



Economy, Business & Development (2024) 5(2), 15-31
DOI: 10.47063/ebd.00019

RESEARCH PAPER

ISSN

2671-3462 (print)

2671-3470 (online)

Journal homepage: <https://journals.ukim.mk/index.php/ebd>

MULTIDIMENSIONAL CHILD POVERTY AND ITS DETERMINANTS: EMPIRICAL EVIDENCE FROM SUB-SAHARAN AFRICA

Waheed Mobolaji Ashagidigbi

*Agricultural and Resource Economics Department, Federal University of Technology,
P.M.B. 704, Akure 340110, Nigeria*

Abiodun Daniel Akinyeke

*Agricultural and Resource Economics Department, Federal University of Technology,
P.M.B. 704, Akure 340110, Nigeria*

Kehinde Oluseyi Olagunju

*Department of Agri-Food Economics and Trade, Poznan University of Life Sciences,
Wojska Polskiego 28, 60-637 Poznan, Poland*

Abiodun Olusola Omotayo

*Food Security and Focused Area Research Group, Faculty of Natural and
Agricultural Sciences, North West University, Mmabatho 2735, North West Province,
South Africa*

Sheu Adekunle Salau

World Bank, 1818 H Street NW, Washington DC, 20433, United States of America

Joseph Omotoso Ajayi

Massey University, Palmerston North, New Zealand

Olanrewaju Micheal Akinsete

*Agricultural and Resource Economics Department, Federal University of Technology,
P.M.B 704, Akure 340110, Nigeria*

License: Authors of papers retain copyright and release the work under a
Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License
(CC BY-NC-ND 4.0).



Abstract

Poverty has been a subject of global discourse most especially in sub-Saharan Africa where little progress has been achieved. Most literature sources regard poverty mainly as a household threat rather than one that affects the children living within the household. Thus, through a multidimensional approach, this study analyses poverty, specifically in the context of its effect on children. In carrying out this study, the General Household Survey dataset for Nigeria (the most populous country in sub-Saharan Africa) for 2018/2019 obtained from the National Bureau of Statistics (NBS) was used. Descriptive statistics, the Multidimensional Poverty Measure, and the Tobit Regression Model were used in this study. The results showed that there are more male children (52.17%) than females (47.83%), with most of the children falling within the middle-age group of households (45.51%). Less than half of the household heads were found to be literate, while the mean size of the household amounted to nine. This study found that the poverty dimension, mainly affecting the research sample of Nigerian children, was their deprivation in terms of sanitation, while the least significant dimension was their lack of food. Child poverty is prevalent among the three respective age groups of children, among rural dwellers (57.16%), and among residents in the northern divide of the country. The rural sector, the residents in the north-eastern region of the country, and the gender of the household head were found to be significant variables influencing child poverty in Nigeria. As such, poverty reduction strategies directed towards the rural sector, the northern region, and the identified age groups of children should be of primary focus in tackling child poverty in Nigeria to achieve the United Nations' Sustainable Development Goal (SDG 1) - "End poverty in all its forms everywhere".

Keywords: *Child deprivation; Poverty indicators; Child age categories; Multidimensional Poverty Measure; Poverty threshold*

Introduction

Poverty is a major socioeconomic phenomenon that affects many countries globally, especially those in the developing regions. Surprisingly, despite the world's rapid and unprecedented growth in its trend toward globalization, poverty has declined dramatically in terms of the number of people and the proportion of the total world population that it affects (World Bank, 2016). However, it should be noted that compared to other regions, sub-Saharan Africa has not achieved any progress worthy of note in this sphere (World Bank, 2016). By nature, poverty is multidimensional (Biggeri et al., 2010). Extensions of studies into poverty to accommodate children specifically, and aside from those in households, are often not considered areas for research (UNICEF, 2005). Noble et al. (2001) defined child poverty as the number of children living in households with resource levels far lower than the minimum level of subsistence or the equivalent level of poverty. In other words, a child below the age of eighteen years whose equivalent income, consumption, or expenditure is less than the minimum appropriate predetermined amount, is classified as poor (Gordon et al., 2003; Corak, 2005; Chen & Corak, 2008).

Poverty is thus a multidimensional concept that incorporates both material and non-material well-being, the latter including dietary and health-related demands, as well as more subjective ones such as security and voice (World Bank, 2016). There is worldwide unanimity that children are more vulnerable to poverty (McKendrick, 2007), especially within households where they experience no love, limited cognitive growth, and inadequate food (UNICEF, 2005). According to (UNICEF, 2022), 50% of all child deaths appear as a result of hunger, malnutrition, and a lack of safe drinking water. About 306 million children of the total number of children living in the sub-Saharan region of Africa are in absolute poverty. This means that there is deprivation in two or more of the classified human needs (food, shelter, education, health, potable water) (Waddington, 2004). Children born into poverty are often vulnerable to non-financial social ills such as depression, self-esteem issues, and the inability to maintain relationships with peers (Kaiser and Delaney, 1996), thus culminating in the involvement of such children in criminal activities to sustain themselves (Griggs and Walker, 2008).

Poverty among children is traditionally stated as follows i.e. all dependants that are less than 18 years old residing in low-income homes expressed as a percentage of all dependants below the specified age residing in all homes (Roelen & Gassmann, 2008). Thus, the income or expenditure cut-offs of

dependants in most third-world nations need to be set at a subjective level, due to the inadequate information on their consumption or expenditure needs; also, since their needs differ across phase, sex and locality (Gordon et al., 2003; Ogwumike and Ozughalu, 2018). Past studies further reiterate that poverty measurement on family-based income or expenditure is pinned on the postulation that incomes are equally allocated among members of a household (Gordon et al., 2003; Ogwumike and Ozughalu, 2018).

Often, children do not participate in decision-making concerning resource allocations within the household, making them vulnerable to poverty (Donni and Ponthieux, 2011; Khadan et al, 2020). Furthermore, the provision of basic requirements critical for child survival is usually the responsibility of adults, and when this challenge cannot be met, the deprivation may continue throughout the lifetime of the child (Gornick and Jantti, 2009). The erroneous assumption that children require less to fulfil their needs has further aggravated the incidence of deprivation among children (Gordon et al., 2003).

A study on child poverty is paramount because the general notion in policies focused on poverty reduction does not always specifically consider children (Tanumihardjo et al., 2007; Trani and Cannings, 2013). This is important because a child's needs are uniquely different from those of an adult (Trani et al. 2013). The future of every nation rests on the shoulders of the children and the youth. As such, it is imperative to give adequate attention to this group to ensure stable economic growth and development within the society (Ryder, 1985; Vladimirova and Le Blanc, 2016; Hart, 2013). Interestingly, when children are shielded from experiencing poverty and various forms of deprivation, they are in all probability enabled to grow and develop optimally, and to maximize their full potential (Ogwumike and Ozughalu, 2018).

In 2017, 44% of Nigeria's population was under the age of 15 years (UN; 2017) thus constituting a significant proportion of the total population. A major action taken by the government that has had a direct bearing on child poverty and deprivation was the adoption of the Child Rights Act many years ago i.e. in 2003, which was executed to endorse the International Convention on the Rights of the Child as designated by the United Nations. The Child Rights Act was intended to guarantee desirable welfare and living standards for children in Nigeria and attempted to provide adequate security to safeguard them against poverty and various forms of deprivation (Kaime, 2005; Ogwumike and Ozughalu, 2018).

Regrettably, despite the adoption of the Child Rights Act in Nigeria, there are indications that many children in the country are still wallowing in poverty and suffering various forms of deprivation (Ogwumike and Ozughalu, 2018). For instance, the rates of infant and under-five mortality, as well as the levels of stunting, wasting, and underweight among children, have remained high over the years (UNDP, 2015, UNDP, 2016; UNICEF, 2015, UNICEF, 2016; World Bank, 2016). Most children that are 17 years or below in Nigeria are mostly bedevilled with welfare deprivations (Fagbeja and Cebotari, 2021). About 25% of children in Nigeria suffer from two welfare dimensions, while a quarter encounters concurrent lacks in three welfare dimensions. In addition, in every hundred children, 6.9 and 0.7 suffer from five and six dimensions, respectively, while only 7 out of 100 children witness zero deprivations (De Neubourg et al., 2012; Ferrone, L. and Chzhen, Y., 2016; Dirksen and Alkire, 2021). Consequently, more than half of children resident in Nigeria suffer from welfare deprivation, in other words, they face at least three poverty dimensions at a point in time (Fagbeja and Cebotari, 2021). The aim, in line with SDG 1, is to half the poverty figure by 2030.

The obligation of Nigeria to the Sustainable Development Goals is mirrored in the Economic Recovery and Growth Plan (ERGP) inaugurated by the Federal Government of Nigeria in 2016 and the Country Programme Document (CPD) 2018-2022, targeted towards achieving equity for everyone. Firstly, the document discusses the MODA framework and its utilization from the perspective of child poverty in Nigeria. Again, the outcomes of multidimensional poverty among children are highlighted, followed by the breakdown of the outcomes into age groups 0-4 years, 5-11 years, and 12-17 years. Tapping into Nigeria's demographic dividend, the youth should contribute towards the country's future growth and progress. In the long term, Nigeria's children will become responsible for the country's social, economic and political conditions (De Milliano and Plavgo, 2014).

Thus, there is a need for a more concerted effort and in fact, a paradigm shifts to ensure that child poverty and child deprivation are vigorously tackled and significantly mitigated or even eliminated

(Ogwumike and Ozughalu, 2018). Hence, human capital development and reduction in child poverty will only be accomplished if investment in children is considered a great priority. For a child's optimum potential to be attained and a desirable level in terms of his/her capabilities and functioning to be achieved, it is imperative and most important that during the child's early phase, an enabling environment is crafted for his/her growth into a vigorous, hardworking and trustworthy adult. To pave the way for the country to achieve this, there is an urgent need for an adequate child-focused approach in the analysis of poverty and deprivation in Nigeria. Therefore, the study examined the determinants of multidimensional poverty among children in Nigeria.

The subsequent sections of the paper include Section Two which discusses the literature review and theoretical framework. Section Three which deals with the methodology consists of the study area, the data description and sampling techniques, and the analytical procedures. Section Four reflects on the results and discussion of the findings, while Section Five is focused on the conclusion, recommendation, and suggestions for further study.

Context and Related Literature

The World Bank (2019) indicates that about five out of every 10 Nigerian families were living beneath the global poverty threshold of US \$1.9 in 24 hours in 2018. Poor children could witness lasting deprivations in relation to their bodily and mental growth (Chaudry and Wimer, 2016). Though poverty is regularly estimated using pecuniary earnings or family expenditures, it is vital to differentiate child poverty from adult poverty (Chzhen et al. 2016). Undeniably, the requirements of children differ from adults (e.g. supplements to breastfeeding, immunization, and the need to attend school) which are more appropriate and efficient at a tender age (De Milliano and Plavgo, 2018). Likewise, wealth is usually distributed disproportionately since children have no control over resource allocation within the household (Bourguignon and Chakravarty 2019; Gordon and Townsend 2003). An additional consideration is that poverty among children is often related to household poverty, mainly because dependants reside and rely on the sustainability (or lack thereof) of the household (Ogwumike and Ozughalu, 2018; Lewit, et al., 1997).

However, in many poor households, parents ensure the needs of their wards are met by allotting a greater percentage of the household resources to their children. Conversely, in many wealthy homes, parents are likely to spend less than is required to make their wards comfortable (Gordon et al., 2003). Notwithstanding the drawbacks linked to child poverty measurement using the monetary methodology, such methodology has been consistently used. (Chen & Corak, 2008; Corak, 2005; Roelen & Gassmann, 2008). In analysing child poverty, the poverty threshold is usually set at 0.5 of the median per capita or adult equivalent real income, or expenditure level for all individuals in a nation (Chen & Corak, 2008). The threshold of child poverty estimation could also align with that of the official threshold of a nation (Dickens & Ellwood, 2003; UNICEF, 2005).

Estimation of child lack may be achieved by factoring in the degree of a child's lack of key welfare necessities such as housing, drinkable water, education, information, nutrition, health and sanitation, and other important welfare indicators (Gordon et al., 2003; Roelen & Gassmann, 2008). However, there is a consensus that the perception of deprivation encompasses several circumstances, independent of income witnessed by poor households, while the concept of poverty denotes deficiency in financial and other resources, which makes those circumstances unavoidable or very probable (Gordon et al., 2003).

The global statistics revealed that about 41% of the children in East Asia and the Pacific live in extreme poverty, while 37% reside in Europe and Central Asia. Additionally, 47% of the extreme poor children live in Latin America and the Caribbean, while 41% reside in South Asia. The percentage of extremely poor children in the middle East and North Africa; and Sub-Saharan Africa (54% and 58%) surpassed the global figure (52%) World Bank (2022). Child poverty in Asia revealed that the incidence of child poverty in 2006 was 90.1 percent in Cambodia, 64% in Mongolia and 31% in Philippines. The figures were marginally better off compared to that of 2000 where 91.4%, 67.2% and 44.4% respectively (UNICEF, 2011).

In the United States of America, 11 million of 74 million of children live in poverty, while 1 out of every six children under the age of five were poor. Furthermore, children of single mothers, and children in the South suffered from the highest poverty rates. The impact of the pandemic forced children already in poverty even deeper into poverty, where almost half (47%) of all the children living in poverty live in extreme deprivation. (CDF, 2023). Measuring child deprivations within the context of access to, and exercise of, a specific number of rights in dimensions like nutrition, safe drinking water, sanitation, housing, education, and information indicated that 32 million children in Latin America were living in extreme poverty in 2007 Ernesto and Rico, (2012). However, in 2014 poverty among children stood at 36 percent, almost twice the rate for adults (19 percent). This is due to children's unequal access to opportunities as well as an obstruction to the future's shared fortune. Furthermore, poorer children were more vulnerable to suffering from malnutrition and health risks and had lower access to education (Oscar, 2016).

However, Sub-Saharan Africa shows an upward trend in the incidence of poverty among children. Turshen (2008) decomposed child poverty in rural and urban sectors in Uganda. He discovered that the percentage of poor children residing in rural areas is three times higher than those residing in urban areas of Uganda. Likewise, (Kelemework, 2011) disaggregated child poverty situation by the type of location (urban-rural) a child resides using a multidimensional approach. The finding disclosed that the share of children below the poverty threshold is higher in rural areas than in urban areas in both periods (2002 and 2006). Although child poverty is more of a rural than an urban phenomenon, it showed a decline of about 13% in rural areas over the period 2002 to 2006.

Tassew et al. (2011) analysed child poverty transition in Ethiopia using two data sets (2006 and 2009). They submitted that the poverty headcount index of the children within the household declined from 72% to 68% from the year 2006 to the year 2009. Smith (2006) investigated the influence of maternal education on nutrition and poverty of children in sub-Saharan Africa. He concluded that maternal education is an important pathway for the breaking of intergenerational transmission of poverty cycles and, potentially, for the prevention of bad starts in life due to poverty. Similarly, Camfield and (Roelen, 2012) presented the percentage of rural children having followed an exit, entering, or stable course from 2002 to 2009 using three rounds of quantitative and two rounds of qualitative data. Estimates indicate that more than 50 percent of all rural children experienced progress in their welfare. However, 11 percent of all rural children experienced a decline, and one-third of all children remained in the same situation. Only 12 percent of all children were classified as non-poor in 2002.

Berhan (2010) also examined the association between child malnutrition and household economic status. In this case, children in poor households have a higher likelihood of being malnourished than children from rich households. This indicates that wealthy households have better access to food and higher cash incomes than poor households, affording them quality nutrition, better access to medical care, and more money to spend on essential non-food items such as schooling, clothing, and hygiene products.

Currently, limited studies are associated with child poverty and child deprivation in Nigeria. The few that exist include those carried out by (Aliyu and Garba, 2012) and (Adetola and Olufemi, 2012). (Bamiduro and Ogwumike, 2009) adopted a deprivation-based methodology in measuring child lack. The study concentrated on estimating child poverty using indicators such as water, health, sanitation, nutrition, and information. Nigeria Demographic and Health Surveys (NDHS) of 1990 and 2003; and the Multiple Indicator Cluster Surveys (MICS) of 1999 and 2007 were the datasets used. The outcomes of the study revealed that the degree of welfare deprivation was very noticeable among children in Nigeria.

On the other hand, (Aliyu and Garba, 2012) estimated child poverty based on the key needs of children linked to their wellness. MICS of 2007 obtained from (Gordon et al, 2003) was used and the simple ratio technique was the analytical tool adopted. The findings from the study relayed that child poverty was prevalent among children in Nigeria between 2000 - 2007 and that the degree of child poverty increased considering the poverty indicators identified except water and information (those two at minimal level). (Adetola and Olufemi, 2012) examined the drivers of child lack in rural Nigeria, adopting a multidimensional approach. They utilized data obtained from the 2008 Nigeria Demographic and Health Survey. Multidimensional poverty analysis by Alkire-Foster and logit regression were the analytical

techniques adopted. The poverty indicators considered are health, nutrition, safe drinking water, sanitation, and housing. It was revealed that a greater percentage of children suffered from poverty and deprivations, while household size, age, gender, parental education, and occupation of the breadwinners are the drivers of child poverty in rural Nigeria. (Ogwumike and Ozughalu, 2018).

Considering this background information, it is evident from the existing literature, that few studies estimated child poverty using pecuniary and non-pecuniary measures. The blend of the two measures ensures a more detailed and qualitative estimation of child poverty. Based on the premise that child-targeted poverty and deprivation measures have not been given the desired attention in Nigeria, this study focused on measuring poverty and its extent among children considering different indicators such as nutrition, sanitation, education, water, health, shelter, and information. The poverty measure adopted is right-based, aligning with the Convention on the Rights of the Child (CRC) (De Milliano and Plavgo, 2018).

Theoretical Framework

Poverty is regarded by certain scholars to be self-inflicting and by others to be an involuntary condition. The traditional school of thought interpreted poverty as self-inflicting, where a person is accountable for being poor, which has been prompted by an individual's choices (e.g. the choice of being a single parent). The modern school of thought is conscious of the notion that poverty cannot be an individual responsibility but includes general or exterior factors that affect individuals directly such as lack of job/job loss, inadequate asset acquisition, and deprived health care (Miguel and Davis, 2014). Building on the neoclassical school of thought, The Basic Needs Approach (BNA) theorizes needs as those for essential commodities that need to be disseminated and available to everyone for the complete physical, psychological, and communal growth of an individual (Streeten et al., 1981; Reddy, 2011). This methodology is centered on the least necessities for a comfortable life (health, nutrition, education, water, and sanitation) and the commodities that are required to achieve it (Deneulin 2009), with a fundamental global dimension.

On the other hand, the Capability Approach (Sen, 1985, 1999; Nussbaum, 2011) unified many of the requirements captured in the Basic Needs Approach into a complete conceptual context by also including empowerment and well-being (Clark, 2006). A capability model stresses that the growth of human capital is controlled by the accessibility of economic resources and other communal or ecological factors (Sen, 1985). The capability viewpoint enriches the understanding of the kind of the person concerned and the basis of child lack and well-being deficiency by moving the focus away from the means towards the ends that children have the intention to follow (Biggeri et al., 2006), and, respectively, the liberties to be able to fulfil these ends (Sen, 1999).

The development of an individual's (child) capability function, as defined by (Sen, 1985) and (Gorman, 1980), is expressed as

$$Q_i X_i = f(C(X, Z_i))$$

Q = the capability or state of being of the individual, given the resource constraint X .

f = the function that maps the characteristics of goods into the state of being.

X_i = the vector of commodities chosen by the individual C .

X = the standard budget constraint; and

Z_i = the vector of personal, societal, and environmental factors that affect the conversion of available resources into outcomes.

Thus, a capability model emphasizes the fact that the development of human capital or capability is influenced by the availability of financial resources and other social or environmental factors (Sen, 1985).

Methodology

Study Area

The study was carried out in Nigeria, the most populated country in Africa with 202 million residents (Wayne et al., 2020, Otekunrin et al., 2021). Nigeria comprises 36 states and a Federal Capital Territory (FCT), grouped into six geopolitical zones (Figure 1), with 774 local government areas (Ukiwo, 2013). The countries that share borders with Nigeria are Niger to the north, Chad and Cameroon to the east, Gulf of Guinea to the south and the Benin Republic, to the west (Salaam, 2012), making it Africa's most populated country (Diaconescu et al., 2015).

Data Description and Sampling Procedures

The General Household Survey undertaken in 2018/2019 production season by the National Bureau of Statistics (NBS) was the dataset employed in the study. The nationwide representative panel data of 5,000 households were systematically selected in 159 selected Enumeration Areas (EAs) that cut across the six zones and 774 local government areas in Nigeria (World Bank, 2023). In all, 4,976 households consisting of 12,792 children were used for the study.

Dimensions, Indicators, and Child Age Groups in Nigeria

Based on the life-cycle methodology, wards have diverse requirements during their growth. Thus, the choice of the indicators, dimensions, and cut-offs, in conjunction with the results, is categorised according to the three age groups, namely 0-4 years, 5-11 years, and 12-17 years (Figure 2).

Figure 2. A schematic illustration for the dimensions, indicators, and child age groups



Source: West-Central African (WCA) Report

Analytical Framework and Estimation Techniques

Descriptive statistics, the Multidimensional Poverty Measure, and the Tobit Regression Model were the analytical tools employed. Descriptive statistics was adopted to profile the socioeconomic characteristics of the children specifically and the households in general.

Multidimensional Poverty Measure

The Multidimensional Poverty Measure was adopted to analyse the poverty status of children younger than 18 years residing in Nigeria. The children were classified into three categories, that is, pre-

schoolers (0-4 years), middle childhood (5-11 years) and adolescents/teenagers (12 -17 years) (Militaru and Martinovici 2005). The Multidimensional Poverty Index assesses the nature and intensity of poverty at the individual level, with poor people being those who are mostly deprived. The basic methodology to measure individual-based child poverty is by adopting the multidimensional approach as it measures the existence or not of deprivation across a range of dimensions. It consists of two steps. The first one is to find deprivations in each dimension, that is, in food, shelter, education, water, health, information, and sanitation, using appropriate indicators. The second stage involves counting the number of children who are deprived across all the poverty dimensions (Alkire and Foster, 2007).

The two steps, an identification method (ρ_k) that pinpoints 'who is deprived' by taking into consideration the varieties of lack they are confronted with, and an aggregation method ($M\alpha$) that creates an instinctive set of deprivation measures that can be disaggregated, to aim at the most deprived group and the indicators in which they are mostly lacking. The identification method (ρ_k) recognizes those deprived by adopting two cut-offs. The first cut-off determines if an individual is lacking in each dimension, while the second cut-off x-rays the series of dimensions in that an individual must lack to be regarded as poor. Often, the main goal is to recognize the poorest of the poor, that is, people disadvantaged in numerous aspects at the same time. The aggregation method ($M\alpha$) measures the proportion of deprived children and the mean value of lack they suffer, which represents the head count ratio and the degree of poverty among the children. The dimensions of poverty considered were:

- Shelter (live in own or rented apartment)
- Water (access to potable water)
- Education (access to formal education)
- Health (deprived of good health)
- Information (access to mobile phone/internet)
- Sanitation (refuse/waste disposal)
- Food

Unlike other dimensions, where the responses are dichotomous by nature, the Dietary Diversity Score (DDS) was employed to measure the food/nutritional status of children in Nigeria. This entails the identification of 12 food groups consumed within a seven-day period. Any child consuming eight or more of the identified 12 food groups within seven days is food secure, while those who consume less than eight are food insecure (Kennedy and Dop, 2011; Ashagidigbi et al., 2022a). The Multidimensional Poverty Index (MPI) was obtained by merging all the poverty dimensions to generate an aggregate poverty score/index, with the adoption of equal weights across the dimensions of poverty (UNICEF, 2005; Alkire, 2007, Alkire et al, 2014; UNDP2011). A child is characterized as poor if he/ she is deprived of at least two of the poverty dimensions. Following the studies conducted by (UNICEF, 2005; UNDP, (2011) and Ashagidigbi and Dahunsi, 2018), the poverty threshold employed is 0.33. Any child that has a poverty threshold of 0.33 and above is regarded as being poor, while one that has an index lower than 0.33 is regarded as non-poor.

Tobit Regression Analysis of The Drivers of Child Poverty in Nigeria

The Tobit Regression Model (Tobin, 1958; Maddala, 1983; Adelekan and Omotayo, 2017; Ndhlovu et al.,2020) was adopted to examine the drivers of child poverty in Nigeria. The choice of Tobit regression is because unlike logit or probit model that is categorical, where children are grouped into poor and non-poor categories thereby masking the degree of poverty among the poor children; Tobit censored regression model (hybrid model; combining discrete and continuous characteristics) depicts the extent/intensity of poverty among each of the poor children. However, non-poor children are represented as discrete (censored), taking up zero value. Past studies such as (Omonona and Agoi, 2007) adopted Tobit model to analyse Food Security Situations among Nigerian Urban Households. (Omiti et al., 2009) adopted Tobit regression model in examining the factors influencing the intensity of market participation by smallholder farmers in Kenya. Likewise, (Ashagidigbi et al., 2017) used Tobit regression model to determine the intensity of food insecurity among female-headed households in Nigeria.

$$Y^* = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \dots \dots \dots + \beta_{13}X_{13} + \mu_i$$

Where:

$Y = 0$ if $Y^* < 0.33$ ($Y = 0$ if a child is non poor)

$Y = Y^*$ if $Y^* \geq 0.33$ (if a child is poor)

Y^* = Poverty threshold

$\beta_1 - \beta_{13}$ are the parameters to be estimated

$X_1 - X_{13}$ are the explanatory variables, as stated under factors influencing the poverty status of children in Nigeria.

X_1 = Sex of child (1 = male, 0 = female)

X_2 = Age of child (Years)

X_3 = Household Members (Household size)

X_4 = Household Head (Male = 1, Female = 0)

X_5 = Value of Assets (\$)

X_6 = Formal education (1 = Yes, 0 = No)

X_7 = Literacy (1 = Yes, 0 = No)

Zones

X_8 = North-central

X_9 = North-west

X_{10} = South-east

X_{11} = South-south

X_{12} = South-west

Sector

X_{13} = Rural = 1, Urban = 0

Definition of Variables

Poverty status of a child (Discrete and continuous variable). This measures the intensity of poverty of a child. The value is 0 if the child is non-poor and greater than or equal to 0.33 if the child is poor.

Age of child (continuous variable): It measures the age at the last birth of a child. This is expressed in years.

Sex of child (Dummy variable): This is the sex of a child at birth represented by a dummy variable (1 = male, 0 = female).

Household size (continuous variable): This represents the number of people living together, answerable to the same head, and who share a common source(s) of food and/or income. This is numerically represented.

Sex of household head (dummy variable): This is the sex of the head of the household represented by a dummy variable (1 if male is the household head, 0 if female is the household head).

Value of assets (continuous variable): This is the monetary worth of assets possessed by each household. This is captured in naira (\$)

Formal education (dummy variable): This variable shows whether the head of the household possesses any form of formal education or not. It is denoted as 1, if he/she possesses any form of formal education and 0 if he/she does not.

Literacy level (dummy variable): This variable shows whether the head of the household can read and write. It is represented as 1 if he/she can read and write and 0 if he/she cannot.

Zones. (discrete variable): These are the six geopolitical zones in Nigeria. They are represented in discrete form.

Sector (dummy variable): This represents the rural and urban sectors in Nigeria, captured as a dummy variable. (1 if the sector is rural, 0 if urban).

Results and Discussion

Socioeconomic Characteristics of Children Within the Households

Table 1 profiles the socioeconomic characteristics of children within the sampled households in Nigeria. About 52% of the children surveyed are male, depicting a relatively balanced proportion of the male and female population of children in Nigeria (Ashagidigbi et al., 2022b). The middle childhood category constitutes the highest proportion (45.51%) of the total sampled population of the categories of children considered, a pointer to the fact that majority of the juveniles in Nigeria fall within the age range of 5 -11 years. The characteristics of the households indicate a proportion of about three-quarters (75%) of the entire sampled households residing in rural/agrarian areas. This is a typical characteristic of countries in Sub-Saharan Africa. Furthermore, 89.34% are of the male gender, affirming that the majority of the sampled household heads in Nigeria are males. This supports the submission of Olagunju et al., 2019; Ashagidigbi, 2022; Adelekan and Omotayo 2017.

About 68% of the household heads have one form of formal education or the other, while the literacy level among the respondents is relatively low (48.42%). This is a pointer to the fact that the majority attended a formal school, but 20% of those who attended school cannot read and/or write. This is an indication that this group of respondents probably dropped out at an early stage in their schooling, which has in turn adversely affected their literacy level. As formal education is a poverty-reducing variable, that liberates households from poverty, (UNICEF, 2015) stresses the need for it. The average value of the assets owned by respondents in Nigeria is \$402. Furthermore, the household size in this country is relatively large. As such, children are often used as family labour in such an agricultural society to cut down on the variable costs incurred during agricultural operations.

Table 1. Socioeconomic Characteristics of Households in Nigeria

Variable	Frequency	Percentage
Child Sex		
Male	6,674	52.17
Female	6,118	47.83
Child Age		
0-4 years	3,907	30.54
5-11 years	5,822	45.51
12-17 years	3,063	23.94
Mean	8.45	
Characteristics of Household Heads		
Sector		
Rural/farming	3,713	74.61
Urban	1,263	25.39
Formal Schooling		
Yes	3,361	67.54
No	1,615	32.46
Literacy		
Literate	2,409	48.42
Illiterate	2,567	51.58
Household Size		
1-4	506	10.16
5-8	2,242	45.06
>8	2,228	44.78
Mean	9	
Head of Household		
Male	4,446	89.34
Female	530	10.66
Value of Household Assets (\$)		
<138.89	2,660	53.46
\$138.89 – \$277.78	921	18.50
>\$277.78	1,395	28.03
Mean (\$)	402.07	

Source: General Household Survey undertaken in 2018/2019

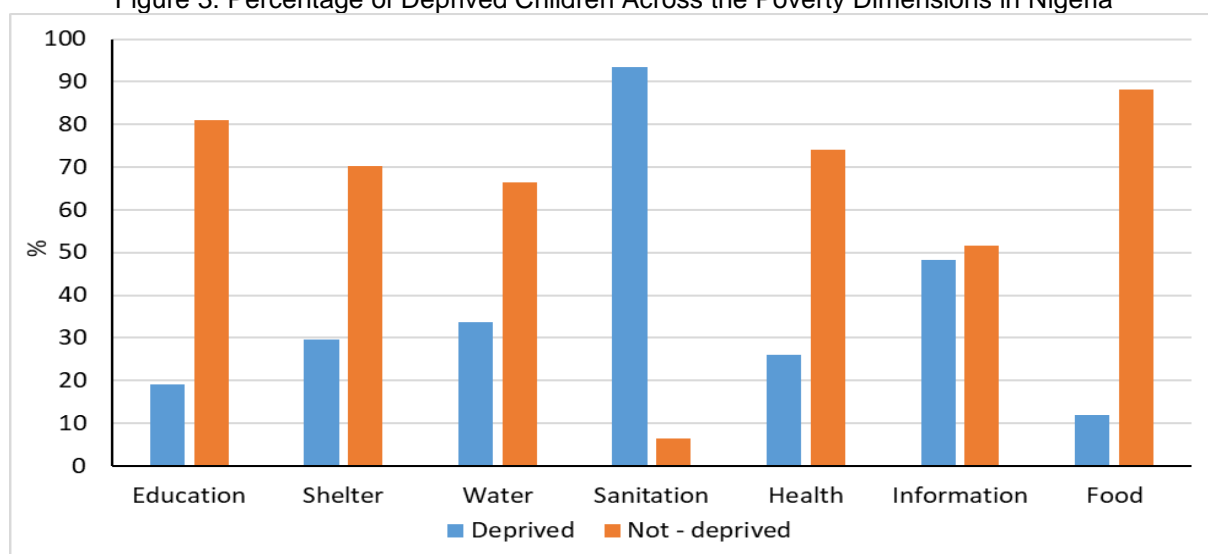
Note: 1\$ = N360

Deprived Children Across the Poverty Dimensions

Building on the studies of (Alkire, 2007), (Ashagidigbi, and Dahunsi, 2018), the dimensions of poverty considered in the study are education, shelter, water, sanitation, health, information, and food. Figure 3 reveals that three out of 10 children reside in households that do not have access to potable water. This implies that most wards in Nigeria lack access to clean water, which is very crucial to the health and nutritional status of the households. About half of the child population does not have access to quality and timely information, which could affect their decision-making processes relating to their social and economic growth. Incredibly, nine out of 10 children dwell in households with poor sanitation. As such, the method of waste and/or refuse disposal is traditional, which often leads to serious health and environmental issues affecting the growth and well-being of the children.

In all, food and nutrition contribute the least (11.85%) to the overall poverty status of the children, while sanitation is the highest contributor (93.53%). The finding complies with (UNICEF's, 2015) statement that water, shelter, and sanitation are the major dimensions contributing to child poverty in Nigeria.

Figure 3. Percentage of Deprived Children Across the Poverty Dimensions in Nigeria



Source: General Household Survey undertaken in 2018/2019

Child Poverty Status

As depicted in Table 2, the child poverty status profile across the sectors in Nigeria reveals that about half (50%) of the sampled Nigerian children are poor, while six out of 10 in the rural sector are poor. The poverty index of 0.415, which is far above the 0.33 cut-off point, is an indication that most of the children in rural Nigeria live far above the poverty line. On the other hand, less than 20% are multi-dimensionally poor in the urban sector of the country with a poverty index of 0.25. The statistics reveals that poverty among children is more prevalent in the rural sector than in the urban sector and the entire country. This re-affirms poverty as a rural phenomenon where most of the children lack access to basic needs (UNICEF, 2015). Thus, efforts need to be intensified to ensure that poverty reduction measures concerning children within the households are of primary focus in Nigeria, but more specifically in the rural areas of the country.

Table 2. Poverty Status of Children Across Sectors in Nigeria

Sector	Poverty Status (%)	Poverty Index
Nigeria	47.41	0.3742
Rural	57.16	0.4155
Urban	18.78	0.2526

Source: General Household Survey undertaken in 2018/2019

Poverty Status of Children Across the Different Geographical Zones of Nigeria

The zonal distribution of poor children across the six zones in Nigeria is highlighted in Table 3. In the northern part of the country, the percentage of children in poor households in the three zones is above average, with almost 60% of poor children residing in the North-west zone. The child poverty indices in the three northern zones are above the threshold, thus implying that the depth of poverty among children in these zones is noticeably high. On the other hand, the proportion of poor children in the southern part of the country is below average, with the South-south zone accommodating about 40% of the children living in poverty. The poverty index values also support the fact that the extent of child poverty in the southern divide is mild, except for the South-south, which is on the threshold (0.33). This finding complies with those of (UNICEF, 2015; Ashagidigbi and Dahunsi, 2018; Ashagidigbi et al., 2018) where children in the northern region were reported to be deprived largely of their basic welfare requirements (food, shelter, potable water, education, sanitation, and information) than their southern counterparts.

Table 3. Poverty Status of Children Across the Zones

Zone	Poverty Status (%)	Poverty Index
North-central	52.43	0.3972
North-east	55.74	0.4068
North-west	58.31	0.4276
South-east	29.78	0.2926
South-south	39.32	0.3303
South-west	16.60	0.2473

Source: General Household Survey undertaken in 2018/2019

Poverty Status Across the Child Age Categories

Table 4 identifies the poverty status of children across the respective age categories. Five of every 10 pre-school children reside in poor households; so, do children in the middle age group (47.66%). However, compared to the other two categories, the percentage of poor children among the sampled adolescents is relatively low (42.25%). The values of the poverty index across the three age brackets summarise the extent of poverty among children, which is above the threshold level. Therefore, rather than focussing on a particular age group, holistic poverty reduction strategies across age categories should be adopted to checkmate child poverty in Nigeria.

Table 4. Poverty Status of Children Across the Age Categories

Age category (Years)	Frequency	Percentage of poor children	Poverty index
0-4 (Pre-school)	1,996	51.09	0.3883
5-11 (Middle age group)	2,775	47.66	0.3772
12-17 (Adolescents)	1,294	42.25	0.3503

Source: General Household Survey undertaken in 2018/2019

Factors Influencing the Poverty Status of Children in Nigeria

As presented in the previous tables, child poverty is a phenomenon that has become a pandemic in sub-Saharan Africa. It is worth identifying the key factors that adversely or favourably influence child poverty in Nigeria. The Log likelihood and Prob > chi² values of 3330.55 and 0.0000 respectively is an indication that the model is a good fit for the data used. This implies the overall significance of the model at a one percent level of probability.

At a p<0.01 level of probability, as detailed in Table 5, literacy level, formal education, household size, and value of household assets significantly reduce child poverty. Likewise, other zones relative to the base (the northeast zone) negatively influence child poverty (p<0.01) in Nigeria. The likelihood that a child would be poor is reduced by 6.1% and 14.2% in a household where the head is literate and has had some or other forms of formal education. In other words, the probability that a child would be multidimensionally poor in a household where the head is educated and literate is very low relative to the situation in the case of an uneducated and illiterate household head. This complies with the findings of UNICEF (2015) regarding education as an effective tool in combating child poverty since the prevalence of child deprivation is highest in households headed by individuals with no education.

(Ashagidigbi and Dahunsi, 2018) also submitted that the educational accomplishments of the head of the household tend to reduce the prevalence of child malnutrition. Thus, the human capital development of the household head is a key variable to deal with in solving the challenges of child poverty in Nigeria.

Likewise, an additional member to a household reduced child poverty status by 0.10 %. This finding agrees with those of (Ashagidigbi and Dahunsi, 2018) and (Ashagidigbi et al., 2018) who submitted that an increase in the number of members of households tends to mitigate the indicators known to promote child poverty. The reason may not be unconnected with the agricultural nature of the occupation of most of the households residing in Nigeria: households tend to engage their members in farming activities, thereby cutting down on the operational and other costs of production, which in turn boosts the income of the household. The income thus earned would probably be invested in fulfilling the basic needs of the households, including those of the children. Furthermore, the likelihood of children residing in the north-central, north-western, south-eastern, south-southern, and south-western zones is reduced by 1.4%, 4.10%, 9.7%, 6.6%, and 8%, respectively, relative to those children residing in the north-eastern zone of the country. This confirms the northeast as the zone where child poverty is most prevalent (UNICEF, 2015). This might be due to the high rate of insurgency that has hampered economic growth and development in the region.

On the other hand, the rural sector, age of the child, and sex of the household head are significant factors contributing to and aggravating child poverty in Nigeria. The probability that a poor child would be living in a household located in a rural sector and headed by a male is increased by 11.13% and 3.50%, respectively, when considered against a child living in a household in an urban sector and headed by a female. This affirms that in terms of welfare deprivation, children in the rural sector are those who suffer most, and corresponds to the submission of (Turshen, 2008) that poverty, mostly in a developing country like Nigeria, is regarded as a rural phenomenon since households are more likely to be deprived of basic needs. Lastly, a year increase in the age of a child enhances the likelihood of him/her being poor by 0.96%. That is, the ability of a child to have access to basic welfare necessities declines as his/her age increases. This may be true because of not only the growing basic welfare requirements of the child, as he/she grows older, but also the inability of the household to provide for such needs considering the high incidence of poverty among the majority of households in Nigeria.

Table 5. Determinants of Poverty Status of Children in Nigeria

Child Poverty	Coefficient	t-ratio
Rural Sector	0.1100	29.12 ***
Sex of Child	-0.0062	-1.53
Age of Child	0.0090	22.63***
Household Size	-0.0010	-3.62***
Literacy	-0.0610	-14.02***
Formal Education	-0.1420	-31.82***
Sex of Household Head	0.0350	6.92***
Value Asset	-7.48e-08	-17.30***
North-central	-0.0140	-2.95***
North-west	-0.0410	-9.62***
South-east	-0.0970	-17.17***
South-south	-0.0660	-12.35***
South-west	-0.0800	-12.58***
Constant	0.4010	51.22***

Prob > chi2 = 0.0000; Log likelihood = 3330.5543

Source: General Household Survey undertaken in 2018/2019

Conclusion

A major socioeconomic problem afflicting many countries, particularly those in the developing regions of the world, is poverty. Regrettably, despite the rapid and unprecedented increase in globalization, poverty has significantly increased in the world both in terms of the number of people affected and the proportion of impoverished people globally. Likewise, a critical dimension of poverty is that of the child - thus, the need to explore child poverty. The rationale behind this challenge lies partly in the fact that children constitute the most vulnerable group in every society. Therefore, this study analysed the

multidimensional nature of child poverty and its determinants in Nigeria and concluded that there is a high level of deprivation in terms of sanitation among children. This complies with the findings of (UNICEF, 2005) that most of the children in developing countries are deprived of the rights to basic sanitation and access to potable and clean water in their households. Child poverty is most prevalent in the rural sector and the northern part of the country; likewise, the extent of poverty across the three age groups of children is above the threshold. On the contrary, the poverty status of children having educated parents tends to reduce. This aligns with the submission of Alemu et al, 2005 that educated parents are likely to raise non-poor children because they have a higher likelihood of possessing better labour market skills, lower chances of unemployment, and higher earnings. The study further identifies child poverty as a rural sector and northern part challenge. This is supported by the submission of (Ashagidigbi et al, 2022), where children suffering from food poverty were mainly located in the rural sector and the northern part of the country.

To ensure a drastic reduction in the poverty level among children in Nigeria, it is vital that the regional sector focus on welfare policies and strategies targeting households in the rural sector and the northern part of the country. Likewise, holistic poverty reduction strategies across the child age categories should be adopted to guarantee equitable access to basic welfare necessities for children specifically to ensure the achievement of Sustainable Development Goal (SDG) 1.

As a suggestion for further studies, the rural sector and the northern divide of the country need to be specifically investigated to isolate the factors that are responsible for the high persistence of child poverty in the area. This gesture should be extended to children below the age of five years, as the age group possesses the highest percentage of poor children relative to the other categories.

References

- Adelekan, Y.A. and Omotayo, A.O. (2017), "Linkage between rural non-farm income and agricultural productivity in Nigeria: A Tobit -two-stage least square regression approach", *The Journal of Developing Areas*, Vol. 51 No. 3, pp. 317-333.
- Adetola, A. and Olufemi, P. (2012), "Determinants of child poverty in rural Nigeria: A multidimensional approach", *Global Journal of Human Social Science Arts & Humanities*, Vol. 12 No. 12, pp. 38-52.
- Alemu, M., Nicola, J. and Belete, T (2005), "Tackling child malnutrition in Ethiopia", *Young Lives Project Working Paper*, No 19. Save the Children U.K, London.
- Advis E.E. and Rico, M.N. (2012), *Child Poverty in Latin America: Multiple Deprivation and Monetary Measures Combined*, British University Press.
- Aliyu, S. and Garba, A. (2012), "The implications of child poverty on the Nigerian economy", *European Journal of Globalization and Development Research*, Vol. 6 No. 1, pp. 360-376.
- Alkire S. (2007), *Multidimensional Poverty: How to Choose Dimensions*, Human Development and Capability Association (HDCA).
- Alkire S.J., Roche, M. and Vaz A. (2014), "Multidimensional Poverty Dynamics: Methodology and Results for 34 Countries", *OPHI Research in Progress*, 41a.
- Alkire, S. and Foster, J. (2007), "Counting and Multidimensional poverty measurement", *Oxford Poverty and Human Development Initiative, Working Paper 7*, Oxford Department of International Development, University of Oxford, Oxford.
- Ashagidigbi W.M., Adewumi O.B, Olagunju, K.O and Ogunniyi A. (2018), "Maternal education, household's wealth and child mortality in rural Nigeria", *Journal of Nutritional Biology*, Vol. 4 No. 1, pp. 207-216. ISSN: 2469-4142.
- Ashagidigbi W.M., Orilua O.O., Olagunju K. A., & Omotayo A.O. (2022a), "Gender, empowerment and food security status of households in Nigeria", *Agriculture*, 12, 956. <https://doi.org/10.3390/agriculture12070956>.
- Ashagidigbi W.M., Tinuola M.I. and Abiodun O.O. (2022b), "Gender and occupation of household head as major determinants of malnutrition among children in Nigeria", *Scientific African*, Vol. 16, e01159.
- Ashagidigbi, W.M. (2022), "Drivers of households' demand for white and red meat in Nigeria", *Science Letters*, Vol. 10 No. 2, pp.61-66.
- Ashagidigbi, W.M., Afolabi, O.A. and Adeoye, I.B. (2017), "Food insecurity status among Female Headed Households in Nigeria", *Scientific, Papers Series Management, Economic Engineering in Agriculture and Rural Development*. Vol. 17 Issues 3, pp. 69-74.

- Bamiduro, T. and Ogwumike, F. (2009), "Child poverty and disparities in Nigeria", *Final report submitted to UNICEF Nigeria: Abuja Office*.
- Berhan, F. (2010), "Determinants of the nutritional and health status of children in Ethiopia: A multivariate multilevel linear regression", *Thesis presented to the School of Graduate Studies of Addis Ababa University, Ethiopia*.
- Biggeri, M., Libanora, R., Mariani, S. and Menchini, L. (2006), "Children conceptualizing their capabilities: Results of a survey conducted during the First Children's World Congress on Child Labour", *Journal of Human Development*, Vol. 7 No. 1, pp. 59-83.
- Biggeri, M., Trani, J. and Mauro, V. (2010), "The Multidimensionality of child poverty: an empirical investigation on children of Afghanistan", Retrieved from <http://www.ophi.org.uk/wp-content/uploads/OPHI-RP-19a.pdf>.
- Bourguignon, F. and Chakravarty, S.R. (2019), "The measurement of multidimensional poverty". In *Poverty, Social Exclusion and Stochastic Dominance*, Springer, Singapore. pp. 83-107.
- Calvo-González, O. (2016), "Children nearly twice more likely to be poor than adults in Latin America". *World Bank*.
- Camfield, L. and Roelen, K. (2012), "Chronic poverty in rural Ethiopia through the lens of life histories", *IDS working paper*, Vol. 2012 No. 399, UK.
- Chaudry, A. and Wimer, C. (2016), "Poverty is not just an indicator: the relationship between income, poverty, and child well-being", *Academic Pediatrics*, Vol. 16 No. 3, pp. S23-S29.
- Chen, W. and Corak, M. (2008), "Child poverty and changes in child poverty", *Demography*, Vol. 45 No. 3, pp. 537-553.
- Children Defense Fund (2023), "Child Poverty. 2023 States of America's Children Report".
- Chzhen, Y., De Neubourg, C., Plavgo, I. and de Milliano, M. (2016), "Child poverty in the European Union: The multiple overlapping deprivation analysis approach (EU-MODA)", *Child Indicators Research*, Vol. 9 No. 2, pp. 335-356.
- Clark, D. A. (2006), "Capability approach". In D. A. Clark (Ed.) *The Elgar Companion to Development Studies*, Cheltenham: Edward Elgar, pp. 32-45.
- Corak, M. (2005), "Principles and practicalities in measuring child poverty for the rich countries", *UNICEF Innocenti Research Centre's Working Paper 2005-01*, Florence: UNICEF Innocenti Research Centre.
- De Milliano, M. and Plavgo I. (2014), "Analysing child poverty and deprivation in sub-Saharan Africa: CC-MODA – Cross Country Multiple", *Overlapping Deprivation Analysis*, Innocenti Working Paper No. 2014-19, UNICEF Office of Research, Florence.
- De Milliano, M. and Plavgo, I. (2018), "Analysing multidimensional child poverty in sub-Saharan Africa: Findings using an international comparative approach", *Child Indicators Research*, Vol. 11 No. 3, pp. 805-833.
- De Neubourg, C., Bradshaw, J., Chzhen, Y., Main, G., Martorano, B. and Menchini, L. (2012), "Child deprivation, multidimensional poverty and monetary poverty in Europe".
- Deneulin, S. (Ed.). (2009), *An Introduction to the Human Development and Capability Approach: Freedom and Agency*, Routledge.
- Diaconescu, E.P., Gachon, P., Scinocca, J. and Laprise, R. (2015), "Evaluation of daily precipitation statistics and monsoon onset/retreat over western Sahel in multiple data sets", *Climate Dynamics*, Vol. 45 No. 5, pp. 1325-1354.
- Dickens, R. and Ellwood, D.T. (2003), "Child poverty in Britain and the United States", *The Economic Journal*, Vol. 113 No. 488, pp. F219-F239.
- Dirksen, J. and Alkire, S. (2021), "Children and multidimensional poverty: Four measurement strategies", *Sustainability*, Vol. 13 No. 16, p. 9108.
- Donni, O. and Ponthieux, S. (2011), "Approches économiques du ménage: Du modèle unitaire aux décisions collectives. Travail", *Genre et Société*, Vol. 26 No. 2, pp. 67-83.
- Fagbeja, T. and Cebotari, V. (2021), "A robustness check to multiple overlapping deprivation analysis (MODA) methodology: The case of Nigeria", *SPRI Discussion Papers*.
- Ferrone, L. and Chzhen, Y. (2016), "Child Poverty and Deprivation in Bosnia and Herzegovina: Application of National Multiple Overlapping Deprivation Analysis (N-MODA)".
- Gordon, D., Nandy, S., Pantazis, C., Pemberton, S., and Townsend, P. (2003), *Child Poverty in the Developing World*, Bristol: The Policy Press.
- Gornick, J.C. and Jantti, M. (2009), "Child poverty in upper-income countries: Lessons from the Luxembourg income study", *Working Paper No. 509*.

- Griggs, J and Walker, R. (2008), "The costs of child poverty for individuals and society: A literature review". Retrieved from: <https://www.jrf.org.uk/report/costs-child-poverty-individuals-and-society-literature-review>. Date accessed: 20 January 2022.
- Hart, R.A. (2013), *Children's Participation: The Theory and Practice of Involving Young Citizens in Community Development and Environmental Care*, Routledge.
- Kaime, T. (2005), "The Convention on the Rights of the Child and the Cultural Legitimacy of Children's Rights in Africa: some reflections", *African Human Rights Law Journal*, Vol. 5 No. 2, pp. 221-238.
- Kaiser, A.P. and Delaney, E.M. (1996), "The effects of poverty on parenting young children", *Peabody Journal of Education*, Vol. 71 No. 4, pp. 152-167.
- Kelemework. G. (2011), "Multidimensional child poverty dynamics and Its determinants: Panel Data evidenced from Ethiopia", *Thesis presented to the School of Graduate Studies of Mekelle University*, Ethiopia.
- Kennedy, G., Ballard, T., and Dop M.C. (2011), *Guidelines for Measuring Household and Individual Dietary Diversity*, FAO, Rome, Italy.
- Khadan, J., Strobl, E and Tuffour, T. (2020), "Poverty and Intra-Household Resource Allocation in Surinamese Households", *Working Paper 1045*. Washington DC: Inter American Development Bank.
- Lewit, E.M., Terman, D.L. and Behrman, R.E. (1997), "Children and poverty: Analysis and recommendations", *The Future of Children*, pp. 4-24.
- Maddala, G.S. (1983), *Limited-Dependent and Qualitative Variables in Economics*, New York: Cambridge University Press; pp. 257-91.
- McKendrick, J., Mooney, G., Dickie, J and Kelly, P. (2007), *Poverty in Scotland 2007*, London: Child Poverty Action Group.
- Militaru, M. and Martinovici, D. (2005), "Our Experience in Paediatrics Sepsis", *Jurnalul Pediatriei*, Vol. 8, pp. 26-31.
- Ndhlovu, P.T., Omotayo, A.O., Aremu, A.O. and Otang-Mbeng, W. (2020), "Herbal-based cosmeceuticals and economic sustainability among women in South African rural communities", *Economies*, Vol. 8 No. 3, p. 51.
- Noble, M., Wright, G. and Cluver, L. (2001), "Conceptualizing, defining and measuring child poverty in South Africa: an argument for a multidimensional approach". Pretoria.
- Nussbaum, M. C. (2011), *Creating Capabilities*, Harvard University Press.
- Ogwumike, F.O. and Ozughalu, U.M. (2018), "Empirical evidence of child poverty and deprivation in Nigeria", *Child Abuse and Neglect*, Vol. 77, pp.13-22.
- Olagunju, K.O., Ogunniyi, A.I., Awotide, B.A, Adenuga, A.H. and Ashagidigbi, W.M. (2019), "Evaluating the distributional impacts of drought-tolerant maize varieties on productivity and welfare outcomes: an instrumental variable quantile treatment effects approach", *Journal of Climate and Development*, pp. 1 -11. ISSN: 1756-5529. Retrieved from <https://doi.org/10.1080/17565529.2019.1701401>
- Omiti, J.M., Otieno, D.J., Nyanamba, T.O. and McCullough, H.E (2009), "Factors Influencing the Intensity of Market Participation by Smallholder Farmers; A case Study of Rural and Peri-Urban Areas of Kenya", *AFJAE*, Vol. 3 No. 1, pp. 71 -82.
- Otekunrin, O.A., Fasina, F.O., Omotayo, A.O., Otekunrin, O.A. AND Akram, M. (2021), "COVID-19 in Nigeria: Why continuous spike in cases"?
- Reddy, S.G. (2011), "Economics and human rights: a non-conversation", *Journal of Human Development and Capabilities*, Vol. 12 No. 1, pp. 63-72
- Roelen, K. and Gassmann, F. (2008), "Measuring child poverty and well-being: A literature review". *Maastricht Graduate School of Governance Working Paper Series*.
- Ryder, N.B. (1985), "The cohort as a concept in the study of social change". In *Cohort Analysis in Social Research*. Springer, New York, NY. pp. 9-44.
- Salaam, A.O. (2012), "Boko Haram: beyond religious fanaticism", *Journal of Policing, Intelligence and Counter Terrorism*, Vol. 7 No. 2, pp. 147-162.
- Sanchez-Martinez M. and Philip D. (2014), "A review of the economic theories of poverty", *National Institute of Economic and Social Research (NIESR) Discussion Papers 435*, National Institute of Economic and Social Research.
- Sen, A. (1985), *Commodity Capabilities*, New Delhi, India: Oxford University Press.
- Sen, A.K. (1999), *Development as Freedom*, New York: Oxford University Press.
- Smith, B. (2006), "Intergenerational transmission of poverty in Sub Saharan Africa", *CPRC Working paper 59*, University of Manchester, Manchester.
- Streeten, P. (1981), *First Things: Meeting Basic Needs in Developing Countries*, New York, NY: Oxford University Press.

- Tanumihardjo, S.A., Anderson, C., Kaufer-Horwitz, M., Bode, L., Emenaker, N.J., Haqq, A.M., Satia, J.A., Silver, H.J. and Stadler, D.D. (2007), "Poverty, obesity, and malnutrition: an international perspective recognizing the paradox", *Journal of the American Dietetic Association*, Vol. 107 No. 11, pp.1966-1972.
- Titus, O.B. and Adetokunbo, A.G. (2007), "An analysis of food security situations among Nigerian urban households: Evidence from Lagos State", *Journal of Central European Agriculture*, Vol. 8 No. 3, pp. 397-406.
- Tobin, J. (1958), "Estimation of a relationship for limited dependent variables", *Econometrics*, Vol. 26, pp. 24-36.
- Trani, J.F. and Cannings, T.I. (2013), "Child poverty in an emergency and conflict context: A multidimensional profile and an identification of the poorest children in Western Darfur", *World Development*, Vol. 48, pp.48-70.
- Trani, J.F., Biggeri, M. and Mauro, V. (2013), "The multidimensionality of child poverty: Evidence from Afghanistan", *Social Indicators Research*, Vol. 112 No. 2, pp. 391-416.
- Turshen, M. (2008), "Child poverty in Africa: Review of African political economy", *International Policy Conference*, UN.
- Ukiwo, U. (2013), "Managing horizontal inequalities and violent conflicts in Nigeria". In *Preventing Violent Conflict in Africa*. Palgrave Macmillan, London. pp. 178-207.
- UNDP (2011), "Development Goals Status Report Zimbabwe", United Nations Development Program.
- UNDP (2015), *Human Development Report*, New York: UNDP.
- UNDP (2016), *Human Development Report*, New York: UNDP.
- UNICEF, (2005), *Children Living in Poverty: Overview of Definitions, Measurement and Policy*", New York City: UN.
- UNICEF (2015), "Global Study on Child Poverty and Disparities", *National Report: Nigeria*.
- UNICEF (2016), *The State of the World's Children 2016: A Fair Chance for Every Child*, New York: UNICEF.
- UNICEF (2022), *Monitoring the Situation of Children and Women*, Retrieved from: <https://data.unicef.org/topic/nutrition/malnutrition/>.
- UNICEF (2011), Child Poverty in East Asia and the Pacific: Deprivations and Disparities. A Study of Seven Countries. "UNICEF East Asia and Pacific Regional Office".
- United Nations (2017), "World population prospects: the 2017 revision, key findings and advance tables". United Nations, New York.
- Vladimirova, K. and Le Blanc, D. (2016), "Exploring links between education and sustainable development goals through the lens of UN flagship reports", *Sustainable Development*, Vol. 24 No. 4, pp. 254-271.
- Waddington, (2004), "Linking Economic Policy to Childhood Poverty: a review of the evidence on growth, trade reform and macroeconomic policy". *CHIP Report*. CHIPPosted.
- Wayne, T., Soetan, T., Bajepade, G. and Mogaji, E. (2020), "Technologies for financial inclusion in Nigeria", *Research Agenda Working Papers*, 2020 (4), pp.40-56.
- World Bank (2016), "World development indicators. Washington, DC: The World Bank".
- World Bank (2019), Retrieved from: <http://pubdocs.worldbank.org/en/848651492188167743/mponga.pdf>.
- World Bank, (2022), "Poverty and Shared Prosperity (2022): Correcting Course", World Bank, Washington D.C., 2022. Available at: < <https://www.worldbank.org/en/publication/poverty-and-shared-prosperity>>
- World Bank, (2023), "General Household Survey 2010 – 2019", *Uniform Panel Data, Development Economics Data Group*, World Bank GSgroup.