CLIMATE CHANGE AND LAND-BASED CONFLICT: THE IMPACT ON FOOD SECURITY IN NIGERIA

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Abstract

Nigeria as a country is vulnerable to climate change issues. The adverse effect of climate change through drought, deforestation, flood, extreme weather condition, decline in soil texture, herders/farmers conflict, diseases and health issues, displacement, low human and physical capital, decrease in income, inequitable land distribution, poor infrastructure, etc, have caused poverty and food insecurity, etc. As a result of climate change, the number of land-based conflicts and deaths increased due to violence conflict within communities, groups, individuals and states. There is increase in flooding that leads to lack of access to transportation, food, health care, clean water, sanitation, economic activities. There is low and no income, violence, rape, drug abuse, crimes, kidnapping, displacement, abduction, banditry, environmental issues, among others. The aftermath of climate change is prominent on agricultural production such as livestock, crop, forest, fishery, nutrition, health and the general livelihood of the people. Land is one of the most valued gifts from God. The objective of the paper is to ascertain the connection between climate change and land-based conflict issues that lead to insufficient food supplies as experienced in Nigeria. The data were gotten from primary and secondary sources. The human needs theory of economic conflict was used to discuss the paper. This paper is divided into four sections. The first focuses on the introduction, conceptualization and theoretical framework. The second section expands on the issue of climate change and land-based conflict. The third examines the impact of climate change and land-based conflict on food security. The fourth section is the conclusion and the recommendations which include, effective policy, community adaptation structure, among others.

Key Words: Climate, change, conflict, land-based, and Security

1.1 Introduction

Climate change is one of the most debated issues in the global discourse. It has attracted attention of scholars, policy makers, the general public, and the international community. At the center of this debate are issues of societies' preparedness to respond or adapt to the challenges of climate change, and to address their vulnerabilities. According to Smithers and Smith (1997), this concern was enunciated at the 1992 United Nations Conference on Environment and Development (UNCED), which developed the Framework for Convention on Climatic Change (FCCC) signed by 154 countries, many of whom now have a national plan to address the problem of climatic change. However, different national plans have not addressed the impact of climate change globally. For instance, Nigeria still experience overwhelming climate change issues. The gap in sensitization and coping mechanisms are still wide. According to Homer-Dixon 1991,

"the previously held notion that the environmental system, in particular the earth's climate is resilient to human abuse has been upturned, and replaced with a new belief in earth's multiple local equilibria that are highly unstable. Also, the fact that a slight alter in climate system may result in complex environmental and social effects, which could potentially trigger conflict has been established". This paradigm shift in perception of the global climate finds overwhelming evidence in the land-based conflicts across Nigeria and other natural disasters that threaten the global peace and development.

According to the Intergovernmental Panel on Climate Change (IPCC), climate change is defined as "any change in climate over time, whether due to natural variability or as a result of human activity" (IPCC, 2007, p. 21).

In Bello (2012), he said that Nigeria's climate has been witnessing a sizable shift in temperature, rainfall, storm and sea

level rise since the last century; recent study found that, there has been a gradual rise in Nigeria's temperature between 1901 and 2005. The study recorded a mean air temperature of 26.3℃ between 1901 -1970, and an increase to 27.8℃ from 1971 to 2005, apparently greater than the global average of 0.74℃. Also rainfall for the same period has been noted to be largely erratic. Bello illustrated the situation in the northern Nigeria by saying that the increasing draught and desertification in several northern states (semi-arid agro-ecological zone) of Nigeria, of which forest vegetation is "receding at about 0.6 kilometers per year, is largely due to fast depletion in the amount of surface water, flora and fauna resources on the land. He went further to say that as the shift in Nigeria's climate continues, with its socio-economic effects on the poor farmers, the country's capacity and perhaps willingness to effectively respond to the situation is called into question. For instance, by the mid-1960s, gradual drop in average

rainfall culminated into a dreadful draught between 1972 and 1974, with consequent massive low crop yield, and death of farm animals. The result was acute shortage of food, which crystallized into famine at the very watch of the government Thus, ratcheting up stress on these resources already in short supply, occasioning strife between nomadic and sedentary groups".

Mortimore and Adams, 2001(cited in Onyia, 2015). At the global debate on human capability to adapt to climatic change, the crux is whether free-market mechanisms may permit developing countries to minimize the negative effects of environmental degradation. Homer-Dixon (1991) suggests that policy makers would be less capable to respond to both population growth and progressing climate change. He argues that "policies of market liberalizations and structural adjustment promoted by financial and lending institutions like the International Monetary Fund (IMF), and World Bank are not effective ways to respond to

present (and perhaps future) climatic change and environmental scarcities". He also adduces that various social effects associated with climate variability, including hunger, poverty, and population migration could potentially lead to various forms of conflict, especially, the land-based issues.

The social-economic effects of climate change have decreased agricultural production, causing income and livelihood decline, food insecurity, population displacement and conflict. Government's inadequate responsiveness to changing climate, lack of political will and bad governance by political leaders have resulted in increased impact of climate change. The various literatures have proved that there is a relationship between climate change and conflicts that are land-based. This also results to food insecurity in Nigeria.

1.2 Conceptualization

- Climate change: The changes in the climate systems underlie predictions on its future dynamics both in social and ecological terms. Evans (2012, pp. 3-8), notes that in addition to its geophysical impacts such as temperature increases, the changes will impact social and environmental systems through hazards such as excessive heat and the melting of glaciers, which will result in secondary impacts including desertification, coastal flooding, land degradation, reduced crop yield, low water availability and food insecurity, among others. Climate change represents potentially the most serious of a range of environmental drivers of conflict that have been identified in recent decades, following others including drought, desertification, land degradation, failing water

supplies, deforestation, fisheries depletion, and even ozone depletion. The increasing impact of climate change in every aspects of life, especially food security has been overwhelming.

- **Conflict:** Presently, the phenomenon of conflict has for many good reasons engaged the attention of many scholars and administrators primarily because their resolution and good management usually leads to an improvement in the social and economic relations of the parties concerned. Conflict is mainly a result of the complex nature of man. It is likened to disagreement which usually comes about due to the nature of man which is dominated by his struggles over the things he values in the society. The history of humankind is replete with conflicts.

One of the most common definitions of conflict is that it comes

from an incompatibility of goal. A struggle over values and claims to scarce status, power and resources in which the aims of the opponents are to neutralize, injure, or eliminate their rivals (Coser 1956).

Land-Based: The human activity revolves around land. Land-related issues have been identified as playing major roles during war and civil violence. Many conflicts across Nigeria are tied to struggle and competition over scarce fertile land and poor resources governance. According to a Google extract by the United Nations, "land-based conflicts can be linked to wider processes of political exclusion, social discrimination, economic marginalization, struggle for resources and a perception that peaceful action is no longer a viable strategy for development. Land-based issues result to fears, violent conflict, decrease in food production, deaths, injuries to people, loss of income and

livelihood and increase unnecessarily, the expenditure on individuals, groups and government. Some of the causes of land-based issues are poor governance, lack of well-defined

land-use act and management, problematic governance institutions, lack of transparency especially in public land acquisition, weak structures for checking land grabbing, and exclusion of the less privileged and minority in land spaces".

Food Security: Nigeria is still characterized by high reliance on food imports. Malnutrition is widespread in the entire country and rural areas are especially vulnerable to chronic food shortages, malnutrition, unbalanced nutrition, erratic food supply, poor quality foods, high food costs, and even total lack of food.

Food security, as defined by the United Nations' Committee on World Food Security (UNCWFS), means that all people, at all

times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life. Climate change is a major cause of food insecurity. Other causes are lack of access to farming lands, land grabbing, conflict, violence, wars, unfavourable policies, rise in population, natural disasters, etc

1.3 Theoritical Framework

1.3.1 Human Needs Theory of Economic Conflict

The Human Needs Theory explains that human needs are powerful source of explanation of human behaviour and social interaction. All individuals have needs that they strive to satisfy, either by using the system, acting on the fringes or acting as a reformist or revolutionary. Given this condition, social system must be responsive to individual needs or be subject to instability and forced change, possibly through violence or conflict (Coate&Rosati1988). The Human Need Theorists (Burton 1983,

Maslow 1978) have associated conflict to the frustration of human needs which man's behaviour is determined by.

According to Burton (1983, Maslow 1978), there are fundamental drives and motivations that cannot be expressed. Individuals and social groups regardless of consequences will pursue their human needs. They argued that, although human needs are original and cannot be suppressed, values imposed by institutions may try to alienate individuals from their human values, separating people from their true needs. Human theorists insist that one of the primary causes of protracted or intractable conflict is people's unyielding drive to meet their unmet needs on the individual, group and societal level. Human Needs Theory proposes that, aggression and conflict are the direct result of some institutions and social norms being incompatible with inherent human needs. In order to live and attain well-being,

humans need certain essentials; these essentials are called human needs or basic human needs. Conflict therefore occurs when certain individuals or groups do not see any other way to meet their needs. It argues that, all conflicts are reasonable when we focus on human needs. This is usually done when there is a clear clarification on all unmet needs and strategies to meet both or all parties' needs. The needs theory has wide applicability, it can be used in mediating in violent conflicts, restorative justice structures, it can also be applied in all levels of society for intra-inter personal conflicts, inter-group conflicts and international conflicts. The interesting phenomenon of the human needs theory is its ability to bring out the major sources of conflict and how best these needs can be met, how conflict is resolved and how a common humanity is created. The core desire of human needs theory is to unify humanity and create a common understanding to facilitate collective development. In the end, human needs theory

provides sustainable solutions as it focuses on the sources of the conflict under investigations. It promotes understanding from the base of our common humanity, and it highlights the distinction between non-negotiable issues in a conflict and the negotiable ones.

2. Climate Change and Conflict

Due to extreme weather conditions in the north, high perspiration in the south, climate change issues, there has been increase in the forceful migration of people and pasturing activities towards the central and southern Nigeria, displacement of people, conflict, destruction of lives and property. The movement for grazing tends to generate conflict between the herders and the farming communities because of the quest to feed the livestock. In the increasing demand for grazing, economic activities, protection of farmland by indigenes, land for agriculture, issues such as

unemployment, political and ethnic violence, religious sentiment, poverty, conflict and food insecurity increase highly.

(Bur, 2000; Varvar, 2000) identified that some persons fight for land and spaces due to the economic benefits attached. However, climate change has forced people to be more protective of the little land resources left for them. Whatever the conflict in any human society, women and children constitutes majority of the victims because they are the most vulnerable group in conflict situations. The women in the communities mostly engage in agriculture activities; however, conflict occasioned by climate change leads to destruction of crops and properties, rape, trauma, diseases, unemployment, poverty, food insecurity, etc, that affect both gender.

2.1. Cross-Regional Analysis of Nigeria's Climate

The Nigeria's ecological and climatic characteristics are major factors in analyzing climate change and conflict.

Nigeria has been described as highly prone to varying effects of climate change due to its location, unique and varying ecological characteristics. (Amobi & Onyisi, 2015). The gap in this submission limits climate change impact on location and ecological factors. However, countries at the north, south, east and western locations in the world experience the impact of climate change, either extreme weather condition, flooding, desertification, displacement, disasters, among others. Cleaver & Shreiber, (1994) maintained that Nigeria has a total surface area of 91,07 million hectares and a land mass of about 923,768 km², with a coastline totalling 850 km in length bounded south by the Atlantic Ocean. That as a result of its size and ecological diversity, it has "no single generic model or adaptation scheme which could reasonably apply to the whole country".

In (Sayne, 2011, p. 3). Variations in geography and climatic features across its regions imply that "climate change events will impact on the variegated ecologies differently". This corroborates with the argument earlier by Amobi & Onyisi, (2015) that climate change is a matter of ecology. (Olufemi and Samson 2012, p. 17) in their assertion stated that the consequence of climate change for Nigeria is "a geographical pincer threat from desertification in the north to rising sea levels in Nigeria's southern coastal regions". This shows that every location is prone to one climate change issue or another. No region or place is exempted. Fasona and Omojola (2005) further highlight this regional variation when they argued that: In terms of climate change driven land degradation, Nigeria is being 'attacked' in all fronts: serious coastline erosion, the pervasive gully erosion in Eastern parts of the rain forest zone and Central Guinea savannah zone, and the

ferocious wind erosion and desertification in the Sudano-Sahelian zone. Nigeria is yearly losing an increasing amount of prime agricultural and grazing lands, which results in ecological migration and intensification of transhumance among the Northern cattle rearers (Fasona & Omojola, 2005, pp. 5-6). With the lack of adequate policy on managing the impact of climate change, sensitization, bad governance, and lack of coping mechanisms, the impact of climate change will keep increasing.

Nigeria's location is unique in that it cuts across all tropical ecological zones, which covers from about longitude 20 401 to 140 451 East of the Greenwich meridian, and North of the equator from latitude 40 151 to 130 551. All tropical ecological zones are found in Nigeria from the southern Atlantic to the edge of the Sahara, which makes a latitudinal distance of about 1500 km. These zones include the Mangrove swamp of the Southern zone situated between latitude 4 and 60 301N, tropical rainforest

situated around latitude 60301 to 70451, which reaches from the southwest to the southeast. It also has a Guinea Savannah belt on latitude 70451N to 100N, Sudan Savannah belt on 100N to 120N, as well as the Sahel Savannah situated in areas above latitude 120N (Fasona & Omojola, 2005).

According to Fasona and Omojola's detailed account, Nigeria's ecological diversity is also manifest in its topographic features, which differ widely across its regions, and also influence the types of interaction between people and the environment, as is evident in regional agricultural traditions. Both Aregheore (2009) and Oyenuga (1967) opine that Nigeria's topography and soil composition also reflects its diversity, which influence its agro-based systems across the country. Most literatures in this paper emphasized on the ecology, location and regions as determinants to the severity and type of climate issues experienced across Nigeria.

As much as these influence varieties of food and resources that are available for human consumption, the negative effects of climate change constitute ecological degradation with negative impact on food security.

2.2 Adaptation: Adaptation is a broad concept usually implying a process of adjustment to survive and, ideally, thrive in the face of challenge. In the context of climate change, adaptation takes place through adjustments to reduce vulnerability or enhance resilience to observed or expected changes in climate, and involves changes process, perceptions, practices and functions (Brown, Hammill and McLeman, 2007 cited in Mbachu, 2015:179). Adaptation can take place at a number of different scales, from institutionally-driven, 'top-down' polices at a national level adjustments and decisions at the level of individual households (McLeman and Smit, 2006). African populations

have demonstrated for centuries a tremendous ability to adapt to climate variability, often employing sophisticated, evolving tactics to respond to risks and take advantage of new opportunities. Various researchers have documented how this can take many forms; shrewd management and conflict resolution strategies for water resources (Nyong and Fiki, 2005. The present concern, however, is that even the extraordinary 'adaptive capacity' of African populations may not be able to keep pace with the scale and speed of climate change (Boko et al., 2007).

3. 1. The Impact of Climate Change on Agriculture and Food Security in Nigeria

Figure 1.

Sector	Impact	Adaptation Option
Agriculture	Varying and reduced productivity due to floods and drought	Protected agriculture
Tourism	Less demand – warmer world	Diversified tourism
Fisheries	Supply less - warmer ocean rising sea levels	Diversification of livelihood
Water	Variable supply - less rainfall or perspiration	Efficient usage Harvesting
Infrastructure	Damage to coastal infrastructure - storm surge	Vulnerability mapping for zoning
Health etc	More dengue - warmer temps	Epidemic and pandemic alert systems

Source: Lecture Note on the Climate Change and Food Security By Henry E. Igbadun. Department of Agricultural Engineering, Ahmadu Bello University, Zaria

3.2. Key Points to Note

i. According to September 2020 report by the Food Security Information Network (FSIN), Nigeria is facing severe food security and nutrition problems, with 32.1 million food and nutrition deficient people, of which an estimated 3.65 million people are deficient as a direct result of climate change and with the recent outbreak of COVID-19 in 2020, the figure has been overwhelming.

ii. Overall, prices of items increase for key nutritious food items, especially during climate change. The prices also increase due to inflation (there was a 17.4% year-on-year food inflation rate in October 2020), reduced demand due to

income losses, conflict across Nigeria, as well as the Naira weakening against the dollar.

iii. The diminishing purchasing power of Nigerians is negatively impacting access to staple foods, with an estimated 24% of households unable to purchase staple foods (November 2020).

4.1. Conclusion

The impact of climate change and conflict on food security in Nigeria cannot be over-emphasized. The increasing displacement, rape, extreme weather condition, herders/farmers conflict, land grabbing, income and livelihood decline, unemployment, food insecurity, diseases and health issues, conflict and deaths should be huge concerns for a serious government with political will and good governance. It has been ascertained that climate change and conflict have not only

impacted food security, but has also increased insecurity, ethnic divide, political violence, banditry, kidnapping, drug abuse, violence against women, among others. It is said that a hungry man is an angry man. Without quantity and quality food intake, people are not happy and healthy. The Nigerian government and citizens must understand that foreign countries will not provide aids for climate change and conflict prevention, mitigation and adaptation forever. We must address our challenges by ourselves and with our local solutions. Our environment and system are unique to us. Commitment, sensitization, knowledge, capacity and re-orientation are required for strategic interventions that will leverage on the limited available resources at the national and household levels for maximum benefit and resilience, which would increase food supplies and security, promote peaceful co-existence for national development.

4.2 Recommendations

1. Adequate and massive sensitization on climate change, conflict and food security across Nigeria.
2. Effective policy, proper assessment of climate change impact, developing a road map and structure for community adaptation.
3. Inclusive multi-stakeholders programmes for early warning, capacity building with acceptable transformation and conflict-sensitive measures, ensuring the participation of community stakeholders and leaders on climate change, conflict and agricultural production and food security.
4. Mainstreaming climate change adaptation in conflict-prone environments to reduce the impact on agriculture and food security.

5. Articulating preventive measures against the impact of climate change and strengthening resilience among communities by coordinated action among humanitarian, development, peacebuilding, and climate actors, with associated investment in long-term, inclusive solutions.
6. Political will to addressing conflict and violence issues, adherence to UNSC Resolution 2417 for sustainable peace and prohibition of deliberate use of starvation in conflicts.
7. Adequate funding for agricultural activities and training of farmers on mechanized and modern farming systems that will guarantee large scale farming, sufficient food supply and security, even during emergencies.

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