

## Climate Change Impact on Poverty Indicators As Determinants Of Health And Socioeconomic Inequalities in Nigeria

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**Abstract:** *One of the most serious issues facing the humanity today is their inability to deal with the detrimental impacts of the current changing climate. This paper aimed to review health inequality among Nigerian people base on poverty indicators. Food insecurity, malnutrition and child mortality and Income disparities are some of the conditions of deprivation, whose magnitudes comprise reduced health and life expectancy among Nigerian people. It is found out that the ability to cope with this situation depends upon individual's social and economic position, the lower the social and economic status, the more likely the absence of coping strategies or inability to afford better health status which results to disabilities and mortalities. It is recommended that the government needs to draw back its faulty policies especially the gas flaring which contributes heavily to the CO<sub>2</sub> release in the atmosphere and heavy deforestation so that the resulting climatic change effects and the continuous growing of health inequality among its indigenes can be reduced to the minimal.*

**Keywords:** *Climate change, Health inequality, Indicators, Nigeria, Poverty.*

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### I. Introduction

One of the most serious issues facing the humanity today is their inability to deal with the detrimental impacts of the current changing climate. For the past decades, clear evidence shows that the global climate is changing (Ebi, et al., 2006). Scientists concluded that the warming observed for the past 50 years was a very good evidence of human activities. Alley (2003) reported that climate change had happened in the past centuries with much faster and wider range of impacts when the earth's system was stretched across limits. A projection of the world's average temperature shows a continuous increase of between 1.4-5.8<sup>0</sup>C by the year 2100, likewise the world's pattern of precipitation will be altered (Albritton and Meiro Filho, 2001). As climate continues to change simultaneously from global to local level in space as well as from millennia to minutes in time, Scientists in both the medicinal and climatological fields developed a growing concern that modifications in the worldwide atmosphere setting may produce universal human health issue (Kalkstein and Smoyer, 1993). These alterations are critical ranging from the primary impacts, for example, high temperature stresses and exceptional storms, to secondary impacts incorporating changes in illness transmission and ailing health due to of expanded competition for food sustenance and water assets (Huntingford et al., 2007).

Ebi, et al., (2006) presented three broad categories of health impacts are associated with climatic conditions, these are the impacts that are directly related to weather and climate, the impacts that result from environmental changes that occur in response to climatic change, and the impacts resulting from consequences of climate-induced economic dislocation, environmental decline, and conflict. Although, the contribution of the developing countries to the global emissions of greenhouses gases is small, they are expected to have the most severe effects related to the changing climate and this inequity is likely to bring about global differences in many aspects of Human life (McMichael et al. 2006). Diseases especially the infectious diseases are transmitted by numerous variables of which environmental change is considered to be in the fore front (McMichael et al., 2008). Numerous infectious disease operators, for example, the vectors, non- human supply species and rate of pathogens are delicate to climatic conditions (Patz et al., 1996). The increment in temperature would have a tendency to quicken and speed disease carriers and vector life cycle, and these means the spread of infection to new locations and the augmentation of the transmission season in ranges where it is available (Kovats et al., 2000).

Health inequalities are considered to be the unfair differences in health between people of different social and economic groups, and can be linked to the forms of disadvantages especially in the socioeconomic determinants, such as poverty, discrimination and lack of access to healthcare services or good healthcare facilities (Marmot, 2005). Consistent evidences throughout the world shows that people with socioeconomic

disadvantages suffer the heaviest burden of disease and have high mortality rates than their better off counterparts (Yusuf, et al., 2010), and extensive evidence points towards the existing socioeconomic gradient in health outcomes within different poverty indicators such as income, job status and education support and food, causing the distribution of different health consequence and obstructions to healthcare (Uthman, 2009).

This paper aimed to review health inequality between different groups base on socio-economic terms, under some of the indicators of poverty which are Food insecurity, malnutrition and child mortality, Income, and explain how the climate change affects these determinants.

### **Poverty indicators as Determinants of Health Inequality**

In Nigeria, a country with abundant resources, the inequality in health between the better off and the worse off population is taking a different dimension. Poverty is widespread in the country which makes it listed among the poorest countries in terms of human development (UNDP, 2009). Disparity in wealth and health among Nigerians is marked, in 2004 the poverty level in the rural areas was estimated to be 64%, roughly 1.5 times higher than the poverty level of 43% in the urban areas, regional differences in poverty are also obvious with the poverty rate of 67% in the northeast region that is almost twice the level of 34% in the southeast. This poverty gap is growing with a larger proportion of the country's wealth centred in the hands of the few wealthiest. The wealthiest 10% are believed to have possessed 31.4% of the total national income, while the poorest 10% own roughly 1.3 % and more than 50% of the national income is owned by the only 20% of the highest income earning group (Antai, 2010).

Socioeconomic status and health in the country are stratified, with children of parents at the higher level of socioeconomic class having healthier lifestyle pattern, lower incidence of chronic diseases, better wellbeing, and minimal risk of dying young than children of parents in the lower socioeconomic class. These happened base on the differences in parent's income, level of educational attainment, employment status, nutritious food and the characteristics of residence (Marmot, 2005). Graham and Kelly (2004) defined this social gradient in health to denote the state of worse health of those who are at lower level of socioeconomic status measured by the poverty indicators. They also stated that the magnitude of health inequalities especially in low income families is determined by Social stratification that assigns individuals to different social positions and determined their opportunities to produce different health outcomes.

Health exposure usually derived from the social level generates different health damaging conditions. In essence, individuals from lower socioeconomic positions are exposed to different health risks compared to the individuals at higher status and this may also vary between groups in terms of its types, amount and duration. Health vulnerability is also highly expected as a result of social status, where individuals at lower socioeconomic status may be exposed to varying risks factors that in turn results to the effects of specific diseases and injuries due to unemployment or disability especially in the rural areas resulting to more burden and sickness.

In recent time, climate change impacts on human health are modulated by elements such as social and economic development and this have a direct and immediate effect on morbidity and mortality. For example, people in areas that have experienced flood may suffer from increased mental disorder and may also have high distribution of malaria, dengue fever and diarrhoea. There is a growing concern that flooding and drought associated with climate change may lead to population displacement and in some cases may lead to the mobilization of dangerous chemicals from storage and industries. Chemicals such as pesticides have a potential health risk to the river bank inhabitants and their concentration in flooded water increases diarrheal diseases and even death in lower income people (Haines et al, 2006).

### **Food insecurity**

Food is primarily required for sustainable life and should be sufficient in quantity and quality for a healthy and productive life. Food security only exists when people at all times have access to good, adequate and nutritious food both physically and economically that meets their nutritional needs and food preference. Schmidhuber and Tubiello (2007) described the four main elements of food security as food availability, stability, accessibility and utilisation. Where physical availability of food deals with the supply side determined by the level of production, stability deals with people temporarily or permanently at risk of losing their access to resources needed for adequate consumption of food, access to food address the availability and the ability of personal, household and community to purchase sufficient quantities and qualities of food, that is being physically and economically viable to nutritious diets, and food utilisation implies the nutritious aspect of food safety and quality for active and healthy life for every person.

In Nigeria, as the planet warms with temperature increase and rainfall patterns shift, extreme events such as droughts and floods became more frequent and this result to poor and unpredictable yields. Thereby, making farmers more susceptible to facing the prospects of crop failure, reduced agricultural yield, increased

hunger, malnutrition and diseases (Enete and Amusa, 2010). Food shortage due to severe climate change has great effect on the households especially the low income and is thought to play a vital role in the improvement of chronic diseases and is coherently associated with overweight and obesity among women (WHO 2010). Meanwhile, many studies revealed an association of food insecurity with diabetes and its management. For example, Enete and Amusa (2010) reported that the higher percentage of adults with diabetes from the lower class are usually unable to meet their diabetic diet, which pave the way for emotional distress and other diseases.

Mach and Mastrandrea, (2014) reported that the changes in the temperature and precipitation level affect the agricultural activities leading to the low and poor outputs particularly in the low income countries where climate is the primary cognitive factor of agricultural productivity. This effect has been demonstrated by the destructive effects of recent flooding in the south part and the various prolonged droughts currently witnessed in the northern part. Evidence shows that current climatic changes affect the agricultural productivity leading to declining in food production and leaving most of the households with no food to eat (Apata, 2011).

### **Malnutrition and Child mortality**

Like many developing nations, Malnutrition in Nigeria proved to be one of the preeminent causes of child morbidity and mortality, it affects the physical and psychological growth, damage the immune system and increases the risks of disease prevalence. With the help of increasing poverty, food only tends to benefit the small group of higher social and affluent class and makes growing inequalities in food and health, which affects particularly poor and vulnerable group. Economic wellbeing at household level operates mainly through availability of food, more hygienic living condition and better access to health services, research shows that poorer household tends to have more undernourished children than the better off households.

Uthman (2009) measured health inequality in Nigeria based on the malnutrition among children using the concentration index and used the sample of 4187 children under the age of five and measured the socioeconomic status of their households. He found out that the largest contribution to the inequality of childhood malnutrition was household economic status with about 31%, followed by health services 17%, maternal education 13%, proper sanitation 11%, breastfeeding duration and geographic area 8% each and residency in rural/ urban areas 5%. These can be linked to the changes in the climate of the country from few decades ago.

Food shortage due to global climate change invites many diseases especially for children. Malnutrition is the largest underlying cause of child death and compromises of natural immunity that leads to the growing susceptibility of infectious diseases in more frequent and severe episodes. Likewise, infections can increase the rate of starvation due to nutrient loss, decreased intake and appetite. This relationship between malnutrition and disease is synergistic and among the diseases precipitated by malnutrition are diarrhoea resulting for over 60% of child death, pneumonia and malaria over 50%, and measles with over 40% (WHO, 2010). Morbidity and mortality of children among migrant groups is due to the disruption of the migrant's social and economic wellbeing, their demographic and socioeconomic selectivity and the disparities in adaptation (utilisation of maternal health services). Residing in vulnerable urban areas has increased the risks of under-five death with increasing disadvantages (Antai et al. 2010).

### **Income disparities**

In a brief note by the African development bank group (2012), they described that inequalities in income over a long time have not diminished and unsurprisingly higher income is linked with better health. The fewer richest capture the largest share of the income which is when measured by the share of the income that reaches the poorest, inequality strikes. They also demonstrate a geographic disparity between the urban and the rural areas where the poor and low income people inhabited. Climate change phenomena affect the lives of people in many ways. This is through the transformation of employment and income prospects around the world. In the developing countries where jobs and livelihoods of many people is at risk due to high reliance on income from the agricultural activities. The instability in weather conditions and natural disasters such as flood and heat wave causes crop failure and reduced income (Karfakis et al. 2012).

## **II. Conclusion**

Even though there are Hundreds of factors that determine Health inequalities in Nigeria and around the Globe, only few are tackled here. These poverty indicators (Food, Malnutrition and income) play a vital role in determining health inequality and continuously widening the gap between the socioeconomic strata, the ability to cope with this situation depends upon individual's social and economic position, the lower the social and economic status, the more likely the absence of coping strategies or inability to afford which results to disabilities and mortalities.

Poverty is part of the conditions of deprivation whose magnitudes comprise reduced health and life expectancy among others. In Nigeria, the gap in health risks and mortality between the better off and the worse off people in both rural and urban areas is quite obvious. Several policies have been to put test to ameliorate poverty problems in the country, but none of them yield or achieved the desired goal. Even with the growth, few people enjoy better living states while others languish in a terrible state of need for the necessities of life.

Poverty is in its extreme in the rural areas and vulnerable places in urban areas and the change in the weather pattern in the country is unpredictable. It is recommended that the government needs to draw back its faulty policies especially the gas flaring which contributes heavily to the CO<sub>2</sub> release in the atmosphere and heavy deforestation so that the resulting climatic change effects and the continuous growing of health inequality among its indigenes can be reduced to the minimal.

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