

# Reconceptualising Poverty Measurement for Sustainable Development: Review of the Literature

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## Abstract

At the turn of the millennium, problems of poverty measurement was reopened in development discourse both in the global North and South as recent poverty trends seem to be at variance with sustainable development agenda. As the post 2015 Sustainable Development Goals (SDGs) takes toll, there is need to re-examine some empirical and theoretical issues in the dynamics of poverty measurement as well as patterns of imprecision and key external and internal variables involved to determine the suitability of such measurement tools in alleviating poverty. Content analysis was deployed as a methodology to examine some of these measurement tools which include; the World Bank's \$1-Per-Day Poverty Line, the Money-metric methods, the Income and Consumption Measures, the Asset Indicators and Deprivation method. Findings suggest the superficiality of existing poverty measurement tools as they predominantly emphasize material poverty and fail to critically identify non-monetary poverty indices. The paper suggests alternative pro poor models such as Multidimensional Poverty Index (MPI) and makes some policy recommendations.

**Keywords;** Poverty Measurement, Inequality, Poverty, Sustainable Development.

## Introduction

There has been marked progress on reducing poverty over the past decades. The world attained the first Millennium Development Goal target—to cut the 1990 poverty rate in half by 2015—five years ahead of schedule, in 2010.

Poverty measurement has had a long history from the 17th century, Smith (1776) and the 18<sup>th</sup> century, Henry George,(1879), the classical surveys of Charles Booth and Seebohn Rowntree at the end of the nineteenth century, down to Myrdal(1957), Hobswan(1968), Orshansky (1969), Townsend(1974),Sen(1976,) and subsequent scholarship of the 20<sup>th</sup> and 21<sup>st</sup> centuries (Sen,1999,2000), Ravallion (2003),Son,(2004), among others, provide robust and promising offshoot to poverty studies and its measurement.

Despite this progress, the number of people living in extreme poverty globally remains unacceptably high(World Bank,2015).Recent statistical analyses, shows that limited progress has been made in evolving a viable poverty measurement tool as global poverty and inequality remains substantial defect of the prevailing measurement approaches. Existing measurement tools needs a review.

The global economic recession has shown economic upturn in the global North(Haan & Maxwel,1998;Marxwell,2010). Drawing from global poverty profile and analysing the determinants of poverty, methodological flaws and superficiality of approaches further widens the rich/poor gap. Between Latin America, Asia and Africa, results have shown regional and country specific variations which are challenges to evolving poverty measurement tool either at country specific or cross country levels (Maxwell,2010; Nederveen Pietersee, 2010;World Bank,2015).

Again, it is important to recount that emphasis on quantitative approaches seem to relegate core non quantitative poverty indexes. This impels a comprehensive and in-depth data and tools for a guide to the types of data sources, types of poverty being measured, possible causes of such poverty and requisite tools that could be used to measure and analyse poverty, and for access to household surveys.

Sustainable development is a key 21<sup>st</sup> century development paradigm. However a fundamental development issue namely; poverty, has largely been superficially measured both in the global North and South as poverty persists despite a number of approaches undertaken to measure poverty(Maxwell,2010).

For our purposes, poverty measurement implies a long term in depth and multidimensional assessment of causes, effects and possible alleviation of all forms of lack of wellbeing (material and non- material) or deprivation within qualitative and quantitative dimensions. Our working definition is informed by the need to understand salient defects of the existing poverty measurement approaches.

This debate is consistent with novel poverty measurement tools which contends that poverty measurement should advance to non-monetary terms such as access to basic services, deprivation, destitution, incapacitation,

alienation, exploitation, discrimination on the basis of gender or race, political instability, environmental factors, crime, violence, corruption, conflicts, wars, human rights abuses etc(Narayan,etal,2000b).

Although there might be empirical and quantitative appraisal limitations, this broader poverty measurement model could explore recent changes in poverty trends such as globalization, climate change vulnerability, unsustainable environmental consumption, natural hazards, terrorism, insecurity etc.

In development studies, poverty measurement should not be used in the strict sense of evaluation, where a myriad of variables are involved, key variables such as the causes of poverty and determinants of sustainable poverty alleviation should be put into consideration. For instance the use of “subsistence” to define poverty has been criticized because it implies that human needs are mainly physical rather than also social needs(Townsend,2006).There are emotional ,cultural ,psychological needs etc which should be included. Thus, cause and effect interface is critical to effective poverty measurement.

The present research raises theoretical and empirical questions on poverty measurement that merit palpable investigation. We argue that there are imprecision and non-extant methodological tools on poverty measurement. The hypotheses is supported by the prevailing eclectic approaches to poverty measurement which results failure in addressing poverty alleviation as poverty remains persistent both in the global North and South.

The article is structured as follows; the first section introduces the background to the study, followed by the theoretical framework and methodology, the next section is review of the literature on selected poverty measurement tools, critique, policy directions and conclusion.

### **Materials and Methods**

The paper is a review of the literature. It deployed the content analysis mode of data collection. This methodology is premised on the assumption that statements or expressions are made concrete when they are expressed in written forms and analysed(Berelson,1952).Thus, for our purposes, to explore and analyse the content of the relevant literature on poverty measurement approaches is the basis for adopting content analysis . Secondary data sources such as journal publications, books, bulletins, seminal institutional poverty measurement reports such as the World Bank, the Institute of Development Studies (IDS) etc, would be reviewed in relation to the relevant poverty measurement tools namely; the World Bank’s \$1-Per-Day Poverty Line, Money-metric methods, Income and Consumption Measures, Asset Indicators and Deprivation method. These poverty measurement tools are important as they provide some understanding of the incidence and indices of poverty.

This methodology is also suitable as it calls for a critical re-assessment of the existing poverty measurement approaches including the extant methodological successes and flaws of these tools in poverty measurement as poverty pervades in development discourses as most recent studies suggest. For instance the World Bank (2015) reveals increasing incidence of poverty, which supports the earlier trajectories of Maxwell,(2010) who recounts that recent growth in poverty in parts of the global North makes poverty measurement a crucial development challenge. Stating that if these tools do not provide objective poverty measurement approaches, poverty alleviation will remain an endemic problem.

As the concept of poverty measurement cannot be regarded as amenable for scientific research, the measurement of poverty would only remain a subjective exercise. As Sen (1981, p. 17) puts it: “It would be the display of the researcher’s personal morals on the statistics of deprivation”.

What we seek to explore is how to reconcile some of the salient issues raised in line with effective poverty measurement both as alleviation strategy, policy instrument and pedagogical tool and provide critiques and novel broader, pro poor approaches to poverty measurement.

### **Some Poverty Measurement Approaches**

An extensive body of literature is discussing poverty measurement which we may not exhaust. According to Sen (1976b) “the measurement of poverty can be split into two related exercises viz. the identification of the poor, and aggregation of the poverty characteristics of different people into one overall measure, or one ranking”(p.304).

For our purposes, we examine the following poverty measurement tools; the World Bank’s \$1-Per-Day Poverty Line, the Money-metric methods, the Income and Consumption Measures, the Asset Indicators and Deprivation method.

### **The World Bank \$1-Per-Day Poverty Line**

The World Bank poverty line implies drawing a specific line of income per day as determinant of poverty. Poverty line mainly defined as money income to avoid hunger, though there are huge discrepancies between

poverty and hunger measures. The dollar-a-day poverty line has its roots in the purchasing power parity (PPP) exchange rates

generated by the International Comparison Program Project(ICPP), undertaken jointly by the United Nations Statistics Division, the World Bank and the University of Pennsylvania (UN,2010).The PPPs were used first to construct an “average” poverty line for a group of countries for which the International Comparison Program provided information and then to convert this common line into national currencies in order to estimate the incidence of poverty using national distributional data (UN,2010).

The Program has produced three rounds of estimates: in 1985, when it covered 22 countries, with a poverty line of \$1 per person per day; in 2000-2001, when the estimates were revised using the PPP exchange rates of the Program’s 1993 round with a poverty line of \$1.08 per person per day; and in 2005, when the Program produced new estimates using its 2005 PPPs, with the poverty line raised to \$1.25 per person per day. (UN,2010).Each subsequent round leads to a re-estimation of the incidence of poverty (UN,2010).

According to the last round, the number of people living below the international poverty line in 2005 was 1.4 billion, or close to 500 million (or more than 50 per cent) more than previously estimated. In the view of the World Bank, the world is still on track to meet the Millennium Development Goal poverty target, although if one excludes China, much of the rest of the developing world seems well off (Chen & Ravallion, 2008).

**Table 1.Poverty Line**

<b>.POVERTY LINE US\$ per person/day</b>	<b>POVERTY LINE Equivalent US\$ per person/month</b>	<b>POVERTY LINE Equivalent Rupiah per person/month</b>	<b>POVERTY HEADCOUNT (% population below poverty line)</b>	<b>MILLIONS OF PEOPLE BELOW POVERTY LINE</b>
<b>0.27</b>	<b>8.38</b>	<b>62,870</b>	<b>9.75</b>	<b>22.0</b>
<b>0.29</b>	<b>8.80</b>	<b>66,021</b>	<b>12.10</b>	<b>26.1</b>
<b>0.30</b>	<b>9.22</b>	<b>69,165</b>	<b>14.55</b>	<b>31.4</b>
<b>0.32</b>	<b>9.64</b>	<b>72,309</b>	<b>17.40</b>	<b>37.6</b>
<b>0.33</b>	<b>10.06</b>	<b>75,452</b>	<b>20.18</b>	<b>43.6</b>
<b>0.34</b>	<b>10.47</b>	<b>78,596</b>	<b>23.03</b>	<b>49.7</b>

Source; World Bank,2011

The poverty line from table 1 above compares incidence of poverty with Dollar and Rupiah per person per month and shows disparity and variations in poverty head count among those below poverty line. It reveals progression in poverty line despite increase in income.

### Money-metric methods

The most common approach to measuring poverty is quantitative money-metric measures which use income or consumption to assess whether a household can afford to purchase a basic basket of goods at a given point in time (Baker & Schuler,2004).They further contend that “the basket’ ideally reflects local tastes, and adjusts for spatial price differentials across regions and urban or rural areas in a given country. Money-metric methods are widely used because they are objective, can be used as the basis for a range of socio-economic variables, and it is possible to adjust for differences between households, and intra household inequalities”(p.5).

There are critical perspectives on the income and consumption measures. For instance Greeley ( 1994) disagrees with economists who focus only on income and ignore other aspects of welfare. The author observes that the problem arises because, for reasons of convenience, measurability or prejudice, welfare economists focus their attention exclusively on income growth and ignore non-income aspects of welfare. Income and non - income aspects of welfare are based on data that assess whether an individual or household can afford a basic basket of goods (typically food, housing water, clothing, transport, etc.). Consumption is generally considered to be a better measurement than income. This is because incomes tend to fluctuate over time, and in most cases there are problems of under-reporting (particularly income derived from the private and informal sectors (Chen & Ravallion, 2000) .

## Asset Indicators and Deprivation Method

This has been another key poverty measurement method. It has been increasingly used with the Demographic and Health Surveys (DHS), a standardized survey now administered in approximately 50 countries (Falkingham & Namazie, 2002). It measures a wide range of variables on the ownership of household assets used to construct an indicator of households' socio-economic status. These assets include: a car, refrigerator, television, dwelling characteristics (type of roof, flooring, toilet), and access to basic services including clean water and electricity (Falkingham & Namazie, 2002; Baker & Schuler, 2004). The level of availability or absence of some of these indicators provide the appraisal of deprivation.

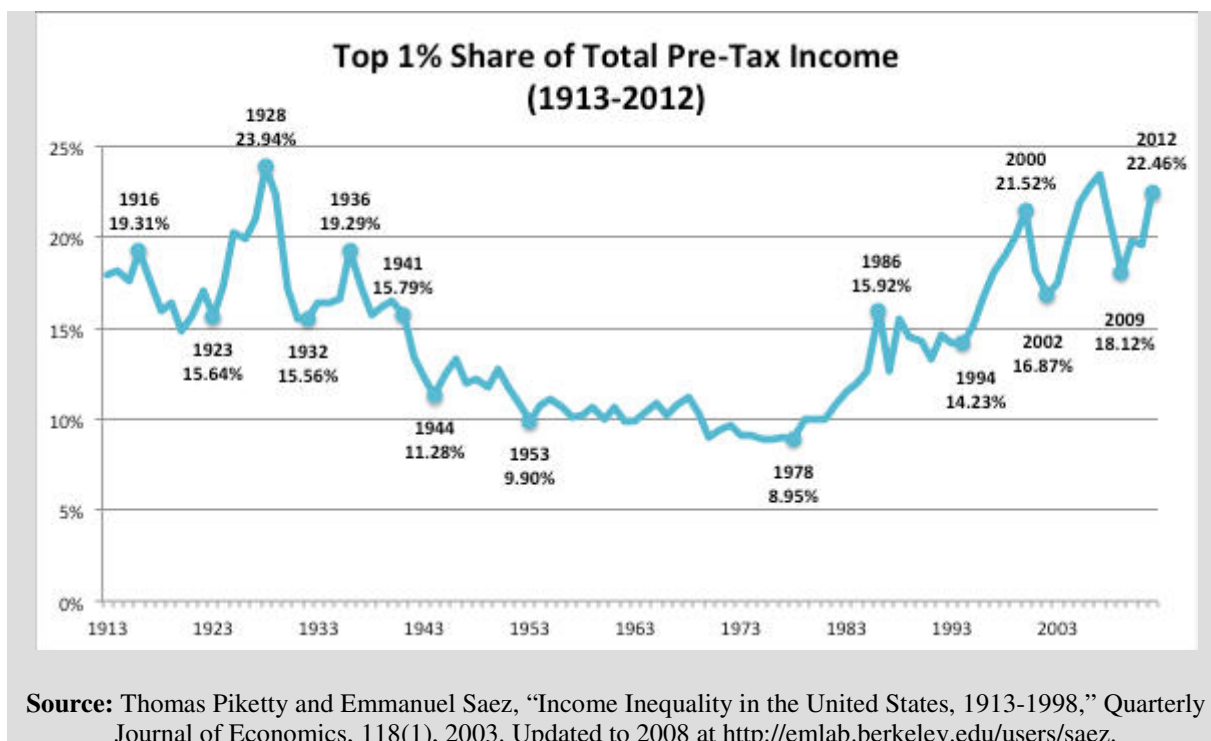
## Critique of the Highlighted Poverty Measurement Tools

Contemporary global trends and changes point to the need for novel poverty measurement tools such as climate change, globalization and inequality. In the affluent and poor societies there is inequality in a number of dimensions such as income, wealth, global, racial, etc. Thomas Piketty and Emmanuel Saez (2003) demonstrate the prevalence of income inequality in the United States as shown in fig.1 below.

### Income Inequality

Unequal income distribution remains high despite the existence of the poverty measurement tools as it was in the 1950s till the 2000s (UN 2005; UNDP, 2005; World Bank, 2010; IMF, 2007). Similarly, the United Nations University's World Institute for Development Economics Research (UNU-WIDER) released a comprehensive study, The World Distribution of Household Wealth, in 2008 based on its World Income Inequality Database. For instance data from tax returns show that the top 1 percent of households in the United States received 8.9 percent of all pre-tax income in 1976. In 2012, the top 1 percent share had more than doubled to 22.46 percent.

Fig1. Top 1% Share of Total Pre-Tax Income (1913 to 2012)



## Wealth Inequality

The total inflation-adjusted net worth of the Forbes 400, an annual listing of America's richest individuals, rose from \$507 billion in 1995 to \$1.62 trillion in 2007, before increasing again to \$2 trillion in 2012.

**Fig 2. Forbes 400 Richest American**

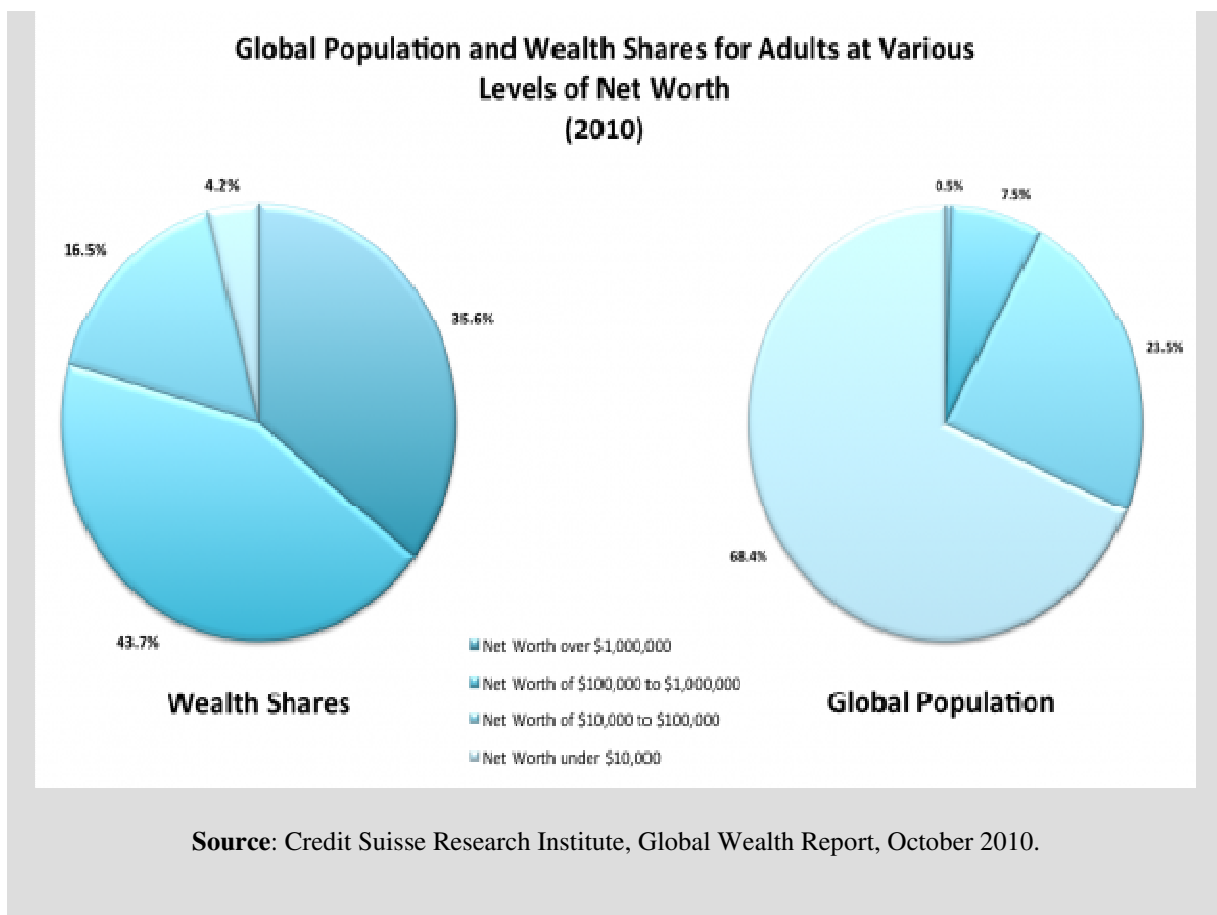


**Source:** 1995-2008: Arthur B. Kennickell, "Ponds and Streams: Wealth and Income in the U.S., 1989 to 2007," Federal Reserve Board Working Paper, January 7, 2009, Table A1, p. 55. 2009-10: Forbes Magazine press release via Business Wire. Additional Source <http://www.cnbc.com/id/101038089#>. Adjusted for inflation using CPI-U

## Global Inequality

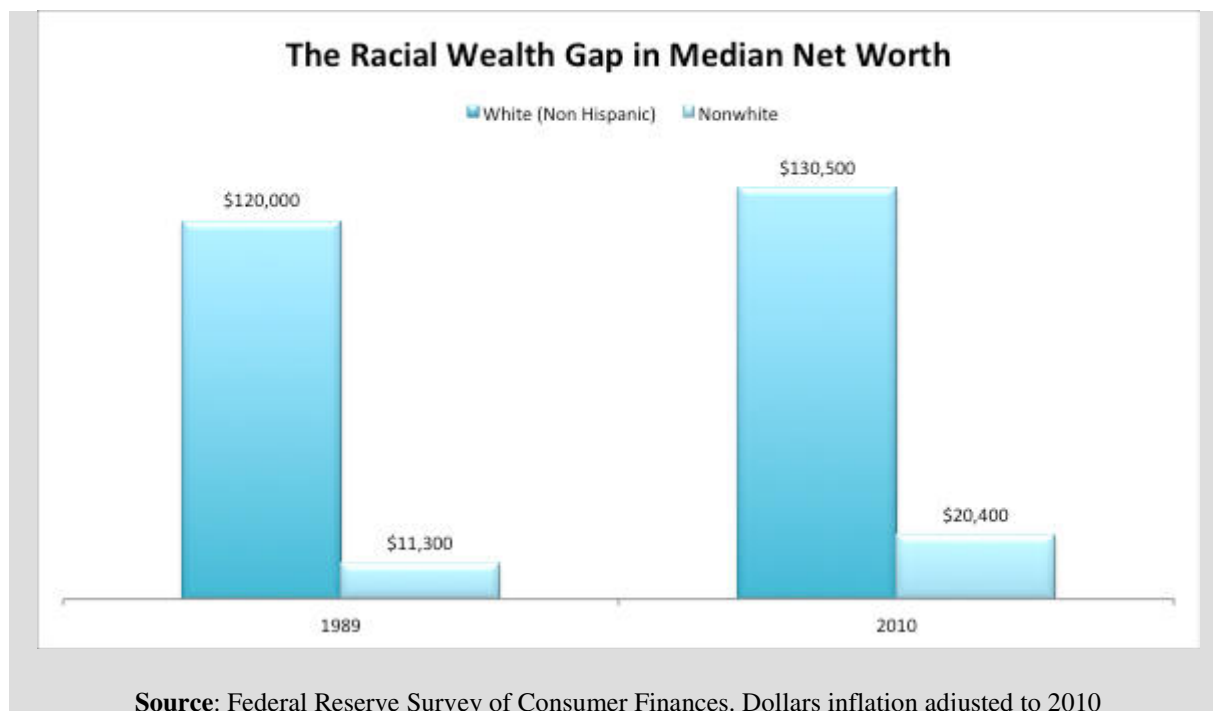
Estimates from the Credit Suisse Research Institute, released in October 2010, show that the richest 0.5 percent of global adults hold well over a third of the world's wealth.

**Fig 3. Global Population for Wealth Shares for Adults at Various Levels of Net Worth(2010)**



Racial Inequality

**Fig. 4. The Racial Wealth Gap in Median Net Worth**



Additional Sources :Marcie Gardner and David Abraham Online available: <http://inequality.org/inequality-data-statistics>

Recently, the World Bank opened a research line fully devoted to global inequality: Poverty and Inequality which has made the subject of poverty measurement critical and important. Human Development Report, (1999) provides an analysis of long-term trends which shows that the distance between the richest and poorest countries was about:

- 3 to 1 in 1820
- 11 to 1 in 1913
- 35 to 1 in 1950
- 44 to 1 in 1973
- 72 to 1 in 1992

According to the most recent estimates, in 2011, 17 percent of people in the developing world lived at or below \$1.25 a day. That's down from 43 percent in 1990 and 52 percent in 1981(World Bank,2015).This means that, in 2011, just over one billion people lived on less than \$1.25 a day, compared with 1.91 billion in 1990, and 1.93 billion in 1981.

Progress has been slower at higher poverty lines. In all, 2.2 billion people lived on less than US \$2 a day in 2011, the average poverty line in developing countries and another common measurement of deep deprivation. That is only a slight decline from 2.59 billion in 1981 (World Bank,2015).

Poverty measurement seem more difficult than poverty itself. For instance, on the issue of exact poverty data in Nigeria, the World Bank's Chief Economist for the African region, Mr. Shanta Devarajan recently said; "We (World Bank) don't know Nigeria's poverty rate. We don't know whether it is going up or coming down. There is a lot controversy surrounding it. There is need to invest in data," ( Amaefule,2012 p.1).

Recent trends such as the post 2008 global economic recession point to the re-evaluation of the existing poverty measurement tools. This is characteristic of the post developmental scholarship which increasingly shows evidence of development failures in the neo liberal order(Saches,1992;Escobar,1995; Naverdeen Pieterse,2010).

We live in a world whose massive poverty and inequalities dwarf those found within the developed societies. This is most conspicuously true of inequalities in standards of living—measured, for example, in average per capita purchasing power, life expectancy, and under-five child malnutrition. Contrary to what one might think,

these inequalities are mostly greater today than 50 or 100 years ago, and there is reason to believe that the gap will continue to grow(Weinstein,2008).

Poverty measurement has had a narrow approach. It has been largely associated with income and predominantly focuses on the Third World countries especially parts of Asia, Latin America and sub Saharan Africa (SSA) known as Low Income Countries(LICs)as the most powerful economies and governments treat poverty as local symptoms of local failures, associated largely with the “periphery” societies.

Among the periphery societies, historical depictions of poverty such as early European contacts in the eighteenth century, slavery, slave trade along the sub Saharan African (SSA) coast, colonialism and imperialism which arguably are causes of poverty among the periphery societies are minimally measured. Rodney (1972) recounts the poverty correlates of slavery and slave trade on human development in Africa which has been largely unaccounted for in Western development discourse and poverty studies.

Weinstein (2008) argues that earlier studies, written in the heyday of developmentalism, often treated poverty and inequality as self-evident, as categories that could be left largely unexamined and undefined. Many scholars simply assumed that all “poorer” nations needed to become more modern, and spent little time reflecting on what they meant by modernity. Weinstein (2008) recounts that today we are much more likely to view these historical accounts of inequality as being about the social construction of “poverty” or as reflecting deep-seated Eurocentric judgments about proper modes of living. Rather than see these accounts as providing us with a glimpse of material inequalities, we read them as representations of cultural difference.

At the post global economic recession of 2008, novel poverty trends began to emerge in the global North which calls for a reconceptualization of prevailing poverty measurement tools beyond income indices.

The Institute of Development Studies(IDS) (2010:4) observes that; “Although there very much remains a scale of absolute need – for example, 95 per cent of under-fives deaths remain in the developing world – the distinctions between developed and developing countries and the nature of poverty in each are becoming blurred”.

This scenario increasingly calls for a rethinking on poverty measurement. The report argues that a first consequence of this observation is that it spells an end to the old assumption that the North has the monopoly of answers to poverty, and that these can be easily exported to the South- A ‘new duality’, based around the twin concepts of convergence and divergence, is one way of considering the new global context(IDS,2010).

Countries are experiencing a convergence of problems, as similar challenges are faced in both North and South, for example the financial crisis, climate change, urbanisation and chronic disease. At the same time, they are also experiencing a divergence of solutions, as home-grown recipes to alleviate and/or eradicate poverty prove exportable in sometimes surprising ways(IDS,2010).

Naverdeen Pieterse,(2010 ) reinforces this debate and contends that the conventional distinction between developing and developed societies is less and less relevant – the ‘south’ is in the ‘north’ and vice versa. With the decline of welfare economies there is increasing polarization within countries on account of shrinking public services.

He further shows that in the United States and the UK there is mention of ‘two-thirds societies’. Social exclusion nowadays is a problem that is common to north and south, west and east.( Naverdeen Pieterse,2010).

Moreover, while poverty rates have declined in all regions, progress has been uneven:

East Asia saw the most dramatic reduction in extreme poverty, from 78 percent in 1981 to 8 percent in 2011. In South Asia, the share of the population living in extreme poverty is now the lowest since 1981, dropping from 61 percent in 1981 to 25 percent in 2011. Sub-Saharan Africa reduced its extreme poverty rate from 53 percent in 1981 to 47 percent in 2011 (World Bank,2015).

China alone accounted for most of the decline in extreme poverty over the past three decades. Between 1981 and 2011, 753 million people moved above the \$1.25-a-day threshold. During the same time, the developing world as a whole saw a reduction in poverty of 942 million (World Bank,2015).

In 2011, just over 80 percent of the extremely poor lived in South Asia (399 million) and Sub-Saharan Africa (415 million). In addition, 161 million lived in East Asia and Pacific.

Fewer than 50 million of the extremely poor lived in Latin America and the Caribbean, Middle East and North Africa, and Eastern Europe and Central Asia combined(World Bank,2015).

Similar disparities in poverty measurement are existent in variations in the World Bank’s Purchasing Power Parity (PPP) between the high, middle and low income countries and variations along country and regional levels. We know little more than the data are difficult in both quantitative and qualitative terms such as the poverty line and its incongruence.



Orshansky (1969, p. 37) states that “poverty, like beauty, lies in the eyes of the beholder”. Measuring poverty accurately is important within the context of gauging the scale of the poverty challenge, formulating policies and assessing their effectiveness (UN,2010).

Despite the projected 2015 Millennium Development Goals (MDGs) of halving poverty, poverty remains on the increase among the low income societies. However, measurement is never simply a counting and collating exercise. Extensive problems can arise at this very first step, and there are likely to be serious differences in the perceptions and motivations of those who define and measure poverty. Even if there is some consensus, there may not be agreement on what policies are appropriate for eliminating poverty.

As we have explicated, traditional approaches to poverty measurement usually start with the specification of a “poverty line” ie, the value of basic (food and non-food) needs considered adequate for meeting minimum levels of decent living in the affected society (Datta, 1978), followed by the determination of poverty measures such as the head count ratio, that is the ratio of percentage of individuals or households whose incomes fall below the poverty line (Bardhan, 1973; Ginneken, 1980). Other measures include the income gap ratio which measures the intensity of poverty. For example per capita income, mean and /or total, two –thirds of mean per capita household expenditure, food consumption, calories and medical data, etc (Glewwe & Vander Gaag, 1990).

The World Bank’s analysis that uses poverty line, for instance, has not been without its deficiencies. Within Africa, the World Bank classified all those who subsist below one dollar per day as poor (World Bank, 1995). This economic conception of poverty did not include other correlates of deprivation such as gender, social exclusion, environmental degradation, greening, racial discrimination, human rights etc. Other indicators such as the depth of poverty or poverty-gap, and poverty severity have been advocated (Foster & Shorrocks, 1988).

Despite a broad panorama of poverty measurement methodology, poverty remains higher in the poor societies (Collier, 2007). A number of studies reject the existing poverty measurement tools. Chakrabarti and Cullenberg (2003) observe that the post-developmental approach and Sen’s capability approach provides enough reason to out rightly reject the World Bank’s approach to poverty measurement (development).

Townsend (2002) observes that the World Bank \$1/day line probably under-estimates actual extent of poverty. There has been what Townsend (2002) termed “shifting goalposts” from \$1.25/day based on average poverty line of poorest 15 countries which are different from earlier definitions.

On the Money-metric methods as well as the Income and Consumption Measures, Townsend (2002) observes that income or spending yardstick does not tell whole story. The definition of the 1995 World Social Summit considers deprivation, social exclusion and lack of participation and contends that poverty situation is graver.

Chen and Ravallion, (2000) contend that income or consumption measures do not capture many of the dimensions of poverty. For example, in the urban context, the urban poor rely heavily on the cash economy thus making them more vulnerable to fluctuations in income, and there are severe environmental and health hazards due to crowded living conditions in urban slums, and no security of tenure. Other aspects of poverty, both rural and urban, which are multidimensional relate to access to basic services such as water, sewage, health and education, and a safety net to mitigate hard times.

Coudel ,etal (2002) show that if not properly adjusted, monetary measures can underestimate urban poverty because they do not make allowance for the extra cost of urban living (housing, transport, and lack of opportunity to grow one’s own food.

Baker and Schuler (2004) argue that money-metric poverty measures have some shortcomings. Survey designs vary significantly between countries and over time, making comparability difficult. Some use income based measures, others consumption. Decisions about how to value housing, home-grown food, and how to account for household size and composition all affect poverty estimates.

A major defect of the measurement is its emphasis on micro household data usually obtained through large –scale national surveys .Thus ,their data requirements are too demanding for data base of most developing countries to bear. There have been several attempts to provide alternative development indicators to income. Morris ( 1979) developed the Physical Quality of Life Index (PQLI) like the UNDP Human Development Index (HDI) of the 1990s, both seek to overcome the limitations which emerged partly as a critique of income –based measures and in recognition of the absence of a perfect correlation between per capita income and non-material indicators of well –being such as longevity, health, literacy, etc.

. Sen’s capability approach contributed to the launch of the human development approach and the human development index (HDI) by the United Nations Development Programme (UNDP) in 1990, within the context of which poverty is defined as the lack of opportunities in the areas of education, health and command over resources, as well as for participation in the democratic processes (UN, 2010).

The Human Poverty Index (HPI), introduced by UNDP in 1996, measures deprivations in three of the four key dimensions of the human development index, namely; (i) the capability to survive (measured, in developing countries, by vulnerability to early death defined as death before age 40), (ii) the capability to be knowledgeable (measured by the adult illiteracy rate) and (iii) having access to private income as well as public provisioning

(measured by the proportion of malnourished children under age 5 and by the share of people without access to safe water)(UN,2010).

However, despite the theoretical and empirical underpinnings of this redefined point of entry, at an operational level, it tends to be summed up by a handful of social indicators. Since these indicators capture relative performances among countries, or population groups which are ranked and compared, the index does not help to define, identify or measure poverty(UN,2010)

In particular, it is questionable if they do in fact provide improved means to assess the well-being of poor people. Like income, they are also partial, in each case being equally weighted composites of just three indices. Moreover, they are not suitable indicators for use at household level. Their application is usually at national level, (though some regional indices, for example for India, have been calculated); in this they are more akin to national income estimates and suffer from the same aggregation defects. They do not have the precision or the location specificity that is possible with poverty line estimates (Greeley,1994).

Noorbakhsh (1998); Ranis,etal, (2006); Fakuda-Parr,(2006)had argued on alternative Human Development Index and examined the redundancy of prevailing human development index, Noorbakhsh (1998) suggests “Modified Human Development Index”(MHDI) as an alternative where a number of elusive indexes could be included.

Ranis, etal; (2006) review the various listings of human wellbeing and poverty elements, thus identifying a comprehensive set of dimensions in order to empirically explore whether UNDP’s Human Development Index is adequate or needs to be supplemented. They show that assessing human development fully requires a broader set of indicators.

The HDI on the other hand is based on UNDP’s perception of human development. HDI is implemented by specifying a minimum and a desirable or adequate value for each indicator of human development to form “deprivation indicator” “removal of obstacles” and “enlargement of choices”.

The methodological approach has been criticized for being too simplistic, lacking a solid theoretical foundation and containing arbitrariness in giving equal weights to its components-an inaccurate reflection of value judgement (Ferroni & Kanbur, 1990).Moreover, it has been pointed out that while infant mortality and life expectancy can be calculated from basic routine demographic data, the calculation of literacy rates requires data from detailed censuses (UN,2010).

However this has been a challenge in most developing countries fraught with inadequate data. Another limitation of these indices is the assumption of viewing achievement relative to the “worst” or “best”(HDI)country in the sample. Thus ,if life expectancy in a more developed country falls, the HDI for a less developed country would go up –an obviously baseless proposition. These criticisms notwithstanding these measures particularly HDI continue to be a yard stick for measuring human development (UN,2010).

Wresinski (1987)argues that many aspects of poverty some of which are crucial to human rights analysis are not reflected in the statistical indicators. This contention has been critical in evaluating poverty measurement issues in most periphery societies characterized by war crimes, gender insensitivity, sexual violence, genocide and corruption. The human rights perspective argues that poverty is a human condition characterized by the sustained or chronic deprivation of resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights (Wresinski, 1987; Sen,1999 ).

Again, several poverty measurement tools have demonstrated certain degree of urban bias as they largely focus on urban poverty while rural poverty is also on the increase. The Urban Household Index (UHHI) measures only the urban areas. Striking a balance has been at issue in poverty measurement. As noted earlier, in most developed countries, there has emerged a shift in focus from absolute to relative poverty, stemming from the realization that the perception and experience of poverty has a social dimension. Although absolute poverty may all but disappear as countries become richer, the subjective perception of poverty and relative deprivation will not (UN,2010).

As a result, led by the European Union (EU), most rich countries (with the notable exception of the United States of America), have shifted to an approach entailing relative rather than absolute poverty lines. Those countries treat poverty as a proportion, say,50 or 60 per cent, of the median per capita income for any year(UN,2010).

The absolute poverty lines have seldom been revised, even in countries where there has been significant economic growth; hence, there has been a steady fall in the share of average per capita income represented by the absolute poverty line, a trend evident in India and China, for instance(UN,2010).

Desai (2006) finds the definitions of absolute poverty static, calorific, asocial and theoretical and proposes a new measure of the poverty line to be based on the need to maintain individual labor capacities intact, thus connecting to health, nutrition and monetary measures(p.16).

Instead of a revising of the norms upward, discussions of poverty in developing countries have shown a tendency to move in the opposite direction, as reflected in debates over caloric and nutritional norms, with some

arguing in favour of reducing the standard norms in accordance with which poverty lines were generally constructed (UN,2010).

A more recent attempt to develop a theory of human need (Doyal & Gough, 1991) builds on the work of Rawls (1971, 1993) and Sen (1980, 1983) to develop a comprehensive list of needs specified through a set of universal satisfier characteristics. In any specific setting, these are derived from a set of intermediate needs satisfiers. Greeley, (1994) observes that Doyal & Gough (1991) developed a set of suggested indicators for such needs, which relate to their contribution to health and autonomy – regarded as the first order goals.

Poverty measurement has not been designed to foreshadow the fact that unsustainable consumption of the high income countries is a key to global inequality and poverty Schor (2005) observes that household consumption in America creates a disproportionate inequality. “The 1990s and early 2000s have been a period of rapid consumption growth for the average household, as consumption outpaced income growth, and savings rates declined” (Schor,2005,p.5). Between 1993 and 2004, real personal consumption expenditures per capita rose from \$19,593 to \$25,973 (2000 dollars), or 33% (CEA, 2005;Schor,2005).

These shortcomings and critique have been presented in various ways by both the realist and neo Marxist theorists who conceive poverty measurement as integral to the nature of capitalist exploitation. Townsend (2002) observes that, the World Bank’s adoption of the crude criterion of \$1 per day at 1985 prices for the poorest countries, \$2 per day for Latin America, and \$4 per day for the transitional economies, without regard to the changing conditions of needs and markets, affronts science as it affronts reasoned development of priorities in international policies.

In 1997, UNDP topped this absurdity by suggesting that the US criterion of \$14.4 per day might be applied to the OECD countries. If measurement is arbitrary and irrational, it is impossible either to concoct the right policies for the alleviation or eradication of poverty, or monitor their effects closely (Townsend,2002 ).

No evidence of International Finance Institution /donor favoured special poverty programs significantly reducing poverty without sustained growth + job creation, e.g. good governance, micro-credit, property rights (e.g. land titling), ‘bottom of the pyramid’ marketing(World Bank,2010).

This superficiality is equally noted from the Arab perspectives, exemplified in Kalid Abu-Ismaïl’s : Rethinking Poverty and Inequality Measurement in Arab Countries, Abu-Ismaïl (2012), argues that the ‘Western’ assumptions on which poverty measurement rests are not applicable universally. The author questions some of the ‘hidden assumptions in the Western approach to poverty measurement’ and suggested that they are not shared in other parts of the world. These are examples of a wider ‘culture critique’ that has been much discussed in the poverty measurement field in recent years, that argues on socio-cultural dimensions such as gender rights and similar social rights in measurement of poverty, other than economic rights and universalization of Western culture and values through globalization (Amadi & Agena,2014).

Collier (2007) attributes the extreme poverty of the fifty-eight countries that harbour the poorest billion individuals to one, or a combination, of four “traps”: a conflict trap, a natural resources trap, the trap of being landlocked with bad neighbours, and a poor governance trap. Together these traps are causing the divergence of the poorest nations from the rest of the world, and left to their own devices, these countries will likely end in “a ghetto of misery and discontent” (p. xi). As a whole, these countries are poorer than they were in 1970, and their people live for an average of 50 years, seventeen years less than the rest of the developing world. ‘I realised that the conflict trap was one explanation for the countries now at the bottom of the world economy’ (Collier, 2007).

## Discussions

Both post- colonial and neo liberal critique argues for improved approaches to poverty measurement as poverty and inequality remains high (Amin,1973;Bradnock and Williams,2014). Our review of the literature suggests the superficiality of existing poverty measurement tools as they predominantly emphasize material poverty and fail to identify non- monetary poverty indices such as past historical depictions of well- being or lack of it, spatial inequality, geography, climate change, racial discrimination, discrimination by gender or sexual orientation, colonial plunder and economic exploitation, crime, violence, corruption, human rights abuses etc.

Sen (1976b) argues that the measurement of poverty must be seen as an exercise of description assessing the predicament of people in terms of the prevailing standards of necessities. It is primarily a factual rather than an ethical exercise, and the facts relate to what is regarded as deprivation, and not directly to what policies are recommended (p.287).

Genuine sources of wealth of nations as determinants of inequality and causes of economic disparity across nations is missing. Similar exploitation and colonial plunder such as France on her erstwhile African colonies are scholarly documented. Collier (2006) observes that Africa without France is like a car without a petrol. Such neo colonial exploitation and imperialism are rarely measured in poverty studies.

Climate change vulnerability has not been properly integrated into poverty measurement as discussed. For instance, environmental pollution and more importantly the poverty effects of environmental degradation of

multinationals (MNCs) operating in the “periphery” economies, are ongoing imperialism in a grand scale such as the Niger Delta in Nigeria.

Tools such as periodic comparative poverty measurement at both country specific and regional levels are yet to be properly integrated in poverty measurement as there are variations in Africa, Asia, Latin America, America, Europe etc.

Again, non -assertiveness or uncertainty on the degree of poverty measurement has been at issue fostering global North /South divide as the global North increasingly assumes an affluent stance while the global South is poor.

Measurement strategies, suffer from insensitivity to how poor the poor is and the effects of a possible redistribution of income among them. To mitigate the first problem, Kanbur (1987) suggests the use of the product of the head-count ratio and the income –gap ratio. Equally, the problem of insensitivity to income inequality appears to be addressed by Sen’s (1987) index. Sen’s measure relies on three parameters; the head count ratio, the income –gap ratio as a proportion of the poverty line, and the Gini coefficient of the distribution of incomes among the poor .Sen’s index was the first conscious attempt at obtaining a measure that would capture the “intensity of deprivation”. A number of studies made similar propositions, such as Thon(1983), Foster-Greer-Thorecke (1984), Dasgupta & Ray,(1986) , Atkinson (1987), Kakwani (1980).etc

Within the context of non -food measurement, The International Fund for Agricultural Development (IFAD,1993)has also developed a number of composite indices for measuring poverty (see Banda,1995).The Basic Needs Index(BNI) focuses on non- food basic needs such as health and education. How should non-food basic needs be specified and aggregated in monetary terms? This task is as difficult as defining the food component of the income poverty line. The standard methodology for the estimation of the non-food items is based on the platform set by the threshold adopted for food needs (UN,2010).

### **The Alternative Models and Policy Recommendations**

Reconceptualization of poverty measurement would cover a whole field. The diagnosis would be both common to and separate from prevailing quantitative analysis such as Income or Consumption Measures, Unsatisfied Basic Needs Index, Asset Indicators , Money Metric Measures, Purchasing Power Parity(PPP), Human Development Index (HDI)etc. Poverty measurement would be more meaningful through an historical, environmental, economic, cultural, geographical and social relations interface etc. It should be multi-dimensional.

All of these would require a more thorough analysis. At the same time, the analysis and diagnosis must be made separately. It must be sectorialized, whichever kind of treatment “theory” is used to tackle poverty measurement. For instance, with the categorization of poverty as relative, absolute and subjective which poverty measurement tool measures these categories?

The aim of poverty measurement transformation is to include “engagement” in transforming the poor themselves and exact understanding of causes of poverty. Poverty measurement should not isolate the poor. The concept concentrates on the importance and factors of poverty measurement in the context of “ameliorating chronic poverty”. It is based on the fact that poverty is a dynamic phenomenon and that its alleviation requires a series of necessary transformations in the elements which would sustain social well-being through direct involvement of the poor.

There is an emerging consensus, after a great deal of analysis of what are appropriate poverty and inequality measurement ( Sen, 1973; Glewwe & van der Gaag, 1988; Ravallion, 1992). Around a set of measures known as the Foster, Greer and Thorbecke set, they take the general form:  $P = 1 / n \sum (1 - y_i / y_x)^a$  where the poverty measure (p) is a function of the total number (n) of households and the incomes of that sub-set whose income (y<sub>i</sub>) is below the poverty line (y<sub>x</sub>). Varying the parameter (a) from 0 to 1 to 2 provides estimates respectively of the numbers of poor people and the intensity and severity of their poverty(Greeley,1994).

In 1992, a panel on poverty and family assistance emerged in the United States and critiqued the existing poverty measurement tool. Their central recommendation is that current poverty measurement should be revised. They argue that current measurement needs to be revisited as it no longer provides an accurate picture of the differences in the extent of economic poverty among population groups or geographic areas nor an accurate picture of trends overtime (Citro, & Michael,1995).

Several new concepts have been suggested to fill the gap in its theory. A prominent example of poverty measurement transformation is the adoption of inclusive participatory approach which is a bottom –top multidimensional approach that encompasses both quantitative and non-quantitative indexes(Chambers,2010).

Such approaches as the Global Multidimensional Poverty Index (MPI) has been handy. Developed by Oxford Poverty & Human Development Initiative(OPHI) with the UN Development Programme (UNDP) for inclusion in UNDP’s Human Development Report . It has been published in the HDR since 2010(GMPI,2015) .

The MPI serves as both evaluative and comparative tool of poverty measurement from the individual level including “MPI poor” which measures deprivation in ten outlined indicators, the ‘MPI poor’, also examines the

extent – or intensity – of their poverty in relation to their level of deprivation. There are also community and country levels. It creates a comprehensive picture of people living in poverty, and permits comparisons both across countries, regions and the world and within countries by ethnic group, urban/rural location, as well as other key household and community characteristics (GMPI,2015).

This makes it invaluable as an analytical tool to identify the most vulnerable people – the poorest among the poor, revealing poverty patterns within countries and over time, enabling policy makers to target resources and design policies more effectively. This does not imply that there are no limitations both empirical and methodological as a number of individual, country and regional specific variations abound. Similarly, as explicated, poverty measurement must be participatory. It must adopt a move from “paradigm of things” to “paradigm of people”(Chambers,2010).

This corroborates Naryama, et al, (2000b) who postulated the “voice model” and argue that the lack of voice of the poor is the core of poverty. The onus therefore is how do we measure voice and how can people's voice be heard in the political system and in particular, how can voice permeate ideology to produce pro-poor policies that can alleviate people's poverty and pull them out of poverty?.

This fundamentally underscores the fact that measuring poverty should seek to answer some fundamental questions: How are the poor directly involved in alleviating their poverty? What are the causes of poverty? How many are poor and how poor are they, do they have a voice in addressing their poverty? For the first question, several indicators of participatory poverty alleviation have been advocated.(see Chambers,2010).

Problems with measurement of “causes of poverty” are connected to confining the concept of “measurement” to the effects rather than evaluation of causes and alleviation of poverty. “Measurement” has a wider meaning than the strict sense of “evaluation” or “quantification”. It includes “investigating” the cause(s) of what is investigated.

Policy discourse within the international parlance has poorly conceptualized poverty measurement relying on the World Bank's \$1-per-day line and other quantitative measures which do not have a fundamental grasp of the poor. Poverty measurement goes beyond counting and collating exercise. It embodies causative factors to be able to design proper measurement approaches.

It is worth emphasizing, however, that advancing effective poverty measurement requires financial resources, individual and institutional support, thus international policy makers, Non-Governmental Organizations,(NGOs),Civil Society Organizations(CSOs)and similar stakeholders must play active roles.

## Conclusion

Poverty involves a wide range of correlates. The conceptual and methodological analyses of poverty measurement as observed from the literature reviewed are much narrower than poverty itself. This incongruence has been at issue.

As discussed a large part of the problem with what is known as “poverty” stems from lack of appropriate measurement tools, some basic indicators and generation of data. Inaccuracy in measurement has led, in turn, to problems in findings. For instance concepts such as well-being, lack, freedom, impoverishment, capability, inequality, vulnerability, deprivation, destitution, unsustainable environmental consumption etc have been poorly integrated into wider poverty measurement.

Poverty measurement cannot treat historical and cultural accounts as disjointed sketches of a gloomy past rather they are part of social realities which continues to shape the wellbeing and otherwise of societies. We know that such chroniclers as colonialism and imperialism routinely heightened contrasts between the society regarded as “civilized” or “modern” and its more “backward” or “primitive” Other, and tended to evaluate standards of living in those “Other lands” in ways that reflected invidious cultural judgments and racialized hierarchies of civilization and barbarism(Weintein,2008). Neo liberal measurement of such comparative accounts as argued, is largely limited to postmodern material threshold that is yet to transform the discipline of poverty measurement since the 1990s.

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