Determinants of Poverty Status Among Households in Nigeria

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by

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Dedication

This project work is dedicated to my late grandmother Mrs. Olufunke Obasa Ajayi who took great care of me while she was alive and to all people struggling to come out of poverty in developing nations.

Acknowledgements

Abstract

The study investigated the determinants of poverty status (depth) among households in Nigeria and also estimated poverty indices for rural and urban regions, various groups of respondents.

It employed the national consumption expenditure data 2009/2010 from the National Bureau of Statistics NBS for the analysis. The data composed of 38,000 households selected from 774 local government areas in Nigeria. Data were analyzed using frequency distribution, percentages, mean, relative poverty line of 2/3 mean per capita expenditure, Foster -Greer –Thobecke FGT composite poverty measure and Tobit regression model.

The results of the poverty indices analysis showed that at the national level, 50.4% of Nigerians were poor, with 18.9% of them extremely poor while 31.5% were moderately poor. At the sectorial level, poverty is more wide-spread in rural areas, 53.3% of its population lived below the poverty line, while only 32.7% of urban population were poor. Furthermore, the poverty indices revealed that poverty headcount was highest in the North-Eastern part of the country; the region had a poverty incidence of 65.02%, followed by North-Western region with poverty headcount of 64.8%, while the South-Western region had the lowest poverty incidence of 34.2%. With respect to household size, it was observed that households with between 7 to10 members had the largest poverty headcount of 80.5% while households that had between 1and 3 members had the lowest poverty headcount of 22.7%.

The results of the Tobit regression model that was applied to estimate the determinants of poverty depth showed that age of household head, household size, living in rural areas were variables that had positive and significant relationship to poverty depth among households in Nigeria, while the squared age of household head, total remittances received by households, being a male head of households, living in North Central and Southern Nigeria were variables that had negative and significant impact on poverty depth among households in Nigeria.

In conclusion, it is recommended that Nigerian government should intensify its commitments and efforts in eradicating poverty in Nigeria by giving special attention to rural areas, the Northern-Eastern part of Nigeria, women empowerment and population control.

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Poverty and material deprivation has remained for a long time a subject of major concern of many governmental and non-governmental organizations in both the developed and developing nations. For example eradication of extreme poverty and hunger is the first goal of the United Nations eight Millennium Development Goals (UN 2000). Poverty is multidimensional, it is conceptualized in different views by different societies and scholars, it involves deprivations in several aspects of life including economic, social, cultural, political and environmental dimensions. It refers to a condition in which one is unable to satisfy basic needs for a healthy functioning, that is people are classified poor when they fall below a certain threshold called poverty line. According to the World Bank (2000) "poverty is pronounced deprivations in well-being" One can think of well-being as command over resources judging from the level of one's income or consumption expenditure (Haughton and Khandker, 2009 ,2).

Sen (1987) claims that well-being arises from capability to function properly in the society, people therefore become poor when they lack key capabilities such as adequate income or education , good health, security, self –confidence, or human rights like freedom of speech (Sen (1987) in Haughton and Khander, 2009, 2). Generally poverty can be viewed and understood in four ways: lack of access to basic needs/goods such as covering/housing, water, access to healthcare , access to productive resources including education and so on; lack of or inadequate access to productive resources like agricultural land, physical capital and financial assets ; as a result of inefficient use of common resources ,for example from weak policy environment, insufficient infrastructure, limited access to technology, and credit; outcome of "exclusive mechanisms" for instance certain group using democratic process to exclude and oppress others in the same society (Ajakaiye and Adeyeye, 2002).

Poverty is a scourge that continues to have adverse effects and severe hardship on millions of people all over the world. More than three billion people equivalent to almost half of the world's population live on less than $2.50 a day and over 80 percent of the world's population live in countries where income gaps are increasing with the

poorest 40% of the world's population accounting for 5% of global income while the richest 20% accounts for three quarters of world income (Human Development Report, HDR 2007).The World-Bank report (2012) reveals that an estimated 1.29 billion people in 2008 lived below $1.25 a day in developing countries. Although there has been some reduction in poverty incidence owing to the various efforts of several organizations both governmental and non-governmental, 22 percent of the population of developing nations still wallows in abject poverty. Majority of those who live in extreme poverty reside in developing worlds of Africa, Asia, and Latin- America (Gbosi and Omoke 2004).

Several socio-economic problems such hunger, infant immortality, sicknesses and disease outbreak continue to plague many in developing nations due to extreme level of poverty, sadly this deplorable situation is preventable if properly managed. Sub-Saharan Africa as a continent has a tragic record of highest incidence of poverty with about 47 percent of its population reported being poor (World Bank 2012). Many have attributed different reasons for the slow improvement in poverty alleviation in Africa, factors such as labour market shortages, macro-economic shocks and failures, poor governance, corruption, low economic growth, huge debt burden , environmental degradation, migration, unemployment and underdevelopment , crime and violence (Ajakaiye and Adeyeye 2002) and rapidly growing population among others continue to mask effect of poverty alleviation programmes.

A widely known paradox is that many of the world's poorest countries are home to major resources that drive the global economy. Nigeria is a perfect example of such poorest country. It is the largest country in Africa with it's over 150million population. It is the biggest crude oil producer in Africa and has the third largest economy in Africa behind South Africa and Egypt (therichest.org, 2011). Despite the vast resource base both natural and human, a larger proportion of its citizens live in abject poverty. An inquiry into the poverty profile and history of Nigeria shows that the country has been suffering from high incidence of poverty over the last two decades. Since 1980s, poverty situation in Nigeria has been worsening. Between 1980 and 2004, the poverty incidences for Nigeria by National Bureau of Statistic (NBS) (2004) are 28.1% (1980), 46.3% (1985), 42.76 % (1992), 65.6 % (1996) and 54.4 % for 2004.

Nigeria experienced increases in poverty incidence between the period 1980 and 1985 and between 1992 and 1996 and brief decline in poverty in 1985 and 1992 and between 1996 and 2004. In population terms the number of poor in the country has risen from 17.7 million in 1980 to 68.7 million in 2004.

Furthermore the report reveals that poverty is more widespread in the rural areas than urban areas. In 1980, 17.2% of urban population was poor while 28.3 % of the rural population was poor in 1980. Poverty situation had deteriorated for both sectors by 2004 with 43.2% urban and 63.3% rural population reported being poor. The rapid and alarming increase in poverty rates in Nigeria transcends low incomes, savings and growth; increasing level of inequality due to unequal access to income opportunities and basic infrastructure also contribute significantly to aggravation of poverty (Omonona 2009). Income inequality is higher in Nigeria than Ethiopia, Madagascar, India, Niger, the United States and Sweden (NBS, 2007 in Omonona, 2009). Equal access to income opportunities and assets are essential because such access can contribute significantly to reduction of poverty and stimulate the economy to long-term development (Omonona, 2009). According to the World Bank (1996), Nigeria would have witnessed a 13.6 % decline in poverty between 1985 and 1992 if income distribution had remained unchanged, it rather decreased by 8.9 % during the period (World-Bank, 1996 in Omonona, 2009).

Incidentally, Nigerian economy has seen rapid growth in the last few years, currently estimated at 7.9 % percent per annum (World-Bank-Nigeria-Country brief, 2012). Unfortunately, the economic growth has not contributed to poverty alleviation in the country, primarily because the growth is driven mainly by one sector, the oil sector. Majority of the poor live in rural areas and are engaged in agriculture as their chief means of livelihood. From all indications, the future looks uncertain, its seems the chances of Nigeria meeting the United Nations goal of eradication of extreme poverty by 2015 is not feasible. The reaction of Nigerian government to the endemic and persistent problem of poverty has been slow and also accompanied by poor governance. Unless the country increases its commitments and efforts in designing and implementing policies that will effectively target the poor is the goal of eradicating extreme poverty by 2015 realizable. This is why studies of socio-economic determinants of poverty are vital in helping the government and international donor organizations to see aspects and factors that need urgent consideration and improvement so as to achieve speedy reduction in the escalating poverty incidence in the country.

1.2 Problem statement.

In several developing countries, poverty seems to be on the decline over the last decade. According to a recent World-Bank press report (2012), between the years 1990 and 2008, the population of people living on less than $1.25 (dollars) a day in developing nations decreased from 1.9 billion to 1.29 billion , this represents a decline in percentage terms from 43 percent of the whole population to 22.4 percent. At the continental level, Sub-Saharan Africa SSA witnessed a decline in extreme poverty from 51 percent of its population in 1981 to 47 percent in 2008. These results indicate that there has been some progress in the fight against poverty.

However not every developing nations has witnessed steady reduction in poverty. Since 1980 the poverty incidence in Nigeria has been escalating (UNDP 2005).Recent statistics from Nigeria are shocking and distressing. The National Bureau of Statistics (NBS) 2011 of the nation reported that in spite of the rapid economic growth of the Nigerian economy, 60.9% of Nigerians in 2010 were living in absolute poverty, as compared to 54.7% in 2004.This 60.9% absolute poverty shows that more than 100 million people out of the 162.4 million Nigerians (population estimate July 2011, United Nations) are extremely poor. Previous study done by Federal Office of Statistics (FOS) (1999) indicated that poverty incidence increased from 26.1 to 46.3% between 1980 and 1985 and 42.7 to 65.6% between 1992 and 1996, respectively.

The report also revealed that poverty incidence is highest in the rural communities and women are the most affected. This is not surprising as many rural people lack capabilities in terms of employment opportunities as they mostly rely on subsistence agriculture as primary means of livelihood and also lack access to infrastructural development that can improve their wellbeing. Moreover, the Human Development Index (HDI) report (2011) of the United Nations Development Programme UNDP ranked Nigeria 156 out of 186 countries with the HDI 0.453 which is below Sub-Saharan Africa's average of 0.463, clearly suggesting that Nigeria is still one of the 40 poorest nations in the world. Several factors were attributed to the worsening case of poverty in Nigeria. Changing socioeconomic, political, environmental conditions as well as unstable and decreasing income, low rate of capital accumulation and declining agricultural output due to the rapidly changing climatic conditions in Nigeria have continued to exacerbate the living conditions of several households especially those of rural inhabitants (Olutayo, 2009).

Besides, huge income inequality between the poor and the rich, bad governance, corruption, high unemployment rate, rapidly growing population and poor infrastructural developments also contribute to the escalation of poverty.

Despite the fact that the past and present Nigerian governments have initiated and implemented numerous policies and poverty alleviation programmes to tackle the scourge, their efforts have yielded little or no results as the situation of the poor continue to worsen day by day. Extremely high level of poverty can have grave consequences on individuals and the nation at large, it is dehumanizing and detrimental to economic growth, it can ignite and incite the impoverished population to various forms of social vices, crisis and crimes as means of survival. In view of the above, the greatest concern of Nigerian government should be to devise means to redress the poverty trap currently plaguing the country. In order to achieve this goal, a comprehensive knowledge of the poverty profile and its determinants both at household and regional level are imperative because characteristics such as age and gender of households, educational status of household head and other socio economic factors are fundamental factors that could have an impact of poverty status of households in Nigeria (Osinubi, 2003). This is the central focus of this research work. This will help to inform decision makers on specific factors and regions to focus on in order to achieve rapid improvement in reduction of extreme poverty.

1.3 Justification for the study

The study will utilize the recently collected National Consumption Expenditure Survey data 2009/2010 from National Bureau of Statistics (NBS) to analyze poverty profiles and estimate the determinant of poverty depth at both the household and regional level. This is very important considering the prevailing deteriorating poverty situation of the country. NBS has estimated relative poverty using the Harmonized living standard survey data 200/2010 on poverty incidence for Nigeria but did not analyze the depth and severity of poverty. Also NBS did not capture the determinants of poverty in its study of poverty. This study will fill this gap, by estimating the depth, severity and determinants of poverty at the rural, urban and national level.

The National Consumption Expenditure Survey data is national representative covering the whole 36 states of the federation including the capital.

The data have a reasonable degree of quality because they were collected with support from the World Bank and other international development agencies. It is primarily based on consumption expenditures of both food and non -food components which making it more suitable for the poverty analysis as consumption expenditures are preferable over income as a measure of welfare for poverty analysis in developing nations owing to the fact that income are susceptible to several errors (Datt and Joliffe 1999 in Omonona 2009). Analyzing the determinants of poverty gap for both the rural and urban Nigeria with these recent data is a key step into the discovery of specific areas or factors to focus on in the design and implementation of poverty alleviation strategies.

Moreover, as at the time of embarking on this research activity, the author is not aware of any study or publication that has employed the National Consumption Expenditure Survey 2009/2010 to analyze the determinants of poverty depth both at the national and sectorial level. Most of the recent similar studies on the determinants of poverty utilized National living Standard Survey NLSS 2004 for example Omonona (2009), other studies used data collected from geographic location not nationwide (Akerele et al 2012, Asogwa et al 2012). To utilize the consumption expenditure survey 2009/2010 to study determinants of poverty status is thus an important opportunity to scientifically investigate the current poverty situation of households in Nigeria. This study therefore can reveal new insights into depth of poverty among Nigerians and also can reaffirm the results of previously done studies in the subject of poverty and its determinants at the national level. This can prove vital in advising the Nigerian government and other developmental organizations about alternative course of directions and actions to take in order to achieve meaningful results in their desire to alleviate poverty.

1.4 Objectives of the study

The principal focus of this study is to examine the determinants of poverty status among households in Nigeria both at the national and sectorial level employing household socio-economic and regional characteristics. Specifically the study will:

1. Provide the a general descriptive analysis of the household socio-economic characteristics

2. Determine incidences, depth and severity of poverty among Nigerians at the national, rural and urban regions.

3. Examine the determinants of poverty depth among households in Nigeria at the national level.

4. Examine the determinants of poverty depth among households in Nigeria at both the rural and urban sectors

1.6 Plan of the study

The study is organized in the following manner. The project is divided into 5 chapters. Chapter 1 contains the introduction, background and justification of the study while chapter 2 focuses on the theoretical frameworks and literature review. Chapter 3 comprises the research methodology; Chapter 4 discusses the result of the findings of this study and Chapter 5 concludes study with summary, recommendation and conclusions.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAME WORK

2.1 Definition of concepts/terms

2.1.1 Poverty – A multidimensional phenomenon

A precise and unanimously accepted definition of poverty is elusive principally because it affects several aspects of the human sphere, such as physical, moral and psychological conditions (Ajakaiye and Adeyeye 2002). The notion of poverty is connected to different number of indictors depending on perception by region, society or communities and it can take various forms depending on the issues being addressed. Most people often associate being poor to lack of income or capital to consume basic needs of life required for survival especially in the developing world. To others the term poverty goes beyond low incomes, inability to exercise one civil right or social exclusion could be a major factor for considering one to be poor. Several organizations and authors have provided different but similar in meaning definitions of poverty for a comprehensive understanding of the term.

The World Bank (2000) defined poverty "as the pronounced deprivation in well-being". According to Huaghton and Kandler (2009,pg 2) well-being could be interpreted from two points of view. First view is to connect well-being primarily to command over commodities, so that those people who do not have adequate income or consumption above some minimum threshold are considered poor. This view associates poverty principally to monetary terms. The second view of well-being focuses on the capability of an individual to function properly in the society that is, the ability of an individual to obtain a certain type of consumption and services like education, health care, political freedom and so on.

In light of the above mentioned views of well-being, Haughton and Khandler (2009,pg 2) concluded that "Poverty includes low incomes and the inability to acquire the basic goods and services necessary for survival with dignity, low levels of health and

education, poor access to safe water and sanitation, insufficient physical security, lack of voice, and insufficient capacity and opportunity to better one's life."

The following are some examples of criteria used by local people in Asia and Sub-Saharan Africa for lack of "well-being":

- disabled (i.e., blind, crippled, mentally impaired, chronically sick)
- widowed
- lacking land, livestock, farm equipment, a grinding mill
- cannot decently bury their dead
- cannot send their children to school
- having more mouths-to-feed, fewer hands-to-help
- lacking able-bodied members who can fend for their families in crisis
- bad housing
- having vices
- being 'poor in people,' lacking social support/solidarity
- having to put children in employment
- single parents
- having to accept demeaning work or low status work
- having food security for only a few months each year
- dependent on common property resources (Chambers 1995.)

Ravalion, (1992) coined the term "Poverty" as when one or more persons fail to attain a specified level of well- being (usually materials) that is deemed to constitute a reasonable minimum by the standard of that society. This is generally due to low levels of income especially in the developing countries where over half of its population live on less than $2.50 a day and over 80 % of the world population lives in countries where income disparities are increasing with the poorest 40% of the world's population accounting for 5% of global income and the richest 20% accounts for three-quarter of world income (Human Development Report, 2007).

The United Nations also provided its view of the term poverty as "fundamentally, poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to

feed and cloth a family, not having a school or clinic to go to, not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities.

It means susceptibility to violence, and it often implies living on marginal or fragile environments, without access to clean water or sanitation" (UN Statement, June 1998).

From the above definitions of the term poverty, it is clear that poverty is a complex problem and not restricted to a particular characteristic. Simon Maxwell (1999) summarized a list of dimensions used in describing poverty. These are:

- Income or poverty consumption

- Human (under) Development

- Social Exclusion

- Ill -being

- Lack of capability and functioning

- Vulnerability

- Livelihood unsustainability

- Lack of basic needs

- Relative deprivation (Simon Maxwell 1999).

The distinctions between the indicators are crucial since poverty measurement and subsequent policy and programme response depends on what aspects or angles of poverty that are being addressed. For instance if the national poverty reduction strategy has the priority to reduce both temporary and chronic poverty, two separate set of policies and strategies would be required along with two sets of indicators for establishing baseline and monitoring progress (Dasselien 2000).

2.1.2 Absolute and Relative poverty

People are generally described poor when their income or consumption falls below a defined threshold or line which is referred to as "Poverty line". Poverty can be conceived in absolute and relative terms.

Absolute poverty known as subsistence poverty refers to living conditions under the minimum, socially acceptable living conditions, usually established based on nutritional requirements and other essential goods. An absolute poverty line is fixed and a household or population is considered poor if its consumption level is insufficient to acquire a given level of goods and services regarded as an essential minimum standard of living. The absolute poverty line is commonly determined using the food- energy intake approach and the cost of basic needs method (Omonona 2009). Absolute poverty line is stable over time (except to adjust for inflation) and it allows for comparing poverty between different periods of time, it is also useful in assessing the impact of antipoverty policies or poverty alleviation projects over time (Haughton and Khandker 2009, 45).

Relative poverty is a term used to compare the lowest segments of a population with upper segment, usually measured in income quintiles and/or deciles, that is, how poor is an individual relative to others in the society. It is usually measured by establishing a relative poverty line. The relative poverty line varies with the average consumption or income of the population. A common practice in defining the relative poverty line is setting two-thirds of the mean per capita expenditure. Olaniyan (2000) emphasizes that the relative poverty line approach is both subjective and arbitrary and it is essential to normalize it against some costs of basic needs in the economy. Generally, richer countries have higher poverty lines than the poor countries (Chen and Ravillion, 2008).

Absolute and relative poverty trends may move in opposite directions. For instance, relative poverty may decrease while absolute poverty rises if the gulf between upper and lower strata of a population is reduced by a decline in wellbeing of the former at the same time that additional households fall below the absolute poverty line (Dessalien 2000).

2.1.3 Chronic and Transient Poverty

Chronic poverty occurs when people always live or usually live below a poverty line (Chronic Poverty report 2004/05). Hulme and Sheperd (2003) defined chronic poverty as an individual experience of deprivation that last over a long period of time. An individual who is chronically poor is always poor and can lead to intergenerational poverty. Mckay and Lawson (2002) submit that lack of human capital, the demographic composition of households, location of residence, lack of ownership of physical assets

and low paid labour are among the most commonly used characteristic associated with chronic poverty.

Transient poverty on the other hand, describes a situation when people move in and out of poverty or only fall occasionally below the poverty line (Chronic Poverty Report 2004/05). Gaiha and Deolalikar (1993) assert that transient poverty is associated with fluctuations of income around the poverty line. Factors that could contribute to transient poverty include; family size, government transfer, seasonality of economic activities, migration and life cycle events (Ribas and Machado 2007).

Empirical evidence strongly suggests that transient poverty is connected with the inability of families to retain their consumption levels when they encounter fluctuations or shocks, that adversely affect their incomes or circumstances (Jalan and Ravillion 1998).What distinguishes chronic from transient poverty is the extended length of time in absolute poverty.

2.2 Poverty from the Objective and Subjective Perspectives

Poverty can be also be conceptualized from objective or subjective perspectives.

The *objective* perspective (sometimes called the welfare approach) encompasses normative judgments as to what constitutes poverty and what is necessary to deliver people from their impoverished status. The *subjective* approach places a premium on people's preferences, and the value they attach to goods and services (hence the emphasis on individual utility) (Dessalien, 2000).

Economists usually apply the objective approach as the basis for their research on poverty, principally because of the difficulties encountered when trying to aggregate multiple individual utilities across a population. Advocates of this approach claim that individuals are not always in the best situation to determine what is best for them. For example, several poverty measurement systems focus on nutritional attainments. Although all individuals value food consumption, some may place greater value on certain food types or food quantities that are not best for their physiological well-being. It is generally believed that the subjective approach could both underestimate and overvalue food consumption when compared to the welfare approach, resulting in conflicting assessments as to what definition of the poor (Dassalien 2000).

Poverty measurement has traditionally been dominated by the objective approach until recently when the international community as a whole took a serious interest in measuring subjective poverty. This is chiefly because of growing recognition of the limitations associated with so-called objective indicators and the value of understanding the perspectives of the poor in shaping policies and programmes. As a consequence, participatory poverty assessment methodologies are becoming more popular (Dassalien 2000).

2.3 Poverty, Inequality and Vulnerability

Two other terms that are closely related but different from poverty are Inequality and vulnerability. *Inequality* is a pattern of variation in well-being among a population (or groups of people), pictured through indicators such as income, consumption, education, malnutrition, etc. (McKay 2002). Inequality is a wider concept than poverty because it is defined over the whole population while poverty is primarily concerned with the proportion of a population below a certain threshold (Haughton and Khandler 2009, 103). In spite of the clear distinction between the two concepts, analysis of poverty often employs indicators of inequality because of intrinsic linkages between the two. Modern studies have concluded that in specific country contexts it is easier to reduce poverty under relatively egalitarian conditions (Dassalien 2000).

Vulnerability focuses on the risk of a person becoming poor in the future even if the person is not poor at the moment. It is generally associated with the effects of "shocks" like a fall in farm prices, drought or financial crisis (Haughton and Khandler 2009, 103). In general, poverty relates to deprivation, while vulnerability is a function of external risks, shocks, stresses and internal defenselessness (Dassalien 2000). There is an increasing debate on the linkages between vulnerability and poverty, however Dassilien (2000) pointed out that there is high degree of correlation between certain combinations of vulnerabilities and poverty which is increasingly leading development practitioners toward using the former as proxies for poverty. This approach can prove helpful when trying to ascertain a general assessment of the extent of poverty, although careful analysis is vital when applying vulnerability indicator as a proxy for poverty to determine the degree of correlation and regular testing to determine its validity over time.

2.4 Poverty and Underdevelopment

Underdevelopment is another concept firmly related to poverty and the distinction between the two terms rest on how each is defined. When defined in broad human deprivation terms, poverty is often viewed as a form of underdevelopment. The Human Development Report (1997) differentiates between the two concepts by associating poverty with individuals and underdevelopment with an aggregate perspective. "The contrast between human development and human poverty reflects two different ways of evaluating development.

One way, the 'conglomerative perspective,' focuses on the advances made by all groups in each community, from the rich to the poor. This contrasts with an alternative viewpoint, the 'derivational perspective,' in which development is judged by the way the poor and the deprived fare in each community. Lack of progress in reducing the disadvantages of the deprived cannot be 'washed away' by large advances—no matter how large—made by the better-off people "(Human Development Report 1997 in Dassalien 2000).

Moreover, Dassalien (2000), submits that several indicators that are used in poverty measurement are identical to those applied to measure underdevelopment owing to the close relationship between poverty and underdevelopment. From a policy and programme perspective, the necessity of recognizing a distinction between poverty and underdevelopment is dependent largely on two factors: the degree of equity within a society, and the prevalence of poverty.

2.5 Poverty and Economic Growth

Most high incidences of poverty occur in developing nations where national per capital income is very low. Some researchers argue that economic growth can alleviate poverty by increasing the incomes of everyone in society, including the poor (Dollar and Kraay, 2001). Is economic growth truly beneficial to the poor or does it only widen the gap between the poor and the rich?

According to the Kuznets hypothesis (1955), it is postulated that growth and inequality are related through an inverted "U" shaped function, suggesting that if economic growth leads to increased inequality, then the growth effect on poverty would be weak at best.

However studies done by some scholars (Ravallion 1995), Deininger and Squire (1996), and Bruno, et. al. (1998) have criticized and rejected the Kuznets hypothesis of the relationship of economic growth and inequality. It therefore appears that there is a common ground that economic growth does not have much influence on inequality.

A number of researchers have found proof that economic growth can reduce poverty and copious evidence link the importance of economic growth to poverty reduction. Squire (1993) discovered that a 10 % rise in the growth rate decrease poverty across a sample of countries by 24 percentage points. Roemer and Gugerty (1997) in a research involving a sample of 26 developing countries found out that a 1% increase in per

capita income is associated with 0.9 percent increase in the income of the poorest 20 percent of the population. Employing consecutive household expenditure survey for a set of 42 developing countries Ravillion and Chen (1997) discovered that the proportion of the population living on less than 1USD per day decreased by three % for every one percent increase in the mean per capital income. They however cautioned that although there is strong evidence that an increase in mean per capita income decreased absolute poverty, there is a strong variance across countries showing that country specific considerations are imperative to the influence of income growth on poverty.

Also Bruno, et. al. (1998), found that a 10% increase in growth was linked with a 21.2% decrease in the poverty rate for a sample of 20 countries over the period 1984-1993. Despite the fact that certain scholars have established proof that economic growth can indeed result to decline in poverty, it is crucial to note that the impact of economic growth on poverty reduction is not similar for different regions. Ali (2001) discovered that the impact of growth on poverty reduction was stronger in all other parts of the world than in Africa, he concluded that the influence of income growth is greater in the middle and high income countries than in low income countries.

2. 6 Key causes of poverty

To be able to design appropriate measures to combat poverty, it fundamental to understand the root causes of poverty. There are numerous causes of poverty, Haughton and Khandker (2009, 146-152) provides a summary of what could be the root causes of poverty, they are :

Regional –Level Characteristics; at the regional level, various characteristics that might be associated with poverty which constitutes vulnerability to flooding or typhoons, isolation, quality of governance, and property rights and their enforcement. It is imperative to note that these characteristics are country specific in relation to poverty. Usually, poverty can be very high in regions characterized by geographical Isolation, a little resource base, small amount of rainfall and other inhospitable climatic conditions. In many rural areas of the world, remoteness reduces the prices farmers receive for their goods and increases the prices they pay for purchases due to high transaction costs which is responsible for growing food insecurity among the poor households.

Also, several rural regions of the world are characterized by inadequate public services, weak communications and poor infrastructure as well as underdeveloped markets which obviously contribute to poverty. Additionally, good governance, a sound environmental policy, economic, political and market stability , mass participation, global and regional security, intellectual expression, and a fair, functioning and effective judiciary are other national and regional characteristics that can affect poverty.

Community Level Characteristics: at the community level, infrastructural development plays a significant role in determining the degree of poverty. Closeness to paved roads, availability of electricity, nearness to large markets, availability of schools and health centers in the vicinity, distance to local administrative centers are major indicators of infrastructural development used in econometric analysis of poverty. Other important indicators at the community level include average human resource development, access to employment, social mobility and representation and land distribution.

Household and individual level characteristics: the household and individual level characteristics can be categorized under demographic, economic and social characteristics.

Demographic Characteristics: this includes indicators such as "household size and structure" which is important in showing relationship between the level of poverty and household composition. Generally, in most countries where welfare is measured on per capita basis, the poor tend to live in larger households compared with the rich; the effect is weaker if welfare is measured on per adult equivalent. The Dependency ratio is another characteristic which is the number of family members that are not engaged

labour activity (young or old) to those in the labour force in the household. This allows one to measure the burden weighting on the members of the labour force within the household. Typically greater poverty is expected to be associated with higher dependency ratio.

The gender of the household head can also significantly affect household poverty. Female headed households tend to be poorer than those headed by males. This is because in many rural areas where poverty is wide spread, women face a lot of constraints both monetary and non-monetary, they often are engaged in lower paid wages, they have low level of literacy, have less access to land or equal employment.

Economic Characteristics: although income and consumption are mainly characteristics used in describing how the level of poverty of a household, other economic characteristics such as household employment and the property and assets owned by the household can reveal if a household is poor or not. Indicators such as the condition of being employed or not, job stability, number of hours worked, numbers of jobs an individual is engaged in, are usually used in determining household employment. Household property level which includes tangible goods (land, cultivated hectares, livestock, agricultural equipment, machinery, buildings, household appliances and other durable goods) and financial assets (liquid assets, savings and other financial assets) are important in suggesting the inventory of wealth of households which can affect the income flow. In rural areas some households can be income poor but rich in the level of property owned. Property is difficult to measure reliably in practice. Household tend to under declare their asset level, some assets like livestock are difficult to value and there also is the problem associated with depreciation of the assets because the life span of any given assets is variable and assets could have been acquired at different moment in the households.

Social Characteristics: under this category the most widely used indicators are measures of health, education and shelter. The following are generally used in characterizing health;

- Nutritional status, for example anthropometric indicators like weight for age, height for age and weight for height.
- Disease status, for instance infant and juvenile mortality and morbidity rates as connected to certain diseases such as malaria, respiratory infections, diarrhea and occasionally poliomyelitis.
- Availability of healthcare services such as primary health care centers, maternity facilities, hospitals and pharmacies , health care workers , nurses, mid wives, doctors and traditional healers , vaccinations and access to medicines and medical information.
- Usage of these services by both poor and non-poor households.

There are usually 3 types of indicators to characterize "education" in analyzing household living standards. These include level of education attained by household members (basic literacy and years of education completed), availability of educational services, nearness to primary and secondary schools and usage of these services by poor and non-poor households. Literacy and schooling are crucial indicators of quality of life, because they are key determinants of poor people's ability to take advantage of income-earning opportunities.

Shelter denotes the overall framework of personal life of the household. This includes housing, services and environments. Housing indicator consist of the type of building, means through which one has access to housing (renting or ownership) and household equipment. The service indicators stress the availability and the use of drinking water, communication services, electricity and other forms of energy sources. Environmental indicators focus on degree of sanitation and isolation, and degree of personal safety.

2.7 Poverty in Nigeria

Poverty is one of the critical economic and social problems plaguing Sub-Saharan African countries. The continent has bad record of growing and large poverty rates though recent statistics from the World-Ban press report (2012) indicated that there has been a drop in absolute poverty (51 percent in 1981 to 47 percent in 2008) in Africa.

Among the developing world, the incidence of poverty is still highest for Sub-Saharan Africa, with about 47 percent of its population still living below the poverty line of 1.25 dollars a day. According to the UNDP African Human Development Report (2012) more than one in four of the 856 million people in Africa are undernourished and as a consequence, Africa remains the most food-insecure region in the world. Nigeria is the most populous nation in Africa with a population of more than 150 million and is one of the countries suffering from persistent and escalating poverty incidences for over two decades.

Despite pursuing several economic reforms to stimulate growth and implementation of numerous poverty alleviation strategies to lessen poverty, Nigeria has continued to witness terrific increase in poverty levels over the last two decades. For example after implementation of the Structural Adjustment Policies (SAP) in the 1980s, poverty profile in Nigeria revealed that the incidence of poverty increased from 28.1%(17.7million) in 1980 to 43.6% (34.7 million) in 1985 ,however it dropped to 42.7% in 1992 and increased again to 65.6%(67.1 million) in 1996 (FOS, 1999). The percentage of moderately poor increased from 21 % in 1980 to 36.3 % in 1996 while extremely poor incidence increased from 6.2 % 1980 to 29.3 % 1996. In absolute terms the population of the poor Nigerians increased four-fold between 1980 and 1996. Furthermore in Nigeria, poverty situation was aggravated by the rapid annual population growth rate with the attendant feminization of gender (FOS, 1999).

More recent statistics from the Nigerian National Bureau of statistics (NBS) report (2010) indicate that poverty trend has worsened. In the year 2004, 51.6 % of Nigerians lived below the poverty line of $1 per day while the figure rose to 61.2% in 2010.Relative poverty incidence was reported to be 54.7% (68.7 million) for the year 2004 but increased to 69% (112.5million people) in 2010.

The North-West geo-political zone had the highest incidence at 70.4%, while the South-West geo-political zone recorded the lowest at 50.1% on the poverty line of dollar per day. The vast majority of those living below the poverty line live in rural areas and are the most affected, according to FOS (1999), 28.3% of the rural population was poor. This increased to 51.4 percent in 1985 but declined to 46.0 percent in 1992 before increasing to 69.8 percent in 1996. On the other hand, the proportion of the poor in the

urban areas rose from 17.2 percent in 1980 to 37.8 percent in 1985 but declined to 37.5 percent in 1992 and finally rising to 58.2 percent in 1996.

Further analysis by NBS (2010) revealed that in 2010 66.3% of the rural dwellers lived below $1 per day while the figure was 52.4% for urban residents as shown by the NBS report (2011). Large concentration of the populace in the rural areas and several years of neglect of the rural areas in terms of infrastructural development coupled with few employment opportunities could be major reasons for high poverty incidence in rural Nigeria. For example, infrastructure such as roads, water and sanitation, universities and electricity are not readily provided in the rural areas of the country (Omonona 2009).

Nigeria ranked 156 out of 186 countries according to the Human Development Index report (2011) making it one the nations with very low human development. Life expectancy at birth is 51.9 years with under five mortality rate at 138 per 1000. Maternal mortality ratio stood at 840 persons per every 100,000 per births. These reports revealed marked deterioration in quality of life of numerous Nigerians. Various factors have been attributed to be the root causes of poverty and low quality of life in Nigeria. Corruption and poor governance are among factors generally believed to contribute to escalating poverty levels in Africa and Nigeria.

According to the World Bank poverty task force (World Bank, 1996) the following factors have been identified as factors contributing to in sub-Sahara Africa;

- Inadequate access to employment opportunities.

- Inadequate physical assets notably land and capital.

- Low endowment of human capital.

- Inadequate access to assistance for those living at the margin and those who are victims of transient poverty.

- Destruction of natural resources leading to environmental degradation and reduced poverty.

- Lack of participation; failure to draw the poor in the design of development programmes

- Allocation inefficiency particularly in the public sectors.

- Low rate of investment particularly in the private sector

- Rapid population growth rate.

- Use of inappropriate technology

From above, it is clear that there is no one cause of poverty, a mixture of various and complex factors contribute to poverty, they involve poor or adverse economic growth, inappropriate macroeconomic policies, deficiencies in the labour market resulting in limited job growth, low productivity and low wages in the informal sector, and a gap in human resource development (Ajakaiye and Adeyeye 2002).

2. 8 Review of previous studies on determinants of poverty status in Nigeria

Olaniyan et al (2005) used the Probit model to examine the effect of human capital and capabilities on rural poverty in Nigeria. They applied the combined data from the 1996 General Household Survey (GHS) and the National Consumer Survey (NCS) for their analysis. Both surveys were national representatives and used identical sampling design. The results indicate that obtaining education reduces the probability of being poor in a household. The marginal effects showed greatest impact for those who attain up to post –secondary education, followed by those with a primary education. Human capital has a diminishing effect on the probability of being poor among all rural households, regardless of their engagement in farm activities or non-farm activities. For instance, successful completion a primary education decreases the likelihood of being poor by the rural households by 19.0 percent while concluding a secondary education decreases the likelihood of being poor by 18.6 percent.

Anyanwu (2005) also utilized the 1996 National Consumer Survey data set to study the rural poverty profile and ascertain the determinants of poverty in Nigeria. The results of his multivariate analysis showed that household size, primary education level and below, rural occupations in the clerical, production and 'other' activities were variables that were positively and significantly associated with probability of poverty in rural Nigeria while quadratic of household size, and residence in the central, south-east and south-south zones of rural Nigeria were variables that had negative and significant correlation with the probability of being poor. His further analysis on gender dimension

revealed that robust evidence was found to support the hypothesis of feminization of rural poverty.

In a similar study, Oni and Yusuf (2007) studied the determinants of expected poverty among rural households in Nigeria. They utilized the combined data of the General Household Survey (GHS) and the National Consumer Survey (NCS) of 1996. The cross-sectional data were improved with certain covariate factors and the analysis was done using three stage Feasible Generalized Least Squares (FGLS) model. Both idiosyncratic and covariate factors had impact on the expected log per-capita consumption of rural Nigerians. The overall expected poverty for Nigeria was 0.535 and this was 1.02 more than the observed poverty in 1996. The researchers discovered that having a large household, having no formal education, farming , being an older or having a male head of the household and living in the North eastern part of Nigeria were associated with greater expected poverty. Also northeast region has both lower mean per-capita consumption and higher consumption variance relative to other regions of the nation. Household heads that attained up to secondary education had the highest consumption variance while household heads without any formal education had the lowest mean expected consumption.

Furthermore, looking at the gender dimension, household size and engagement in farming activities, Oni and Yusuf (2007) discovered that male-headed households had both smaller mean per capita consumption and higher consumption variance in comparison to the female headed households. Household size larger than 10 members had very low mean per capita consumption and high consumption variance. The consumption variance was highest for households headed by individuals below the age of 20 and this category of people had the lowest mean consumption. Households engaged primarily in farming had lower mean per consumption relative to the non-farming households.

Omonona (2009) carried out a study on the quantitative analysis of rural poverty in Nigeria using the 1996 data set (which was a merged data from the National Consumer Expenditure Survey of Households and the General Household Survey) and the National Living Standard Survey of 2004 (NLSS) to compare poverty status of rural Nigerian households for the two periods 1996 and 2004 and understand how determinants of poverty changed over time and vary by regions. Both data sets were

cross-sectional data and had identical sampling produce. He employed the multivariate welfare model in which exogenous variables and community characteristics were regressed on welfare ratio (per capita expenditure divided by poverty) done basically by two approaches Ordinary least square OLS and Fixed Effects regression.

He found out that gender and age of the household and household size were significant determinants of welfare for both 1996 and 2004. A male headed household had 12.5 percent and 8.8 percent higher welfare respectively for 1996 and 2004 compared to household with female heads. A unit increase in household size led to about a 5.7 and a 12.4 percent decrease in the household welfare in 1996 and 2004 respectively. Educational achievement of house heads was not significant for 1996 but had significant impact on welfare in 2004, with household heads having primary, secondary and tertiary education had 39.5, 43.6 and 90.3 percent higher welfare respectively than those households headed by individual with no formal education.

The fixed-effect model revealed that the excluded community variables and geopolitical factors were important determinants of welfare with southern Nigeria having lower poverty than the Northern parts.

Olaniyan (2000) investigated how household endowments determine poverty in Nigeria by utilizing the National Consumer Survey data sets of 1985, 1992, and 1996 derived from the Federal Office of Statistics (now National Bureau of Statistics). The survey data were national representative samples of Nigerian households. The analysis was done by estimating two separate sets of Probit specification for each of the data sets for the 3 years in question. In the first specification, both human and physical household endowments were included along with other poverty determinants as regressors. In the second form, he examined the effect of income composition on the likelihood of being poor as an alternative approach of measuring the productivity of asset composition among rural households.

Results of Olaniyan's first specification showed that human capital endowments especially; educational level and the lifecycle effect of the head of households were key determinants of probability of being poor in rural areas. An increase in the age of the household head increased the likelihood of being poor in 1985 and 1996. An increase in household size increased the chances of being poor. Household physical assets also played important role in determining the probability of being poor. House ownership for

example assisted to reduce the probability of being poor in the years 1992 and 1996 although the influence was not statistically significant in 1985. Similarly, ownership of additional business enterprises was significant and decreased the probability of being poor though this effect was weak for the three years.

The other specification indicated that wage income was the most significant contributor to the probability of being non-poor in 1985 and 1992. But the impact of wage income was not statistically significant in 1996 and dependence on additional income became the main contributor to being poor, suggesting that the increase in probability of being poor could be due to the fact that rural households obtained larger volume of their incomes from non-wage incomes such as farming, petty trading, and artisanship which are neither stable nor adequate.

The gender dimension of rural households indicated that being a female was linked with rural poverty in 1985, but this condition changed from 1992 to 1996. At the regional level, the probability of being poor was also significant for geographic differences especially those in the northern part of the country.

Recently, Asogwa et al (2012) applied tobit regression model to estimate the determinants of poverty depth among peril-urban farmers in Nigeria using farm level data from randomly sampled 389 peri-urban farmers in Benue State, Nigeria. They found out that total farm economic efficiency, household income, farm size, education, farming experience, access to credit, gainful employment for household members, membership of farmer association, extension contact and valuable farm asset were variables that significantly reduced impact on poverty depth household size and age of household head contributed positively to poverty depth.

Similarly, Akerele et (2012) also employed tobit model to examine socioeconomic determinants of poverty among urban households in South-West Nigeria using survey data from a sample of 80 households in Ado-Ekiti, Ekiti , Nigeria. Ekiti state has the highest poverty incidence in the south western region of Nigeria. They discovered that educational status of the household head and household assets had inverse effect on poverty depth while dependency ratio increases the poverty depth.

Table 2 .1: Summary of findings from previous studies on poverty in Nigeria.

Year	Authors	Country Coverage	Period of Observation	Methodology	Main Findings
2005	Olaniyan O., and Abiodun S.	Nigeria	1996 General household and consumer survey data	Econometric Methods-Probit regression Model	Human capital and obtaining formal education reduced probability of being poor
2005	Anyanwu J. Chukwudi	Rural Nigeria	1996 General household and consumer survey data	Econometric Methods-Multivariate analysis, Probit Model.	Household size and no formal education had positive and significant impact on probability of poverty while quadratic household size, residences in central and Southern Nigeria had negative impact on probability of poverty in rural areas
2007	Oni O., A., and Yusuf S., A.,	Rural Nigeria	1996 General household and consumer survey data	Econometric Methods- three stage Feasible Generalized Least Squares (FGLS) model.	Large households, male headed households, no formal education being old, and living in North-Eastern Nigeria were associated with greater expected poverty.
2009	Omonona T. Bolarinwa	Nigeria	1996 and 2004 data General Household Consumer survey	Econometric method- Ordinary Least Squares and Fixed effect regression	Age and gender of household head and household size were significant determinant of household welfare.
2000	Olaniyan Olarenwaju	Nigeria	1985, 1992 and 1996 data sets	Econometric method-Probit Regression Model.	Education of household head accounted for the most significant determinant of poverty
2012	Asogwa, B., C., Umeh, J. C., and Okwoche V. A.,	Peril-urban farmers, Benue State, Nigeria.	2012	Ecometric method- Tobit Regression model	Household size, Age of household increased poverty depth, while farm size, education, gainful employment reduced poverty depth
2012	Akerele , D.,Momoh, S., Adewuyi, S.A., Phillip,B. B, and Ashaolu O. F.,	Ekiti State, South-West , Nigeria	2012	Econometric method-Tobit Regression Model	Educational status of household head and household assets had inverse relation to poverty depth, while dependency ratio increased poverty status.

Source: Author's review of literatures

2.8.1 Hypothesis

Based on the review of literatures above, Anyanwu (2005) found that male headed households were better than female counterparts in reducing poverty, while Oni and Yusuf (2007) found that female headed households had lower expected poverty compared to male headed households, also all the literatures reviewed found evidence to support that house size contributes positively to poverty status of households. In view of these arguments, it will helpful to test some hypotheses on certain socio-economic variables included as explanatory variables in this study.

Null hypothesis H_0:

1. There is no causal relationship between poverty depth and gender of the household head in Nigeria.

2. There is no causal relationship between poverty depth and household size in Nigeria

3. There is no causal relationship between poverty depth and rural households in Nigeria.

2.9 Measurement of poverty

2.9.1 Justification for poverty measurement

Why do several researchers and institutions spend a great deal of resources and efforts to undertake poverty measurement? There are myriads of intentions for engaging in such an activity. Haughton and Khandker (2009, 1) provides four key reasons why poverty measurement is undertaken, these are:

• To keep poor people on plan

• Identification of the poor and provision of appropriate interventions

• Monitor and appraise projects and policy interventions targeted to poor people

• Evaluation the effectiveness of institutions whose aim is to help impoverish people.

The first step in poverty measurement entails choosing a welfare indicator such as income or expenditure and establishing or specifying a poverty line or poverty threshold to separate the poor from the non-poor.

2.9.2 Poverty Line

Poverty Line: can be defined as a predetermined or well-defined standard of income or value of consumption, considered adequate for a productive and active life or even survival (Okunmadewa 1999).

The proportions of people that fall below this line are deemed poor. The line is usually based on two indicators of welfare namely income and expenditure. There are two approaches of defining poverty line. These are the Absolute poverty line and relative absolute poverty line.

Absolute poverty line is "fixed in terms of the standards of indicator being used and fixed over the entire domain of poverty comparison" (Ravillion 1992, 25). Most commonly methods to measure absolute poverty lines are the Food-Energy-Intake (FEI) and the Cost—of—Basic Needs (CBN).

Food-Energy-Intake (FEI) approach: the aim of this approach involves finding level of consumption expenditure or income which permits household to obtain adequate food to meet its energy requirement (Haughton and Khandker 2009, 54).This approach can be tedious because energy requirements are not the same for different individuals (Ajakaiye and Adeyeye 2002).

Figure 2.1: the relationship between calorie intake and income/expenditure.
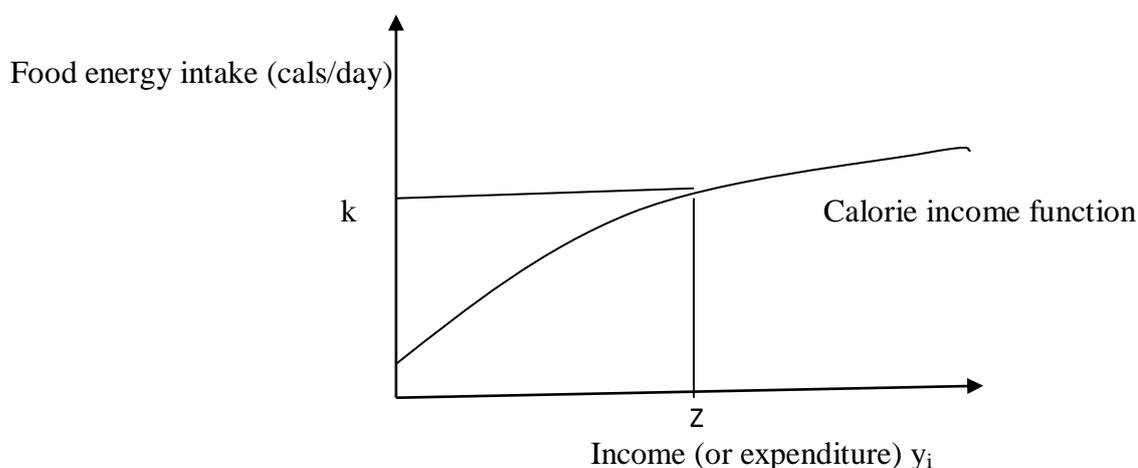
Source: adapted from Haughton and Khandker (2009, 55)

Food energy intake is directly related to level of expenditure, as the income/expenditure increases so also the food energy intake. Given that k represents the required food energy intake for an individual and y is the income or consumption expenditure. The function above can be represented formally:

$$K=f(y)\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{2.1}$$

Monotically $\quad y=f^{-1}(k)\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{2.2}$

With the minimum adequate level of calorie k_{min} the function can be written as

$$Z=f^{-1}(k_{min})\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{2.3}$$

Where Z is the poverty line (Haughton and khandker, 2009,55).

It is crucial to first determine the amount of food that is sufficient. As soon as food-energy requirements are defined, the FEI method is easier to compute. A general practice is to compute the mean income or expenditure of a subsample of households whose estimated calorie intake are approximately equal to the specified requirements. Other forms involves using regressions analysis to determine the empirical relationship between food energy intake and consumption expenditure which in turn can be used (numerically or explicitly) to estimate the FEI poverty line (Ajakaiye and Adeyeye, 2002).

Cost of Basic Need (CBN) method: This approach is the most satisfactory in establishing a poverty line. It involves primarily two major steps (a) it stipulates a consumption bundle considered to be adequate for basic consumption needs including both food and non-food components (b) and then estimates the cost of the bundle for each of the subgroups(urban or rural , regional e.tc.)(Haughton and Kandker, 2009). This method can be understood in two distinct ways. First as "cost-of-utility", second definition as "basic needs" required to escape poverty. The cost-of-basic- needs is similar to the notion of statutory minimum wage rate (Ajakaiye and Adeyeye 2002). To determine poverty the actual expenditures are compared to the CBN. Computation the non- food component of CBN can be a difficulty activity owing to the fact that non-food needs are determined by environmental conditions, as well as institutional structures, technology and customary modes of life and there is also no consensus regarding the standards to be employed in the computation (Ajakaiye and Adeyeye 2002).

Relative Poverty line: is used to determine poverty degree of an individual or group relative to others in the same society or economy. This line is both subjective and arbitrary (Olaniyan 2000). A common practice to determine relative poverty line is to set two-thirds of the mean per capita expenditure/income as the threshold for moderately poor while one-third of the mean per capita expenditure/income for core poor.

2.9.3 Approaches to measure poverty

There are various approaches to measure poverty owing to the fact that poverty is a complex and multidimensional. This section presents some of the commonly used approaches.

Poverty Rate or Poverty Incidence P_0: measures the proportion of a population whose consumption or income fall below the poverty line. This measure of poverty is also referred to as Poverty head count index if the unit of analysis involves an individual, that is the number of people poor divided by the total population.

Formally, Poverty Incidence P_0 can be written mathematically as:

$$P_0 = \frac{1}{N}\sum_{i=1}^{N} I\ (y_i < z) = \frac{1}{N}\sum_{i=1}^{q} I = \frac{N_p}{N}, \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.2.4$$

Where: N = Total Population

I(.)= an indicator function taking a value of 1 (poor) if the bracketed expression is true and 0 (non-poor) otherwise

yi =welfare indicator for example per capital consumption

z= poverty line

Np=number of poor people in the population.

Poverty Incidence P_0 is easy to compute and easy to understand. It is also useful in evaluating overall progress in poverty reduction. However it has some major limitations. First the index does not take account of differences in welfare of the poor by assuming that they are all in the same condition.

Secondly, it is indifferent to the changes in well-being of the people as long as they fall below the poverty line. Thirdly it does not consider the intensity of poverty (Makoka and Kaplan 2005).

Poverty Gap Index P_1: measures the degree to which the average income of the poor differs from the poverty line. It calculates the mean proportionate poverty gap in the population. This index is also known as Poverty Depth.

Using the previous notations defined in equation 2.4, Poverty Gap P_1 can be formally written as:

$$P_1 = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{z-y_i}{z}\right)I(z-y_i) = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z-y_i}{z}\right), \dots\dots\dots\dots\dots\dots\dots\dots\dots.2.5$$

The merits of Poverty gap index are: (A) it allows for better understanding of the depth of poverty by showing the average short fall of the poor.(B) It indicates the amount of transfer needed to bring the expenditure or income of the poor to the poverty line. This affords us the opportunity to calculate the minimum cost of eliminating poverty by transfers.

The main shortcoming of Poverty gap index is that it does not consider variation in the severity of the poor and does not capture inequality among the poor people.

Squared Poverty Gap (Poverty Severity) Index P_2: this measure of poverty overcomes the shortcoming of poverty gap index by capturing inequality among the poor. Poverty severity index is the mean of the squared relative poverty gaps. By squaring the poverty gap index it gives proportional weights to the gaps by giving the highest weight to the largest poverty gaps.

Using the notations defined in 2.4, Squared Poverty Gap P_2, can be written mathematically as:

$$P_2 = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z-y_i}{z}\right)^2 \dots\dots\dots\dots\dots\dots\dots\dots.2.6$$

The disadvantage of P_2 is that it is difficult to understand and as a result it is not commonly used (Makoka and Kaplan 2005).

Composite Measure of Poverty Proposed by The Foster -Greer- Thorbecke (FGT)Pα: The head count Index, poverty gap index and squared poverty gap all belong to the family of poverty indices known as FGT. The FGT is based on a single formula that has the ability to capture any degree of concern about poverty with the help of the "poverty aversion" parameter α .

The formula for the FGT P_α is given as:

$$P_\alpha = \frac{1}{N} \sum_{i=1}^{q} \left(\frac{z - y_i}{z}\right)^\alpha \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots .2.7$$

Where α is ≥ 0

$$\text{when } \alpha = 0 \quad P_0 = \frac{1}{N} \sum_{i=1}^{q} \left(\frac{z - y_i}{z}\right)^0 = \frac{q}{N} \rightarrow Poverty\ Head\ Count\ or\ Incidence$$

$$\alpha = 1 \quad P_1 = \frac{1}{N} \sum_{i=1}^{q} \left(\frac{z - y_i}{z}\right)^1 \rightarrow Poverty\ gap\ or\ Depth$$

$$\alpha = 2 \quad P_2 = \frac{1}{N} \sum_{i=1}^{q} \left(\frac{z - y_i}{z}\right)^2 \rightarrow Poverty\ Severity\ or\ Squared\ poverty\ gap$$

N = Total number of population

q = the number of poor

z = poverty line

y = the per capita expenditure

The FGT measures are elegant because they allow for additive disintegration of poverty into subgroups such as urban-rural, sex of households, location.

The Sen Index: this index was proposed by Sen (1976) with the aim of incorporating effects of poverty headcount, the depth of their poverty and poverty distribution within the group.

It is mathematically given as:

$$P_s = P_0 \left[1 - (1 - G^p) \frac{\mu^p}{z} \right] \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots 2.8$$

Where

P_0=headcount index

μ^p= the mean Income or expenditure G^p= Gini coefficient among the poor which has values ranging between 0 (perfect equality) and 1(perfect Inequality).

Sen Index has the merit of taking into account the inequality among the poor (Haughton and Kandker, 2009, 74) but suffers a major drawback in that it is lacks the intuitive appeal of other simpler poverty measures and" it cannot be used to decompose poverty into contributions from different subgroups" (Deaton 1997, 147)

Human Poverty Index HPI : is a composite measure of poverty developed by the United Nations Development Programme UNDP to compliment the Human Development Index devised by the Pakistani economist Malbub ul Hag and it is most often used in its human development reports. There are two variant of human development index HPI-1 and HPI-2. HPI-1 is used mainly to rank the poverty status of developing countries while HPI-2 is employed in ranking deprivation in OECD countries that have higher standards of living in comparison to the developing nations.

Human poverty index (HPI-1) focuses on deprivations in three basic factors of human development which are longevity (long and healthy life), knowledge and a decent standard of living. Longevity is measured in terms of life expectancy at birth; knowledge is measured by literacy while the third factor decent standard of living which reflect access to overall economic positioning is measured by unweighted average of two indicators; the share of the population that lack access to improved water source and the proportion of children under weight for age. HPI-2 has the social exclusion dimension as the fourth focus factors of human development (UNDP 2005).

HPI-1 is given as

$$\text{HPI-1} = \left[\frac{1}{3} \left(P_1^\alpha + P_2^\alpha + P_3^\alpha \right) \right]^{\frac{1}{\alpha}}$$

Where P1= probability of not surviving up to 40 years of age after birth (multiplied by

100) P2= adult literacy rate, P3= un-weighted mean of the population without sustainable access to improved water source and children under weight for age. $\alpha = 3$

Countries are then ranked with the respective values of the HP1-1, the nation that has the small value for HPI-1 represent the country with lowest poverty and vice-versa.

CHAPTER THREE: METHODOLOGY

3.1 Study Area

Nigeria lies between 4^016^1 and 13^0 53^1 north latitude and between 2 ^{040}' and 14^0 41' east longitude. It is a West African country and it shares borders with Republic of Benin on the west, on the north by the Republic of Niger on the north, and Republic of Cameroon on the east. To the south, the country is bordered by approximately 800 kilometers of the Atlantic Ocean, extending from Badagry in the west to the Rio del Rey in the east. It has a land mass of 923,768 kilometres and various forms of vegetation from mangrove forest on the coast to desert in the far north. In terms of population, Nigeria is the largest in Africa, according to 2010 world bank estimate, Nigeria has a population of 158.4 million people, which represent 47 % of the total African population. It is seventh most populous country in the world. Its population is dominated by rural dwellers which account for two-thirds of the whole Nigerian population.

Administratively Nigeria comprises of 36 states and a Federal Capital Territory (Abuja). Each State is further divided into Local Government Areas (LGAs). There are currently 774 Local Government Areas in the country. After independence in 1960, Nigeria spent a total of over twenty-nine years under military rule. It was returned to democratic rule in May 1999 under a presidential system of Government with three tiers: Federal, State and Local. The Federal Government is made up an executive arm, a bicameral legislative arm and the judiciary. Each State has its own executive arm and house of assembly, while each Local Government has a chairman and councilors (NBS, 2004).

3.2 Sources of Data

The data employed for this study is the national consumption expenditure survey 2009/2010 obtained from the National Bureau of Statistics (NBS). The national consumption expenditure survey 2009/2010 is part of the Harmonized National living standards Survey HNLSS 2009/2010 which is a combination of the Nigeria Living Standard Survey (NLSS) and the World Bank's Core Welfare Indicator Questionnaire (CWIQ). HNLSS 2009/2010 is therefore based on two parts; the household welfare approach and the household consumption approach.

The data covered all 36 states of the nation and its federal capital (Abuja). There are 774 Local Governments Areas (LGA) in Nigeria, for the consumption survey, 50 households were selected per each LGA, making a total of 38,700 households that were surveyed, while for the welfare section 100 households were selected per each LGA making a total of 77,400 households.

It is important to note that this study utilized the data only from consumption expenditures section of the households (38,700 households). Data on consumption expenditures include both food and non-components. The non- food components covered a comprehensive list of non-food expenditures such as rents, education, fuel/light, entertainment, water, household goods, health expenditures, transport and so on. Furthermore the data were collected on a quarterly basis, over a one year period from November 2009 to October 2010. There were 4 interviewer visits per household with 7 day intervals for every 30 days.

3.3 Methods of Data Analysis

Descriptive and quantitative analytical tools were used for analyzing the data collected. The descriptive statistics include the use of tables, percentages and frequencies. Poverty profiles; head count, depth and severity were analyzed with the use of the Foster-Greer-Thobecke FGT (composite measure of poverty). Determinants of poverty status were estimated applying the Tobit regression model.

3.3.1 Welfare Indicator: the first step in poverty analysis involves choosing a measure of welfare indicator. Expenditure on consumption including both food and non-food. Consumption expenditure was employed as a chosen measure of welfare. Consumption expenditure is preferable to "income" in studies on poverty in Sub-Saharan Africa because literatures and scholars have suggested income is susceptible to many flaws (Datt and Jollife 1999, in Omonona 2009). Incomes of many households are unstable and not easy to measure and collect. Consumption data however is much easier to collect particularly in agricultural communities or with self-employed persons and hence a better indicator of welfare in developing countries.

3.3.2 Construction of Poverty Line: the second step is construction of poverty line. Poverty line separates the poor from the rich. It is a predefined threshold in which any population below the threshold is considered poor. The study applied the relative poverty line to determine the number of poor.

Relative poverty line was constructed using the mean per capita consumption expenditures (per capita consumption expenditure divided by the total number of households)

From the mean per capita household expenditure two lines are set relative to the standard of living in Nigeria:

1. Core poverty line equivalent to one-third (1/3) of the mean per capita household expenditure. That is, the core poor are those whose per capita consumption expenditure is less than 1/3 of the mean per capita consumption expenditures.

2. Moderate poverty line equivalent to two-third (2/3) of the mean per capita household expenditure. This indicates that moderately poor are those whose per capita consumption expenditure is less than 2/3 of the mean per capita consumption expenditures but greater than 1/3 per capita expenditure.

3.3.3 Analysis of Poverty Profiles

Poverty Incidence (Head count), gap (depth) and severity (squared poverty gap) were analyzed at national, sectorial and geographical levels using the FGT composite measure. The FGT model is explained below.

Composite Measure of Poverty Proposed by The Foster -Greer- Thorbecke (FGT)Pα: The head count Index, poverty gap index and squared poverty gap all belong to the family of poverty indices known as FGT. The FGT was devised by Fostel el (1984) and is based on a single formula that has the ability to capture any degree of concern about poverty through the "poverty aversion" parameter, α.. The formula for the FGT P_α is given as:

$$P_\alpha = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z-y_i}{z}\right)^\alpha$$

Where α is ≥ 0

$$when\ \alpha = 0 \quad P_0 = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z-y_i}{z}\right)^0 = \frac{q}{N} \rightarrow Poverty\ Head\ Count\ or\ Incidence$$

$$\alpha = 1 \quad P_1 = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z-y_i}{z}\right)^1 \rightarrow Poverty\ gap\ or\ Depth$$

$$\alpha = 2 \quad P_2 = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z-y_i}{z}\right)^2 \rightarrow Poverty\ Severity\ or\ Squared\ poverty\ gap$$

N = Total number of population

q = the number of poor

z = poverty line

y = the weighted per capita expenditure on consumption

The FGT was employed due to its obvious elegant and attractive properties. It allows for additive decomposability that is poverty can be disintegrated into contributions from subgroups such as rural, urban, gender to overall poverty level. It also satisfies the Sen's transfer principle that if income is transferred from poor individuals to poorer people, the estimated degree of poverty should decrease and vice-versa (Ajakaiye and Adeyeye 2002). However its major shortcoming is that it does not provide information on the best choice of aversion parameter α to use in poverty analysis (Haughton and Khandker 2009).

3.3.4 Estimating the Determinants of Poverty Status Among Households

To analyze the determinant of depth/gap of poverty, Tobit Regression Model was applied. Tobit model was invented by Tobin (1958). The model assumes that factors that affect the probability of being poor are identical to those that could influence poverty gap. Therefore the model measures not only the probability of poverty but also the depth of poverty.

It can be described mathematically as:

$$P_i^* = X_i\beta + e_i$$

$$P_i = 0 \text{ if } P_i^* \leq 0$$

$$P_i = P_i^* \text{ if } P_i^* \geq 0$$

Where i= 1, 2,………………………………………….n

P_i^* is the dependent variable, it is discrete and continuous when the households are non-poor. For poor households, P_i^* is the poverty gap/depth which is defined as $\left(\frac{z-y_i}{z}\right)$ where z is the poverty line, and y_i is the per capita adult equivalent expenditure, P_i^* therefore takes the values between the range of 0 and 1. X_i is a vector of explanatory variables (household characteristics and the six geographical zones) β is a vector of parameter estimates and e_i is the error term. The explanatory variables in the model are defined as follows:

X_1= household size

X_2= household gender (male=1, 0 otherwise)

X_3= household age in years

X_4= square of household age

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

X_6= Household remittances in Naira

X_7= dummy for residence in north central geographical zone (north central =1, 0=otherwise)

X_8= dummy for residence in north-west geographical zone (North West =1, 0=otherwise)

X_9= dummy for residence in south-east geographical zone (South east =1, 0=otherwise)

X_{10}= dummy for residence in south-south geographical zone (south-south=1 0=otherwise)

X_{11}=dummy for residence in south western zone (south west =1, 0= otherwise)

X_{12}= sector (rural =1, 0 otherwise)

North –East it the geographical zone of reference

3.4 Limitation of the study

This study on determinant of poverty status among Nigerians was done primarily with national expenditure data which represents only the household consumption expenditures part from the HNLSS 2009/2010. As at the time of carrying out this research the author does not have full access to the whole HNLSS 2009/2010 and so could not include some other important socio-economic variables such as household assets, access to credits, degree of education (formal or non -formal), wages and income e.t.c in the analysis, that could help to complement the list of the explanatory variables.

Moreover , it is generally believed using absolute poverty line is better than relative poverty line in poverty analysis because relative poverty line is subjective and arbitrary(Olaniyan 2000) despite the demerits of relative poverty line, the study adopted the relative poverty line of two-thirds of mean per capital expenditure for the analysis.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

This section highlights the socio-economic characteristics of the sampled households, their relationship with poverty incidence, depth and severity and the determinants of poverty depth both at national and sectorial level.

4.1 Descriptive Analysis of the Socio-Economic Characteristics of Households

Table 4. 1: Descriptive Statistics of Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Age	47.67448	15.97799	15	95
Household size	4.442445	2.505803	1	10
Food Expenditures In Naira (N)	86,091.57	76649.63	138.2576	1,759,740
Non Food Expenditures (N)	97,697.49	163195.2	2,589.033	111,000,000.00
Total Household Expenditures (N)	183,789.1	187378.8	10,155.35	114,000,000.00
Per Capita Expenditures (N)	57,445.79	78084.54	1353.829	5,577,939
Total Remittances in Naira (N)	91,023.79	1243490	0	1,280,000,000.00

Source: authors computation (national consumption expenditure data 2009/2010 NBS)

Table 4.1 shows the average, standard deviation, minimum and maximum values for age of household head, household size, food expenditures, non-food expenditures, total expenditures, per capita expenditure and total remittances of all households in the survey data.

The average age of household head is 47.67 indicating that majority of household heads are in their reproductive and economically active age. The youngest is 15 years while the oldest household head is 95 years. The mean of household size is 4.4425 about 5 members, showing that households are predominantly large with the smallest household size being 1 while the largest is 10 members. The mean of Food expenditure is N86,091.57k, for non-food expenditure the mean is N97,697.49kobo, while total household expenditure , per capita expenditure and total remittances have N183,789.1 N57,445.79 N91,023.79 as their means respectively. Non-food expenditure, total household expenditure, per capita expenditures all have their standard deviations greater than their means revealing that there is a wide variability in the consumption expenditures and total remittances among all the surveyed households.

Table 4. 2: Number of households surveyed by sector

Sector	Frequency	Percentage
Urban	8,071	24.45
Rural	24,941	75.55
Total	33,012	100

Source: authors computation (national consumption expenditure data 2009/2010 NBS)

Table 4.2 shows the distribution of respondents from urban and rural areas. 24.45 % (8,071) of the respondents/households are from live in urban area while 75.55 % (24,941) are rural residents. Rural residents are larger because greater proportion of population in Nigeria lives in rural region which is also true for Sub-Saharan Africa.

Table 4. 3: Distribution of households surveyed by zones

Zone	Frequency	Percentage
North Central	5,256	15.92
North-East	4,784	14.49
North West	7,919	23.99
South-East	4,405	13.34
South-South	4,782	14.49
South-West	5,866	17.77
Total	33,012	100

Source: authors computation (national consumption expenditure data 2009/2010 NBS)

As presented by table 4.3, North-West has the highest respondents 7,919 (23.99 %) followed by South West 5,866 (17.77 %), North Central 5,256 (15.92 %) North-East 4,784 (14.49 %), South-South 4,782 (14.49 %) and South-East 4,405 (13.34%).

Table 4. 4: Gender distribution of household head

Sector	Frequency	Percentage
Male	28,033	84.92
Female	4,979	15.08
Total	33,012	100

Source: authors computation (national consumption expenditure data 2009/2010 NBS)

According to table 4.4, majority of the households are headed by males 84.92 % of the total survey. It shows that households are still predominantly headed by males in Nigeria. Especially in rural areas and among people engaged in agriculture /farming as their primary profession.

Table 4. 5: Distribution of households by marital status

Marital Status	Frequency	Percentage
Never Married	1	0.00
Monogamous	27,739	84.03
Polygamous	284	0.86
Living together	197	0.60
Divorced/Separated	1,100	3.33
Widowed	3,691	11.18
Total	33,012	100

Source: authors computation (national consumption expenditure data 2009/2010 NBS)

Distribution of households by marital status is presented by table 4.5, it indicates that largest proportion of households are in monogamous marriage 84.03 % , followed by widowed 11.18% and divorced and separated 3.33 %.

Table 4. 6: Distribution by age of the household head

Age Groups	Frequency	Percentage
15-30	5,629	17.05
31-40	7,701	23.33
41-50	7,264	22.00
51-70	9,772	29.60
71-95	2,646	8.02
Total	33,012	100

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

Table 4.6 shows the age groups of the respondents in the survey. 29.60 % of the respondents are between the ages of 51 to 70 years; this represents the largest share of age group, followed by age group 31-40 years with 23 % and 41-50 years with 22%.

This reveals that most of the households are older than 30 years and are in their reproductive and economically active age. The mean age is 47.67 years.

Table 4. 7: Distribution of household size

Household size	Frequency	Percentage
1-3	13,092	39.66
4-6	13,078	39.62
7-10	6,842	20.73
Total	33,012	100

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

In terms of household size, as shown by table 4.7, about 40% of the household had between 1 to 3 members, also about 40 % had between 4 to 6 members, while 20% of the respondents had members between 7 to10. This shows that households are generally large in Nigeria, especially in rural and farming communities. This might be helpful in proving cheap labour for the family work but also has the limitation of depressing the per capita expenditures of households thereby contributing to poverty depth.

Table 4. 8: Descriptive statistics by zone

Zone		Age of household head	Household size	Total Expenditure (in Naira)	Per capital Expenditure (in Naira)	Total Remittances (in Naira)
North Central	Mean	45.22393	4.666286	189,346.1	55,658.18	64,253.86
	S.D	15.27072	2.543949	137,767.7	58,170.94	645,448.2
North East	Mean	44.9607	5.197742	165,284	43,425.49	13,423.56
	S.D	15.00706	2.625361	132,636.2	48,888.88	234,381.7
North West	Mean	46.10633	5.22566	173,094.1	41,729.56	9,906.271
	S.D	14.70687	2.446594	212774.9	48,341.58	156,137.6
South East	Mean	54.41566	3.986379	205,148.2	69,405.5	62,269.64
	S. D.	15.70678	2.265585	173812	74,435.1	643,186.9
South-South	Mean	46.4335	3.901087	187,384.1	67,768.02	291,209.7
	S.D	15.61746	2.406078	261,340	136,313.4	2,868,770
South West	Mean	50.14985	3.35237	189,369.6	74,302.62	146,203.6
	S.D	17.66416	2.084517	161061.9	76,806.44	1,087,181

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

Table 4.8 presents the mean and standard deviations for age of household head, size of household, total expenditure, per capital expenditure and total remittances of households by geographical regions. South-East region hah the highest average age 54.42years followed by South-West 50.15 years. With respect to household size, the Northern regions had the highest means, with North-West having a mean household size of 5.226 members, followed by North East 5.198 members and North Central having 4.666 members. Each of the other three regions South-West, South-South and South East has their average household size less than 4 members. This showed that the North region predominantly composed of larger household size relative to the South. With respect to total expenditures, South-East had the highest average of N205, 148.2k,

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followed by South-West (N189,369.6k) and North Central (189,346.1k) while North East has the lowest mean (N165,284.00k). For per capital expenditure, South-West had the highest per capita expenditure (N74,302.62k), followed by South-East (N69,405.5k) while North-West had the lowest (N41,729.56k) .

The averages of total remittances of the Southern parts are higher than that of Northern region. Specifically, South-South had the largest mean remittances (N291,209.7k) followed by South-West(N146,203.6k) and South-East(N62,269.64K) while North West had the lowest average remittances (N9,906.27k). All regions have their standard deviations greater than their mean for per capita expenditure and total remittances reflecting a wide variability in their welfare as measured by consumption per capita expenditure and also in the amount of remittances received.

4.2 Poverty Profiles

This segment presents the results of poverty profiles (Head-count, Gap and Severity) to enable poverty comparison with groups. The poverty profiles were estimated adopting both moderate and core poverty lines.

Moderate poverty line = 2/3 of mean per capita expenditure = N38,296.53k, based on this relative moderate poverty line, the following tables were constructed.

Table 4. 9: Poverty profiles for Nigeria (in %)

Poverty Incidence (head count) P_0	Poverty Gap (Depth) P_1	Severity (Squared poverty gap) P_2
50.5	20.7	11.05

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

Estimates from the national consumption expenditure data 2009/2010 revealed that the poverty head count or incidence (P_0) is 50.5%, that is half of the population of Nigerians are poor and are living below the relative poverty line of N38,296.57k. Poverty gap index (P_1) shown by table 4.9 is 20.7% indicating that the gap between the poor and poverty line is 20.7% , therefore the poor will require a 20.7% increase in their per capita expenditure to become non-poor. The poverty severity (P_2) for the whole nation according to the data is 11.05%.

Table 4. 10: Poverty Profile by Gender of household head (%)

Sector	Poverty Incidence (head count) P_0	Poverty Gap (Depth) P_1	Severity (Squared poverty gap) P_2
Male	53.52	22.22	11.9
Female	33.4	12.27	6.22
National	50.5	20.7	11.05

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

Table 4.10 compares the poverty profiles between headed by males and females. It reveals that 53.52 % of the households headed by males are poor (head count P_0) while the headcount for female headed households are 33.4%. Although the Tobit regression analysis (section 4.3) shows that being a female head of household increases poverty gap relative to male headed household, the high incidence of poverty among male headed households may be attributed to the fact that majority of the households surveyed were headed by males (84.9% of all the respondents are male, females account for 15.1% of respondents, see table 4 in section 4.1). Poverty depth index (P_1) indicate that 22.22% of per capita income is the gap between male headed households that are poor and the poverty line and so they will need a transfer of 22.22% in per capita income for them to reach the poverty line and become non-poor. For female headed households, the poverty gap (P_1) is 12.27%, so they will require an increase of 12.27% in their per capita expenditure to reach the poverty line. The poverty severities (P2) for both male and female headed households are 11.9% and 6.22 % respectively.

Table 4. 11: Poverty profile by sector (in %)

Sector	Poverty Incidence (head count) P_0	Poverty Gap (Depth) P_1	Severity (Squared poverty gap) P_2
Urban	32.66	11.26	5.3
Rural	56.26	23.78	12.87
National	50.5	20.7	11.05

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

Decomposition of poverty profiles by sector is presented in table 4.11. From the table, rural areas had the highest poverty incidence (P_0) with 56.26 % of the rural population below the poverty line as compared with the urban population which has only 32.66 % of its residents below the poverty line. This shows that poverty is predominant among rural dwellers which might be due to limited access to opportunities and infrastructure in rural areas. Infrastructure such as roads, water and sanitation, universities and electricity are seldom available in the rural areas of the Nigeria (Omonona 2009). This is also consistent with other previous studies by National Bureau of Statistics NBS, that poverty is more wide spread in rural Nigeria relative to urban Nigeria. The poverty gap (P_1) is 11.26% for urban while that of rural region is 23.78%. Implying that the share of poor in urban population require an increase of 11.26% in their per capita expenditure to move to the poverty line, while the poor in rural population require an increase of 23.78% in their per capita income to become non poor. The severity of poverty (P_2) for both urban and rural population is 5.3% and 12.87% respectively.

Table 4. 12: Poverty profile by Zone (in %)

Zone	Poverty Incidence (head count) P_0	Poverty Gap (Depth) P_1	Severity (Squared poverty gap) P_2
North Central	48.97	19.36	10.07
North East	65.02	29.29	16.51
North West	64.76	28.14	15.41
South East	40.34	14.78	7.28
South –South	43.28	17.88	9.6
South West	34.19	11.69	5.58
National	50.05	20.7	11.05

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

The regional breakdown of poverty indexes are shown in table 4.12. North-East had the highest poverty incidence with 65.02% of its population below the relative poverty line. This is followed by North –West, which had poverty head count of 64.76% and North Central with poverty incidence of 48.97. The lowest incidence of poverty was found in South-West with poverty head count of 34.19% of its population.

Each of the regions in the south had poverty incidence below 45%. This indicates that the Northern part of Nigeria is poorer than the Southern part. Each of the regions in the north would require an increase of 19.36%, 29.29%, 28.14% for North central, North-East and North-West respectively in their per capita expenditure to move to the poverty line.

Table 4. 13: Poverty profile by Age-groups of household heads in Nigeria (in %)

Age-Groups	Poverty Incidence (head count) P_0	Poverty Gap (Depth) P_1	Severity (Squared poverty gap) P_2
15-30	34.32	12.38	6.04
31-40	54.43	22.48	12.01
41-50	61.12	26.68	14.69
51-70	52.23	21.54	11.56
71-95	37.79	13.9	6.98
National	50.5	20.72	11.05

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

With respect to age groups, as revealed by table 4.13, poverty is highest among the age group 41-50 years with an incidence of poverty of 61.12 %, followed by the age group 51-70 years with poverty head-count of 52.23%. This might be due to fact that these age groups have large number of dependents which depresses their per capita expenditure. Poverty incidence is lowest among the age of 15-30years with about 34.32% of this group living under the poverty line.

Table 4. 14: Poverty profile by marital status of household head in Nigeria (in %)

Marital Status	Poverty Incidence (head count) P_0	Poverty Gap (Depth) P_1	Severity (Squared poverty gap) P_2
Never Married	0.00	0.00	0.00
Monogamous	53.7	22.28	11.93
Polygamous	60.91	26.99	15.20
Living together	37.06	14.89	7.68
Divorced/separated	27.45	10.29	5.21
Widowed	33.13	11.89	5.98
National	50.05	20.7	11.05

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

Poverty according to marital status in Nigeria shows that household heads that are polygamous are the poorest. The incidence of poverty for the polygamous group is 60.91% followed by monogamous household heads with 53.7% poverty head count. Poverty is lowest among divorced/separated household heads with poverty incidence of 27.45%. There is only one respondent in the survey data that is never married, hence poverty incidence of 0.00%. Further results presented by the table 4.14, shows that the polygamous group with require an increase of 26.99% in their per capita expenditure to move their expenditure to the poverty line as indicated by the poverty gap figure. Also the monogamous households would need a minimum of 22.28% increase in their per capita expenditure to eliminate poverty as reflected by the value of poverty gap for the group.

Table 4. 15: Poverty profile by household size in Nigeria (in %)

Household size	Poverty Incidence (head count) P_0	Poverty Gap (Depth) P_1	Severity (Squared poverty gap) P_2
1-3	22.73	6.7	2.83
4-6	62.57	24.94	12.87
7-10	80.5	39.47	23.27
National	50.5	20.7	11.05

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

Table 4.15 shows the poverty situation of household size in Nigeria. Poverty incidence is highest among households with members between 7 and 10, with an incidence of 80.5%, followed by household with size of between 4-6 members (62.57% incidence). Household with the smallest number of members have the lowest poverty head count of 22.73%. This implies that larger household size is associated with higher poverty incidences. This is especially through when most of the house members are dependents and are not engaged in any income generating activities. This situation puts pressure on per capita expenditure of the households and hence higher poverty levels. The poverty gap figure indicates that household with members between 7-10 would require a minimum increase of 39.47% in their per capita expenditure to eliminate poverty while households with 4 to 6 members would require a minimum increase of 24.94% in their per capita income to become non-poor.

4.3 Extreme Poverty

Core Poor Poverty line of 1/3 of mean per capital income = N19,148.59k was also used to determine households who are extremely poor.

Table 4. 16: Extremely poor households in Nigeria

Poverty Incidence (head count) P_0	Poverty Gap (Depth) P_1	Severity (Squared poverty gap) P_2
18.89	5.64	2.4

source: author's computation (national consumption expenditure data 2009/2010 NBS)

The poverty incidence based on the core poverty line, shows that 18.89% of population of Nigeria is extremely poor. That they lived below the core poverty line of N19,148.59k.

Table 4. 17: Moderately poor versus core poor households in Nigeria based on poverty Incidence (P_0)

Moderately Poor households in Nigeria	Extremely Poor households in Nigeria	Overall Poverty Incidence for Nigeria
31.51 %	18.89 %	50.4%

Source: author's computation (national consumption expenditure data 2009/2010 NBS)

To isolate the percentage of extremely poor from the total number of poor in Nigeria, the core poverty line was employed. The results from table 4.17 shows that In Nigeria 50.4 % of the population are poor but 18.89% of the this are extremely poor (they fall below the per capita expenditure of 1/3 of the mean per capital expenditure) while 31.51% of households in Nigeria are moderately poor, that is they live on per capita expenditure that is below the moderate poverty line of N38,296.53k but they live above the core poverty line of N19,148.59K.

4.4 Determinants of Poverty Status/Depth in Nigeria, Rural and Urban Households.

Table 4. 18 : Tobit estimation results of determinants of poverty depth in Nigeria.

VARIABLES	COEFICIENTS	STANDARD ERROR	t-Ratio	P>|t|
Constant	-0.5451423	0.0235112	-23.19	0.000
Household Size	0.0912512	0.0010829	84.27**	0.000
Gender of household	-0.037855	0.0100096	-3.78**	0.000
Household Age	0.0046764	0.0008717	5.36**	0.000
Household Age Squared	-0.0000464	0.0000000823	- 5.63**	0.000
Household Marital Status	0.0105012	0.0101699	1.03	0.302
Total Remittances	-3.57e-08	3.84e-09	-9.31**	0.000
North Central	-0.1051182	0.0079466	-13.23**	0.000
North West	-0.0067845	0.007042	-0.96	0.335
South-East	-0.1361191	0.0087829	-15.50**	0.000
South-South	-0.0693516	0.0083987	-8.26**	0.000
South-West	-0.047192	0.0088737	-5.32**	0.000
Sector	0.2017718	0.0062049	32.52**	0.000
Prob > chi2 = 0.0000, Log likelihood = -16105.212 , Pseudo R2 = 0.2763				

Source: computational print out of regression results. Notes: **t-ratio Significant at 1% level

Table 4.18 presents the results of the determinants of poverty depth (gap) at the national level using the Tobit Model. The overall significance of the model is at 1% as indicated by the Prob>chi2 value. This shows that the model has a good fit to the data.

10 out of the 12 explanatory variables are significant at 1% level. Household size, age of the household head and sector all have positive and significant relationship to the poverty status of the households. The coefficient of household size is 0.0912512, this implies that poverty depth is increased by 0.0912512 as the household size increases by one unit. This finding rejects the null hypothesis set in section 2.8.1 that household size does not have causal relationship with poverty status of households. Large households have the advantage of providing cheap labour to the household, resulting in increase in productivity all things being equal. But, when most members of the households are dependents, increase in family size will tend to worsen the poverty depth of that household because larger house size can weaken per capita expenditure. This finding is in agreement with the findings of Damisa et al. (2011) and Asogwa 2t al (2012).

The age of the head of household has a coefficient of 0.0046764, implying that household poverty depth is increased by 0.0046764 when the age of the head of household increases by a unit. This may be due to the fact that when age exceeds the productive level, it leads to decline in the farming operations with subsequent reduction in farming income and welfare. The sector dummy variable for residence in rural area has a coefficient of 0.2017718, indicating that residing in the rural parts of Nigeria increases the poverty depth by 20.1% as compared to living in urban area which reduces the poverty status by 20.1%. The reasons for this are not far -fetched, majority of the poor people in developing countries and Nigeria inclusive live in rural areas where they have lesser opportunities for education, health care, employment to improve their lives due to little or no infrastructures compared to urban residents who on the average have better access to more social and economic infrastructures to improve their lives.

The other variables that have negative and significant relationship with poverty depths are; gender of the head household, total remittances of households, squared age of household head, residing in North-Central, South-South, South-East and South-West geographical zones of the country. This indicates that these variables decreasing impact on poverty depth in Nigeria.

Specifically according to the estimates of the analysis, gender of the household head has a coefficient of -0.037855 showing that poverty gap is decreased by 3.7 percent if the household is headed by a male as compared to their female counterparts. This shows feminization of poverty, women are the most affected by poverty; they are more prone to poverty relative to men because they have fewer opportunities, lack access to factors of production such as land, access to credit and are poorly educated and therefore have limited chances of improving their lives through employment of income generation (IFAD 2001).

Total Remittances of the households also contribute to lower the poverty depth although the estimates indicate that this impact is very weak. It has a coefficient of -0.0000000357, implying that poverty depth is reduced by 0.0000000357 when household total remittances increase by one unit. This is because remittances can help to augment household income making available f more money for consumption expenditures.

The squared age of household has a coefficient of -0.0000464, although this influence is tenuous, this shows that squared age of the household head decreases poverty depth by 0.0000464. This indicate that over time the older people have lesser consumption needs, less dependents to cater for because they in turn become dependents themselves as it is the practice of grown up and mature children who are now adults to take care of consumption needs of their old parents in Nigeria.

Furthermore, the results indicate that residing in the North-Central, South-South, South-East and South West regions of Nigeria will reduce poverty depth relative to residence in North East. Residence in North Central will reduce poverty gap by 10.5 %, for South East poverty is decreased by 13.6%, while there is reduction in poverty depth by 6.9 % and 4% for South-South and South-West respectively. This is because poverty is more widespread in the North Eastern part of Nigeria as earlier shown by the poverty incidence of 65.02%, the region has the highest incidence in poverty in Nigeria. Residing in the North Eastern part of Nigeria will therefore increase poverty gap.

Results and Hypothesis set in 2.8.1

Household gender, household size and sector (dummy for rural location) all are significant at 1% confidence level, clearly suggesting that a causal relationship exist between these variables and poverty status in Nigeria. The null hypothesis set in session 2.8.1 with regards to these variables is therefore rejected.

Table 4. 19: Determinants of poverty depth in rural Nigeria

VARIABLES	COEFICIENTS	STANDARD ERROR	t-Ratio	P>|t|
Constant	-0.3839433	0.0245999	-15.61	0.000
Household Size	0.0896476	0.0011562	77.54**	0.000
Gender of household	-0.0244319	0.0113448	-2.15*	0.031
Household Age	0.0060493	0.0009459	6.40**	0.000
Household Age Squared	-0.0000604	8.98e-06	-6.72**	0.000
Household Marital Status	0.0156136	0 .0113342	1.38	0.168
Total Remittances	-0.0000000291	4.38e-09	-6.65**	0.000
North Central	-0.1048941	0.0082431	-12.73 **	0.000
North West	0.0063078	0.0072028	0.88	0.381
South-East	-0.1367113	009225	-14.82**	0.000
South-South	-0.0628685	0.0087582	-7.18**	0.000
South-West	-.0375136	0.0107434	-3.49**	0.000
Prob > chi2 = 0.000, Log likelihood = -12242.307, Pseudo R2 = 0.2663				

Source: computational print out of regression results. Notes: **t-ratio Significant at 1% level, *significant at 5%

Table 4.19 depicts the results of the determinants of poverty in rural Nigeria with 9 of the dependent various being significant. The overall significance of the model is at 1% indicating that the model has a good fit to the data. The dependent variables that contribute to the reduction of poverty in rural Nigeria are; gender of the household head, total remittances, household age squared and residing in rural parts of North –Central, South-East, South-South, and South-West geographical zones in Nigeria.

The gender of the household head has a coefficient of -0.0244319, showing that poverty gap is decreased by 2.43% percent if the household is headed by a male as compared to their female counterparts. Even though poverty is more widespread in the rural areas than urban areas, male headed households are better than female headed households owing to the fact that men have more and better access to productive resources like land, credits e.t.c to improve their income and as a consequent their consumption expenditure compared to women who face discrimination in access to factors of production and lack certain capabilities like education. This finding is in consonance with the results of the determinants of poverty at the national level as revealed by table 4.18.

Total remittances though shows a weak impact, also reduces the poverty depth in rural areas. It has a coefficient of -0.0000000291 implying that poverty depth is reduced 0.0000000291 among rural dwellers if the household total remittances are increased by one unit. The coefficient of squared age of household head is -0.0000604 indicating that over time as the households head gets older their poverty status improve because they have less consumption needs and fewer people to cater for. Other variables that contribute to reduction of poverty depth in rural areas are residences in North-Central, South-East, South-South and South-West and they have the following coefficients (-0.1048941) (-0.1367113), (-0.0628685), (-0.0375136) respectively. This means living in North Central will decrease poverty by 10.4%, in South-East poverty is reduced by 13.6 %, while poverty is decreased by 6.29% and 3.75% for living in South –South and South Western regions as compared to the North Eastern part of Nigeria. These results further reaffirm the previous results shown by table 4.12 that poverty is more common in the North East and living there tends to increase the poverty gap.

Variables that have positive relationships with poverty depth in rural areas are; household size and age. The estimate of household size is 0.0896476, indicating that poverty depth of a household in rural area will increase by 0.0896476 if the household size is increased by one unit. This is not so different from the results obtained at the national level.

This therefore confirms that large households tend to be poorer than smaller ones even though the former might offer more labour opportunities, with large number of dependents, the per capita income and expenditure of the household is depressed. Age of the household head also contribute to the poverty status in rural areas. The coefficient is 0.0060493, showing that poverty depth is increased by 0.0060493 as the age of household head is increased by one unit.

Results of Rural vs Hypothesis in 2.8.1

In the rural estimation, household size (p-value 0.000) was significant at 1% while gender of household (p-value 0.031) was significant at 5% confidence level. These findings reject the null hypothesis that these variables do not have a causal relationship with household poverty status.

Table 4. 20: Determinants of poverty depth in urban Nigeria

VARIABLES	COEFICIENTS	STANDARD ERROR	t-Ratio	P>|t|
Constant	-0.4180383	0.0611428	- 6.84	0.000
Household Size	0.1023838	0.003046	33.61**	0.000
Gender of household	-0.0724538	0.0223947	-3.24**	0.001
Household Age	-0.0005749	0.0022571	-0.25	0.799
Household Age Squared	7.20e-06	0.0000209	0.34	0.730
Household Marital Status	-0.0130128	0.0239235	-0.54	0.587
Total Remittances	-5.57e-08	8.57e-09	-6.50**	0.000
North Central	-0.1252555	0.0270326	-4.63**	0.000
North West	-0.1314371	0 .0261001	-5.04**	0.000
South-East	-0.1331358	0.0284706	-4.68**	0.000
South-South	-0.1167776	0.0280499	-4.16**	0.000
South-West	-0.0996916	0.0239286	-4.17**	0.000
Log likelihood = -3766.883, Prob > chi2 = 0.0000 Pseudo R2 = 0.1979				

Source: computational print out of regression results. Notes: **t-ratio   Significant at 1% level

Finally table 4.20 presents the estimates of the determinant of poverty in urban Nigeria. The overall significance of the model is at 1% indicating that the model has a good fit to the data.

The urban estimates are slightly different from that of rural estimates of determinant of poverty gap because only household size, household gender, total remittances, residence in North Central, North West, South-East, South-South and South- West are significant variables. The age and squared age of the households are not significant in explaining the poverty depth of rural dwellers contrary to the results obtained for the rural analysis in which age and squared age of household heads were significant.

The urban results reveal that household size aggravates the poverty depth. The coefficient of household size is 0.1023838, showing that poverty depth is increased by 0.1023838 with a unit increase in the size of the household. This is in agreement with the results obtained for the national and rural analysis. This shows that generally larger household size tend to increase the poverty depth of households.

Total remittances of the households with a coefficient of -0.000000575 although significant also exhibit a tenuous influence on the poverty depth of urban households. Poverty depth is decreased by 0.000000575, when remittances are increased by one unit. The location dummies of North-Central (with an estimate of -0.125255), North West (-0.1314371), South-East (-0.1331358) , South-South (-0.1167776)and South-West(-.0996916) also indicate that living in the urban regions of the aforementioned locations reduces poverty by 12.5%, 13.1%, 13.3%, 11.7% and 9.9% respectively for North-Central, North-West, South-East, South-South and South-West relative to the North-East urban region of Nigeria. This further reaffirmed that the North-East part of Nigeria is the poorest region.

Results of urban estimation vs Hypothesis in section 2.8.1

From the urban estimation both household size (p-value = 0.000) and gender of household head (p-value = 0.001) are significant at 1% confidence level, based on this the null hypotheses that household size and gender of household head do have causal relationship with the poverty depth of household are rejected.

4.5 Discussion of main results

Results above provide evidence that socio-economic characteristics of households such; as age and gender of household head and household size and location of households in rural areas, North-Central and Southern geographic region of Nigeria all have influence on the probability of being poor and poverty status in Nigeria.

Poverty and Gender

The gender dimension of household head showed that being a male head of household had a negative and significant relationship with poverty depth in all the Tobi model specifications for national, rural and urban region. Male headed households are better off at reducing poverty depth relative to their female counterpart, suggesting feminization of poverty. This finding is consistent with the studies done by Anyanwu (2005) who also found evidence to support feminization of poverty and Omonona (2009) discovered that being a male household head increased the welfare ratio of households better than female headed households. Anyanwu (2005) suggested that discrimination in labour market against women and unequal educational attainment between men and women could be responsible for the observed higher poverty status of women. Furthermore Ghazouani and Goaied (2001) and Simler et al. (2004) also found evidence to support feminization of poverty. However, the result contrary to Rodriguez (2002) and Oni and Yusuf (2007) who found evidence to support that female headed household had lower expected poverty relative to their male counterpart and.

Poverty and Household Size

Estimates from this study revealed that household size positively and significantly related to poverty depth among households in both rural and urban Nigeria, that is larger household size will increase poverty depth. This showed similar results with the works of Damisa et al. (2011), Asogwa et al. (2012), Omonona (2009), Oni and Yusuf (2007) and Anyanwu (2005). They all found evidence to ascertain that larger household size will increased poverty status of households. In this same vein, although employing household dependency ratio instead of household size, Akerele et al (2012), also discovered that high dependency ratio, increased poverty depth of households.

Moreover the results of poverty headcount in table 4.15 revealed that households with the largest members of between 7 and 10 had the highest poverty incidence of 80.5 % compared to other households with fewer size. This observation of positive relationship of larger household size to poverty status might be due the fact that larger household size can weaken the per capita expenditure of households particularly when there are many dependents in the households, consequently increase poverty depth.

Poverty and Age of household head

With respect to age of the household head, the findings of this study indicated that age of household head had positive and significant relationship with the poverty depth though not significant in the urban Nigeria estimation. The works of Oni and Yusuf (2007) and Asogwa el al (2012) support this argument. Although being older could be associated with greater working or farming experience, the positive impact of age of on poverty depth might be that older people have lesser energies and could be less productive compare to young and vigorous individuals especially in rural areas where major occupation is farming and basically subsistence. However the estimate of squared age of household head was negative and significant for all households in Nigeria and also in the rural estimation although not significant in the urban model. This suggests that when age increases to certain point, it could have a reduction effect on poverty status.

Poverty and Geographical location

With respect to location, the results revealed that living in rural areas was directly and significantly related to poverty. This was also evident in the poverty headcount of rural region (56.6%) estimated at Table 4.11. Also NBS (2004) and NBS (2011) support the findings that poverty is predominant in rural Nigeria relative to urban Nigeria. However, according to zonal location, residing in North-Central, South-East, South-South and South-West zones of Nigeria had negative and significant relationship with poverty depth of households compared with living in the North-East. This revealed that location is important in determining poverty in Nigeria. This result is consistent with Oni and Yusuf (2007) and Anyanwu (2005) who found that living in Southern Nigeria reduced probability of being poor, Oni and Yusuf (2007) discovered that living in North-East Nigeria was associated with greater expected poverty.

CHAPTER FIVE: SUMMARY, RECOMMENDATION AND CONCLUSION

5.1 Summary of Major Findings

This session presents the summary of results of the study for descriptive analysis, poverty indices and determinants of poverty status in Nigeria.

Results of Descriptive Analysis

The study revealed the mean age of the household head is 47.69 years indicating that most of the household head are in the productive and economically active age. The youngest and oldest ages found in the data distribution were 15 and 95 years respectively. The mean household size of all respondent is 4.44 members, with the lowest and highest household size being 1 and 10 members respectively. At the geographical level, North-West had the largest average household size of 5.22 members while South-West had the lowest average household size of 3.35 members.

Furthermore the study also discovered that the mean food expenditure of all households is N86,091.5k, for non-food expenditure the mean is N97,697.49K while the average of total expenditure spent on consumption by all households is N183,789.1K . The mean per capita expenditure is N57,445.79k and the average of total remittances received by all households is N91,023.76K. South-West has the largest mean per capita expenditure (N74,302.62k) while North-West has the lowest mean per capita expenditure (N41,729.56k). South-South received the highest mean of remittances (N291,209.7k) while North West received the lowest mean remittances (N9,906.27k).

Poverty Indices

Analysis of poverty indices showed that poverty incidence for Nigeria is 50.4%, implying that half of the population of Nigerians fall below relative poverty line. The poverty gap for the nation was 20.7%, which implies the poor would require a minimum of 20.7% in their per capita expenditure to become non poor.

Also the study found out 18.89% of Nigerians are extremely poor, they lived below poverty line of 1/3 of mean per capita expenditure of all households while 31.5% of all households are moderately poor, that is their per capita expenditure is below poverty line of 2/3 per capita expenditure but above the core poverty line of 1/3 per capita expenditure.

At the sectors, poverty incidence was observed to be larger in the rural areas, with 56.26% of its population poor compared to 32.66% of urban population that are poor. The gender dimension of poverty headcount as revealed by the study showed that 53.52% of the male headed households are poor while 33.4% of the female headed households are poor. Analysis of poverty head count with the marital status of the households revealed that households practicing polygamous marriage are the poorest, with over 60.91% of those married under polygamous arrangement poor. Geographical analysis of poverty head count showed that Northern Nigeria is poorer that Southern Nigeria. Specifically, North-East is the poorest region with 65.02% of its population poor followed by North-West having 64.76 of its population being poor. South-West had the lowest poverty incidence among the six geographical zones; it had only 34.19% of its population living under the poverty line.

In terms of age groups, the study discovered that head of households between the ages of 41-50 years were the poorest, about 61.12% of this age group was poor. The lowest poverty incidence (34.32%) occurred among the age groups of between 15-30 years. Looking at poverty in terms of household size, the study found out that large households had higher poverty incidence. Households with 7 to 10 members recorded the highest poverty headcount of 80.5% while households with small size of between 1 to 3 members had the lowest poverty incidence 22.73%.

Determinants of Poverty Gap/Depth

Estimates derived from the analysis of determinants of poverty gap in Nigeria showed that large household size, age of household head and rural residence had positive and significant relationship to poverty depth among Nigerians. A unit increase in household size will increase poverty depth by 0.0912 unit, a unit increase in age of household head will increase poverty situation by 0.0046 unit. The results also revealed that households headed by males in Nigeria are will reduce poverty gap by 3.785% relative to their

female counterpart. Total remittances and squared age of household head had negative impact on poverty gap although their impact is very weak. With regards to location of households, rural residents are more prone to poverty than their urban counter parts. Living in rural areas will increase poverty status by 20.17% relative to urban area. Households living in North Central, North-West, South-East, South-South and South-West are better off in terms of poverty status as the study found out that living in these regions will decrease poverty depth compared to living in North-East which is also the poorest region as indicated by its the poverty incidence.

The rural estimation of determinants of poverty depth showed that household size and age of household also contributed to increase in poverty depth. A unit increase in the house size of rural dwellers will increase poverty depth by 0.089, while a unit increase in age of household head will increase poverty depth by 0.006. Among factors that contribute to reduction of poverty depth in rural areas are being a male household head(decreases poverty by 2.44%), total household remittances, living in the North-central, South-East, South-South and South-Western part of rural areas relative to living in the North-East which increases poverty depth of rural households.

Finally, the results for determinants of poverty status in urban region of Nigeria revealed that household size, being a female head of household are variables that contribute to increase in poverty depth. A unit increase in household size will increase poverty by 0.10238 units.

The variables that have a reduction impact on poverty status of households in urban Nigeria are male headed households (decreases poverty by 7.25%) total remittances received by the households and living in the North-Central, North-West, South-East, South-South and South-West of urban region.

5.2 Recommendation

Based on the findings of the study, the following policy recommendations can help Nigerian government in reducing poverty in the country:

1. Poverty is mostly prevalent among rural population in Nigeria, in order to achieve a speed reduction in the worsening poverty situation that has been plaguing the country for years, it is imperative for government to increase its commitments and efforts in designing and implementing poverty alleviation programmes in rural areas. Specifically by providing social and economic infrastructures that can help to increase the welfare enhancing opportunities in rural regions.

2. The North-Eastern part of Nigeria is the poorest region with highest incidence of poverty; government should give a special attention to this region in its efforts to combat poverty.

3. Female household heads were identified as one of the factors that increased poverty status in Nigeria. This could be as a result of unequal access to productive resources such as land, credits employment opportunities and discrimination that women face (IFAD 2001). Therefore government should facilitate policies that favour gender equality, and poverty alleviation programmes that encourage women empowerment and access to productive resources, education and training that will improve women's welfare.

4. Higher poverty status of households is associated with larger household sizes, while households with fewer members reduced poverty status .Nigeria has seen rapid growth in population over the last two decades and this has been one of the factors contributing to the escalating poverty condition of the country. Population control is crucial in achieving reduction in poverty owing to constraints imposed by limited resources available to satisfy the needs the growing population, Nigerian government should therefore design and implement policies that will allow for a manageable number of household size and curtail the sporadic growth of the population.

5.3 Conclusion

The study examined the poverty profiles of rural and urban Nigeria and determined factors that explain the depth of poverty in Nigeria. In order to achieve a speedy reduction in poverty, Nigerian government should give special priority should to rural areas and North-Eastern zone because these regions have the highest incidences of poverty. This could be accomplished through provision of social and economic infrastructures in these regions that can help improve their well-being. Furthermore there is need for government to empower women in terms of equal access to productive resources, employment opportunities and also curb the population growth rate through reasonable number of household size.

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