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Multidimensional Poverty Incidence in Nigeria: Empirical Insight from Core Welfare Indicator Questionnaire (CWIQ) Survey

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Abstract
This study carried out an analysis of multidimensional poverty incidence in Nigeria using the Core Welfare Indicator Questionnaire (CWIQ) Data, a non-monetary welfare indicator survey. A composed sample of 77,400 (seventy-seven thousand, four hundred) housing units drawn from the 36 States and Federal Capital Territory-FCT was used for the study. Five non-monetary welfare indicators were constructed for the study- Housing; Education; Energy; Health; and Land access. Principal Component Analysis (PCA) and Adapted-Foster Greer and Thorbecke, were used to analyze the data. The PCA was used to derive the non-monetary poverty line. Kaiser-Meyer-Olkin model adequacy value of 0.75 was obtained in each of the poverty groupings. The study revealed that poverty in Nigeria has no geographical frontier, with all the geo-political zones/groupings recording high incidence of multidimensional poverty. Among the recommendations made were: Government should target specific regions or states based on the poverty attributes they are most deprived; Government should incorporate other poverty attributes in their poverty eradication programmes instead of focusing primarily on moving people out of certain income poverty level.
Keywords: Nigeria, Multidimensional Poverty, Incidence, Core Welfare Indicator Questionnaire

1. Introduction

Poverty is among the most crucial problem facing developing economies today (Boateng et al 2000) and have attracted a lot of attention among analysts in Nigeria during the past few decades. Poverty is profoundly endemic in many countries, especially in less developed countries. There have been several reports on poverty trends in Nigeria, that is, on changes in the incidence, depth and severity of poverty over time. For example, poverty rate increased from 27.2 in 1980 to 46.3 percent in 1985and 65.6 percent in 1996 (Nigeria Bureau of Statistics (NBS), 1996). Although there was a drop in poverty rate to 54.4% in 2004 (NBS, 2004), the recent poverty report released by NBS shows that the rate has increased to 69.0% (NBS 2010). This shows that over 96 million Nigerians still live in poverty. In fact, Nigeria is among the poorest countries in the World with a Human Development Index (HDI) of 0.470 ranking 158th among 177 countries (UNDP, 2007) Thus, poverty reduction is undoubtedly one of the highest ranking issues in the national strategies of Nigeria and the most potent issue in the current international development agenda. This is reflected in Millennium Development Goal (MDG) 1, the vision statement of most bi- and multilateral donor agencies and in poverty reduction policy papers of most developing countries, for instance, the Nigeria National Economic Empowerment and Development Strategy (NEEDS). These poverty figures are purely money-metric.

Though the money-metric measure of poverty has achieved tremendous progress over the decades, the well-being of a population and, hence its poverty, which is a manifestation of insufficient well-being, depends on both monetary and non-monetary variables. The Human Development Report published by the United Nations Development Programme (1997) states that a lack of income only provides part of the picture in terms of the many factors that impact on individuals' level of welfare (e.g. longevity, good health, good nutrition, education, etc). This re-echoed the multidimensionality of poverty and gave further impetus to the importance of the multidimensional approach to poverty measurement - integrating both monetary and non-monetary approach in poverty measurement or at best, measuring poverty with the aid of money and non-money metric attributes.

1.1 Statement of the Problem

In spite of the importance of multidimensional measure of poverty in enhancing the knowledge and understanding required to promote a sustainable campaign against poverty at the National and State levels, previous efforts at measuring poverty in Nigeria have always focused on monetary measures of poverty such as income/expenditure as indicator of poverty and income distribution as the basis for inequality analysis. Measurement of poverty in Nigeria has rarely focused on the level of assets or distribution of assets and other non-income indicators as the objective of policy programme. For example previous efforts in analyzing poverty in Nigeria namely, Van da Walle (1990); Ogwumike (1991); World Bank (1991); Canagarajah et al (1997), Aigbokhan (2000); Ogwumike et al (2006), Okumadewa et al (2006), and various studies by National Bureau of Statistics all used uni-dimensional measures. Little is known about the other welfare attributes. These uni-dimensional poverty measures, at best, only lead to partial understanding of poverty and often, to unfocused or

ineffective poverty reduction programmes. This is because they do not give comprehensive information about the poor especially in terms of other attributes and as such lead to limited knowledge of the problem since the different dimensions of poverty and the correlates are not known. Thus, in order to have a multifaceted approach to fighting poverty, there is the need to carry out a multidimensional analysis of poverty and inequality in Nigeria. This forms the bedrock of this research. The objective of the present study is to carry out a multidimensional analysis of poverty in Nigeria looking at the incidence of poverty across several non-monetary poverty indicators.

2. Literature Review

2.1 Theoretical Literature

There are different schools of thought concerning poverty, and these are: the Welfarist School, the Basic Needs School, and the Capability School. While these schools differ in many ways, they all however talk about lacking "something", a certain reasonable minimum. Thus a person is considered poor whenever he/she is lacking, with respect to the reasonable minimum, the particular "thing" in question. The focus of the schools is as follows:

Welfarist school: This school addresses the issue of economic well-being, sometimes referred to as economic welfare or standard of living. Thus addressed in this case is the issue of utility or the total consumption level determining utility. The essence of the approach is preference ordering and so utilities are the basis of social preferences, including poverty comparisons. An example of the definition provided by the welfarist school is that: "Poverty can be said to exist in a given society when one or more persons do not attain a level of well-being deemed to constitute a reasonable minimum by the standards of that society". The welfarist school is currently the dominant approach, also promoted by institutions like the World Bank.

The Basic Needs School: In this case what is being addressed as missing is a small subset of goods and services specifically identified and deemed to meet the basic needs of all human beings. The needs are called basic in the sense that their satisfaction is seen as a pre-requisite for a high quality of life. Thus the attention is on individual requirements relative to basic commodities. The basic goods and services usually include food, water, sanitation, shelter, clothing, basic education, health services, and public transportation. This school ranks second in importance.

The Capability School: The capability approach was pioneered by Amartya Sen. Since the 1970s, Sen launched a critique against the welfare school as a normative theory, and proposed a new framework for the assessment of well-being, which he called capability approach. According to Sen; development should be seen as the expansion of human capabilities, not the maximization of utility, or its proxy, money income (Sen 1985; Sen 1999). The capability approach (CA) rejects monetary income as its measure of well-being, and instead focuses on indicators of the freedom to live a valued life. In this framework, poverty is defined as *failure to achieve certain minimal or basic capabilities,* where 'basic capabilities' are 'the ability to satisfy certain crucially important functionings up to certain minimally adequate levels'. (Sen 1993,).

The capability approach constitutes an alternative way of conceptualising individual behaviour, assessing well-being and identifying policy objectives, based on the rejection of utilitarianism as the measure of welfare and of utility maximisation as a behavioural assumption. It is rooted in a critique of the ethical foundations of utilitarianism. It is argued that the only defensible basis for a utilitarian approach is to ground it in a concept of utility interpreted as 'desire fulfilment'. This however implies letting individuals' mental disposition play a role in social evaluation while neglecting aspects such as their physical condition which influence their quality of life. As a result, people can be 'satisfied' with what is a very deprived state (e.g. ill-health, termed 'physical condition neglect'),

In the CA approach well-being is seen as the freedom of individuals to live lives that are valued (termed the capability of the individual), i.e. the realisation of human potential. In the context of poverty the focus is on "the failure of some basic capability to function" (Sen 1995,) where basic capabilities are "intended to separate out the ability to satisfy certain elementary and crucially important functionings" (Sen 1995,). This emphasis on the "outcomes" characterising the quality of life of individuals implies a shift away from monetary indicators (which at best can represent indirect measures of those outcomes) and a focus on non-monetary indicators for evaluating well-being or deprivation. Monetary resources are considered only as a means to enhancing well-being, rather than the actual outcome of interest. Monetary resources may not be a reliable indicator of capability outcomes because of differences individuals face in transforming those resources into valuable achievements (functionings), differences which depend on different individual characteristics (for example differences between individuals in terms of metabolic rates; differences between able bodied and handicapped individuals) or differences in the contexts individuals live in (eg differences between living in areas where basic public services are provided and areas where those services are absent). If the emphasis is on final outcomes, poverty (and more generally well-being) assessments should take into account the fact that some people need more resources than others to obtain the same achievements. The emphasis is therefore put on the idea of *adequacy* of monetary and

other resources for the achievement of certain capabilities rather than their *sufficiency*, and the role of externalities and social goods are brought into the picture as other influences over capabilities. With their income individuals acquire commodities and the utilisation of these commodities' characteristics allows individuals to achieve certain functionings. Monetary resources therefore, remain instrumentally related to the achievement of well-being (or, conversely, poverty), but do not exhaust the causal chain. Income is necessary to buy commodities, which in turn help people to satisfy material needs; however, there exist elements of life (such as health, culture or self respect, etc.) which do not depend on material wealth. Thus, well-being is fundamentally a multidimensional and complex notion. Sen's approach is able to account for the multidimensional nature of well-being as it characterizes individual well-being in terms of his/her functionings: a functioning is an achievement of a person, what the person succeeds in doing with the commodities and characteristics at her command (see Sen 1985). Thus according to the capability school a person is considered poor if he/she does not have the possibility of a certain subset of functioning.

Therefore, the theoretical underpinning behind moving from a uni-dimensional poverty measurement to evolving a multidimensional measurement of poverty and inequality in this study rests on Amartya Sen's "capabilities and functionongs" framework. According to this framework, well-being is intrinsically multidimensional, where functionings deal with what a person can ultimately do and capabilities indicate the freedom that a person enjoys in terms of functioning (Sen1985, 1995). In the capability approach functionings are closely approximated by attributes such as literacy, life expectancy, health, etc. and not by income per se .According to Sen, capability measures the freedom to achieve alternative functionings. If an individual possesses a large enough endowment or portfolio of capability she can, in principle, choose a specific functioning to escape poverty. The Human Development Index suggested by UNDP (1990) provides a classical example of multidimensional measure of well-being in terms of functioning achievements. It aggregates at the country level functioning achievements in terms of the attributes life expectancy, per capita real GDP and educational attainment rate. For this reason, we shall deviate from the single dimensional income approach to poverty measurement and adopt an alternative approach-multidimensional approach. We shall see poverty in terms of functioning failures or, more precisely in terms of shortfalls from threshold levels of the attributes themselves.

2.2 Empirical literature

Recently, some studies have agreed that the traditional approach is inadequate for an accurate evaluation of standard of living. Scholars like Pattanaik and Dutta (1994), Dworkin (1981) Sen (1991, 1992), Sudgen (1998), Thorbecke (2005), Bibi (2006), Friekie et al (2007) among others argue for a more comprehensive interpretation of well-being, by focusing on two basic ideas: the first idea is that well-being represents a multidimensional notion, which only partially depends on economic wealth which is linked to dimensions like health condition, education, safety and self fulfilment. The second-perhaps more crucial idea is that individual freedom of choice is relevant in determining the level of well-being. The UNDP human poverty index (HPI) is one of such attempts to apply multidimensionality in the measurement of poverty. It combines life expectancy, education, and health.

The importance of analyzing poverty from a multidimensional perspective in Africa has continued to gain momentum. For instance, the 2008 UNU-WIDER Development conference on *"Frontiers of Poverty Analysis"*held in Helsinki, Finland, had almost all the African scholars present their papers on multidimensional poverty. Appiah-Kubi and Amanning-Ampomah (2008) worked on "Multidimensional Analysis of Poverty in Ghana using Fuzzy Sets Theory", Oyekale et al (2008) worked on "Fuzzy Set Approach to Multidimensional Poverty Decomposition in Rural Nigeria", Njong (2008) worked on "Multidimensional Spatial Poverty Comparison in Cameroon: A Robust Analysis Using Stochastic Dominance Tests". Hence there is no gainsaying that analyzing poverty using composite indicators has obvious advantages over the single metric analysis. However, evidence from poverty studies in Nigeria as pointed earlier shows that such studies have largely concentrated on income/consumption expenditure as proxy for welfare.

3.0 Methodology

3.1 Data for the study

The data for the study was the 2006 National Core Welfare Indicator Questionnaire (CWIQ) Survey conducted by National Bureau of Statistics (NBS). Data was collected on some indicators which include demography, education, health, employment, household assets, amenities, housing, gender and social projects. A two-stage stratified sampling design was adopted. The first stage involves the Enumeration Areas (EAs), while Housing Units (HUs) constitute the 2nd stage. The projected sample size was 100 HUs at the LGA level. The sample size using other defined reporting domains (FC, senatorial, state and geo-political zone) varied, depending on the number of the LGAs that made the reporting domain. Overall, 77,400 HUs were drawn at the national level, 59567 were from the rural areas while 17,495 were from urban area. Also, sampling weights were constructed for each sample, thus making the data representative of the entire population in Nigeria.

3.2 Indicators

One crucial concern in the measurement of multidimensional poverty is the identification of and the development of a relevant set of primary indicators. It is not easy to determine what and how many indicators should be taken into account for measuring deprivation. There is an obvious trade-off between the possible redundancy caused by overlapping information and the risk of obviating some important variables. The CWIQ survey does not include questions on income and expenditure. This makes it practically impossible to adopt the traditional (money-metric) method of measurement of poverty using this set of data. From the numerous attributes we selected a set of material and nonmaterial indicators whose changes are assumed to impact on poverty. These indicators are classified according to Ki *et al.* (2005), into categories of indicators comprising of housing/sanitation, economic condition/security, goods of comfort, equipment and assets, means of transportation, education, energy, communication, community project involvement, health, ownership of land and livestock and access to basic infrastructure.

The selected attributes are mixed dichotomous, categorical and discrete types. Variables under ownership of land and livestock are discrete variables, the variables under the housing/sanitation are categorical except window/door net, maintain good drainage, and maintain good sanitation which are dichotomous variables. The health variables are dichotomous. Educational variables are categorical and dichotomous. Energy variables are dichotomous and categorical. The categories of indicators of deprivation as used in the study are as shown in Table 1 in the appendix

3.3 Construction of poverty index

Principal Component Analysis (PCA) multivariate statistical technique was used to reduce the number of variables in the data set into a smaller number of 'dimensions' without losing too much information in the process. PCA technique achieves this by creating a fewer number of variables which explain most of the variation in the original variables. The new variables which are created are linear combinations of the original variables. The first new variables will account for as much as possible of the variation in the original data.

Given *P* variables $X_1,\ldots, Xp$ measured in *n* households, the *P* principal components $Z_{1,\ldots,}Z_p$ are uncorrelated linear combinations of the original variable, $X_1,\ldots, Xp$, given as

$Z_1=a_{11}X_1+a_{12}X_2+\ldots+a_{1p}X_p$

$Z_2=a_{21}X_1+a_{22}X_2+\ldots+a_{2p}X_p$

$Z_p=a_{p1}X_1+a_{p2}X_2+\ldots+a_{pp}X_{pz}$

This system of equations can be expressed as $\mathbf{z} = \mathbf{Ax}$, where $\mathbf{z}=(Z_{1,\ldots,}Z_p)$,$\mathbf{x}=(X_1,\ldots, Xp)$ and **A** is the matrix of coefficients.

The coefficients of the first principal component, $a_{11},\ldots,a_{1p}$, are chosen in such a way that the variance of Z_1 is maximized subject to the constraint $a^2_{11},\ldots,a^2_{1p}=1$.The variance of this component is equal to λ_1,the largest eigenvalue of ***A*.** The second principal component is completely uncorrelated with the first component and has variance equal to λ_2 , the largest eigenvalue of ***A*.** This component explains additional but less variation in the original variable than the first component subject to the same constraint. Further, principal components (up to the maximum of *p*) are defined in a similar way. Each principal component is uncorrelated with all the others and the squares of its coefficients sum to one. The principal component analysis involves finding the eigen values and eigen vectors of the correlation matrix.

3.4 Estimation of Multidimensional Incidence

To carry out multidimensional poverty sensitivity analysis, we utilized the general class of poverty measure first proposed by Foster, Greer and Thorbecke (1984) widely known as the FGT measures of poverty. This is a family of poverty indexes, based on a single formula capable of incorporating any degree of concern about poverty through "poverty aversion" parameter, α .This is called p-alpha measure of poverty or poverty gap. This involves measuring the multidimensional poverty headcount, multidimensional poverty gap and severity.

The FGT index of poverty measures can be represented in general form as:

$$P_\alpha = {}^1\!/_N \sum_{i=1}^{q} \left(\frac{z-yi}{z}\right)^\alpha \quad \ldots\ldots 4$$

where Z is the poverty line, q is the number of households/persons below the line, N is the income (asset) of the ith household, and α is the FGT parameter which takes the value of 0,1 and 2 depending on the degree of concern about poverty. The quantity in parenthesis is the proportionate shortfall of income (asset) below the line. By increasing the value of α, the ''aversion'' to poverty as measured by the index is increased. For example, where there is no aversion to poverty, α =0, the index is simply Po=$\frac{1}{N}q=\frac{q}{N}$ =H= Head-count index (ratio of

number of poor to the total population). If α is =1, the index becomes $P_1 = 1/N \sum_{i=1}^{q} (\frac{z-yi}{z})$ = H1 which is the head-count index multiplied by the income (asset) gap between the average poor person and the line. The index measures the depth of poverty; it is also referred to as income (asset) gap' measure. If α is =2, then P_2 is the income (asset) gap squared index and it captures the severity of poverty. $P_2 = 1/N \sum_{i=1}^{q} (\frac{z-yi}{z})^2$.

4.0 Empirical Results

The results in Table (2) reveal a national housing/sanitation poverty incidence of 43.0%. Viewed across geo-political zones, the result revealed that the highest housing/sanitation poverty is recorded in the North-east which has a poverty incidence of approximately 70%, followed closely by North-west with a housing/sanitation poverty incidence of approximately 65% while North-central has a housing/sanitation poverty incidence of 46%. On the other hand, South-south geo-political zone has a housing/sanitation poverty incidence of 28% while South-west has a poverty incidence of 19% and south-east recorded a housing/sanitation poverty of 15%. This result tends to demonstrate a north-south divide in the poverty incidence. While all the northern geo-political zones have poverty incidence above the national poverty incidence, the southern geo-political zones all have poverty incidence lower than the national poverty incidence. In terms of poverty depth, north-east has the highest poverty depth of 19%, followed by north-west with 13% while south-east and south-west both have the least poverty depth of 3% each.

The result in Table (3) shows a national a national education poverty incidence of 58.1%. The result shows that the north-east geo-political zone has the highest education poverty incidence of 59%, followed closely by south-south region with an education poverty incidence of 57.1%. The least education poverty incidence is recorded in the south-west region with an education poverty incidence of 49%. Although the result shows that education poverty incidence is high across the geo-political zones, it can be inferred that only the north-east zone has education poverty incidence above the national incidence. Perhaps of worthy to note is the fact that while the south-west geo-political zone recorded the lowest education poverty incidence, it never-the-less recorded the highest poverty depth. This result has implication for education policy targeting. This is because while the region has the least number of people who are educationally poor at present, it has greater intensity of poverty. This is very paramount especially for sustainable education poverty intervention policy targeting.

Also, Table (4) indicates that the national energy poverty incidence stands at 70.1%. This implies that over 70% of the Nigerian population is poor in terms of energy access. The result shows that of all the different facets of poverty, energy has recorded the highest incidence. This has important implications for policy intervention especially as energy access is very vital to the overall health of the economy. Energy has since been identified as a major fulcrum upon which the growth of our economy revolves. North-west has the highest energy poverty incidence of about 87%, followed closely by north-east which has an energy poverty incidence of approximately 86% while north-central has 72% poverty incidence and south-east 71%. The south-west region has the lowest energy poverty incidence of 43.3%, followed closely by south-south with 59.4 energy poverty incidence. The result suggests that the regions with the highest incidence equally have the highest poverty depth.

The results in Table (5) indicate a national health poverty incidence of 66.2%. The result shows that the south-west geo-political zone recorded the highest health poverty incidence of 68.5%, followed very closely by north-east with a health poverty incidence of 68.3%. The north-west geo-political zone has the lowest health poverty incidence of 60.4%. From the result, it can be observed that the south-west, north-east and south-east regions have health poverty incidence above the national health poverty incidence. However, the result revealed that though the south-west region has the highest health poverty incidence, the south-east region has the highest health poverty depth. This implies that the south-east region has the highest likelihood of falling into health poverty.

The result in Table (6) suggests a national land & livestock poverty incidence of 79.8%. The south-south region recorded the highest land/livestock poverty incidence of 86.2% followed by south-east and south-west with 85.1% and 82.6% respectively. The north-east region has the lowest land & livestock poverty incidence of 59.2% followed by north-west with an incidence of 64.8% while the north-central recorded ownership of land & livestock poverty incidence of 73.3%. In the same vein, the south-south geo-political zone has the highest land & livestock poverty depth while the north-east recorded the lowest land & livestock poverty depth.

The result depicts a north-south dichotomy in the ownership of land & livestock. While all the regions in the southern zones have incidence well above the national land & livestock poverty incidence, the regions in the northern zones all have incidence below the national poverty incidence.

5.0 Conclusion and Recommendation

Poverty is of a multidimensional nature, thus the monetary approach often used in Nigeria is not always sufficient to account for all the facets of this phenomenon. A multidimensional analysis therefore becomes necessary if we truly must identify the poor, as well as the strategies to combat this problem. In this study a composite poverty indicator was constructed using principal component analysis by taking into account non-monetary indicators which have been identified as describing a real poverty situation.

The findings of this study have increased our understanding of the poverty profile of Nigeria base on composite indicators geo-political zones. The intensity and severity of these poverty were also generated for policy purposes.

The results of this study call for a number of recommendations to develop potential socioeconomic policies that will need to be implemented by all development actors (Federal, State, NGOs and Development partners) in order to reduce the incidence, intensity and severity of multidimensional poverty in Nigeria. The results are valuable for policy considerations from different perspectives: the multidimensional poverty decomposition reveals the national and regional poverty ratios. The policy implication of this is that it provides the ample opportunity of targeting specific regions based on the incidence of the dimension of poverty. As Nigeria gears towards joining the league of big 20 (one the 20 biggest economies) in the year 2020, diversification of the economy through agriculture, small and medium enterprises have been vigorously canvassed. The high incidence of land access poverty revealed by this study tends to corroborate the recent ranking of Nigeria as the 178th out of 183 countries studied in terms of access to land. World Bank looked at the land situation in Nigeria and maintained that if the situation continues Nigeria cannot bring in foreign capital. Thus the high incidence of land access poverty needs special attention by government at all levels. The government should embark on programmes that would encourage people to take up land with minimal difficulty. Overall, there is the urgent need for the National Poverty Eradication Programme (NAPEP) office to incorporate other poverty attributes in their programmes instead of focusing primarily on moving people out of certain income poverty level

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Appendix

Table 1: Categories of Indicators of Deprivation

Housing	Education	Health	Energy	Land/livestock ownership

Table 2: Decomposition of Housing/sanitation poverty across Geo-Political Zone & States

Group	Categories	headcount	poverty depth	Severity	Contribution
Geo-political zone	North-west	0.64645	0.12886	0.02991	0.14446
	North-east	0.69836	0.18675	0.06056	0.24187
	North-central	0.45759	0.08095	0.01627	0.15624
	South-east	0.14972	0.02587	0.00506	0.12205
	South-west	0.19026	0.03067	0.00540	0.17703
	South-south	0.28082	0.04770	0.00945	0.15835
	National	**0.43022**	0.09260	0.02458	

Table 3: Decomposition of Education access poverty across Geo-Political Zone and States

Group	Categories	headcount	Poverty gap	poverty severity	Contribution
Geo-political zone	North-west	0.53079	0.14593	0.06974	0.14494
	North-east	0.58731	0.18295	0.08686	0.24069
	North-central	0.55653	0.22515	0.10833	0.15641
	South-east	0.50499	0.13089	0.05676	0.12222
	South-west	0.48813	0.28773	0.14257	0.17847
	South-south	0.57119	0.18132	0.08314	0.15727
	National	0.58198	0.19627	0.09341	

Source: Author's computation from CWIQ data, 2006

Table 4: Decomposition of Energy poverty across Geo-Political Zone and States

Group	Categories	headcount	Poverty gap	poverty severity	Contribution
Geo-political zone	North-west	0.86530	0.23098	0.06832	0.14424
	North-east	0.85500	0.21392	0.06201	0.24335
	North-central	0.71636	0.18686	0.05488	0.15593
	South-east	0.71051	0.14873	0.04039	0.12096
	South-west	0.43309	0.10028	0.02831	0.17745
	South-south	0.59420	0.14000	0.03977	0.15807
	National	0.70130	0.17243	0.04970	

Source: Author's computation from CWIQ survey, 2006

Table 5: Decomposition of Health access poverty across Geo-Political Zone and States

Group	Categories	headcount	Poverty gap	poverty severity	Contribution
Geo-political zone	North-west	0.60411	0.06064	0.00876	0.14890
	North-east	0.68282	0.06434	0.00790	0.25668
	North-central	0.65644	0.07116	0.01202	0.14498
	South-east	0.67992	0.09623	0.02315	0.11403
	South-west	0.68519	0.08670	0.01779	0.18889
	South-south	0.62649	0.07435	0.01453	0.14651
	National	0.66292	0.07411	0.01320	

Source: Author's computation from CWIQ data,2006

Table 6: Decomposition of Ownership of land & livestock poverty across Geo-Political Zone and States

Group	Categories	headcount	Poverty gap	poverty severity	Contribution
Geo-political zone	North-west	0.64776	0.47969	0.41905	0.14488
	North-east	0.59208	0.37253	0.29796	0.24395
	North-central	0.73323	0.67948	0.61762	0.15732
	South-east	0.85073	0.78604	0.71328	0.12309
	South-west	0.82572	0.83835	0.80099	0.17525
	South-south	0.86186	0.89063	0.85922	0.15551
	National	0.79821	0.64944	0.59235	

Source: Author's computation from CWIQ data, 2006.