Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)

Table 1 l: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	111	112	113	114	115	116	117	118	119	120
1	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	1/6	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
3	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4	1/6	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
5	1/18	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
6	1/18	0%	0%	0%	0%	0%	100%	100%	0%	0%	100%
7	1/18	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%
8	1/18	0%	0%	0%	0%	0%	0%	100%	100%	0%	100%
9	1/18	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
10	1/18	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weighted Score		27.78 %	5.56%	5.56%	5.56%	5.56%	11.11 %	16.67 %	33.33 %	5.56%	55.56 %
Status		Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)	Not MPI Poor (<33%)	MPI Poor (≥33%)

Table 1 m: Identification of Poverty using Multidimensional Poverty Indicators

Indicator	Weight	121	122	123	124	125	126	127	128	129	130
1	1/6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	1/6	0%	0%	0%	0%	0%	100%	100%	100%	0%	100%
3	1/6	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%
4	1/6	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%
5	1/18	0%	100%	100%	100%	100%	100%	100%	100%	0%	100%

Therefore, factor A for Egbeda Local Government Area = 0.451

VII. Conclusion and Recommendations

The total multidimensional poverty deprivation in Egbeda Local Government Area is 16.7%. This is less than the MPI weighted indicator which is 33.33% and above. Hence, there is no multidimensional poverty in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. However, out of the 140 people surveyed, 52 are multidimensionally poor.

It is therefore recommended that for equity purpose and in the effort to eradicate poverty whenever poverty alleviation programme is proposed, the government should engage in a survey of this type to identify the truly poor. Also, this paper has been able to show that many of the poverty alleviation programmes in Nigeria succeeded as their main focus was food. It is recommended that other dimensions like standard of living, large scale farming etc should be focused for future improvement.

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