

CLIMATE CHANGE AND PASTORALISTS CONFLICT IN BENUE STATE, NIGERIA (1999-2013)

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ABSTRACT

Climate change is a global phenomenon with varying effects on individuals, communities, nations, regions and continents. Empirical evidence shows that Africa is more vulnerable to the impact of climate change than the rest of the world. This study sets out to determine whether there is a link between climate change and pastoral conflict in Benue state. To investigate this problem, we relied heavily on qualitative method of data collection. We also adopted the ex-post-facto design and qualitative data analysis. The theoretical framework adopted in the study is deprivation, frustration-aggression theory. In the process we observed that extreme weather events occasioned by climate change, are responsible for resource depletion in the Sahel region. Further observation shows that, lack of water, fertile soil for agriculture occasioned by extreme weather led to extreme poverty, displacement of communities and the migration of various pastoral groups. Often than not, migrant pastoralists and farmers' conflict arise as a result of competition over scarce water and fertile land. The carnage as a result of the conflict is on the increase. We therefore recommend among others: cooperation among inter-state agencies in the Sahel region charged with the responsibility of climate change so as to mitigate the impact. Funding on research and development must be intensified and finally, Nigerian government should put in place strong regulatory framework for pastoralists so as to address the problem of conflict between herdsmen and farmers.

Key words: Climate change, migration, pastoral conflict, global warming.

Introduction

Ever since the 1972 Stockholm's United Nation (UN) conference on the Human Environment, which established the nexus between under development and environmental integrity, environmental issues have become transnational.

Anago2002:4

In an attempt to industrialize the world, man's irresponsible and unsustainable activities have been accused of being responsible for climate change. For instance, they are accused for the emission of greenhouse gases into the atmosphere through the burning of fossil fuel. This irresponsible human activity has a direct impact on rainfall, drought, and heat wave around the world. There are series of empirical evidences to show that climate change through the use of fossil fuel is responsible for extreme weather conditions in the world today. Among these evidences is the work of Akusu (2008) who notes that between 1909 and 1925, there was a slight increase in global temperature that resulted to little or no-effect on the environment. But between 1926 and 1970, there was an astronomical increase in global temperature (period of industrial growth), which brought with it extreme weather events, like floods, droughts, tropical cyclones, tornadoes and heat waves. This problem as explained by scientists is a universal one, which does

not recognize local or International boundaries, nor does it respect nationality or race.

In a further review of climatic condition of the world, Allam (2002), observes that the concentration of carbon-dioxide (CO₂) in the atmosphere was 280ppm prior to industrial revolution in 1885. He however opined that recent record shows that the global average concentration of CO₂ has continued to increase by 1.6ppm per year. In a similar study the International Institute for Climatic Studies (2001), observes that global average concentration of CO₂ in 1999 has increased to 382.7ppm. A further observation in 2011 shows that, global concentration of CO₂ is increasing at geometric progression. They therefore predict that if something drastic is not done, the world will be too hot for human habitation, with severe consequences on agriculture, rural development, social-political and economic life of the people.

Although scholars like Boko (2007), Ashtor (2002), White (1983) Ashtor (2007) attempt to down play the effects of climate, they however made a more fearful prediction of global temperature increase in the near future. They observe that, with the increase in greenhouse gas emission into the atmosphere, the world will witness increase in global temperature that will make life uncomfortable. They also noted that Africa vulnerability to the effects of climate, change will be higher than most countries in Europe and America. The future consequence they noted will result to inter-tribal conflict over scarce natural resources, since most African countries relied on natural resource for the their survival. Ashtor(2000) opined that there is a strong relationship between climate change and water scarcity, which is a free gift of nature. He argued that, any slight increase in temperature will result in disproportionate increase in water evaporation.

Climatic change has triggered mass migration of both man and animals in search of food, security, water and other life support materials. Leed (2009) noted that migration is a normal routine for pastoralist whose movement is determined by season. But with the advent of climate change, this pattern of migration changed due to rapid drought, deforestation and other environmental problem associated with climate change. Leed (2009) further observes that the whole of Sahel region of Africa is under serious threat of drought, desertification and desert encroachment. They noted that, over the years, pastoralist has migrated to other parts of West Africa, including Nigeria. It is a common sight in Nigeria today to see a refugee from Chad or Niger begging for aims in major cities. However African leader are unanimous towards addressing this problem.

Pastoralist migrations in Africa have brought with it countless conflicts. For instance, pastoralist migration account for more death than civil strife in Kenya, same as Chad, Mali, and Niger. It is important to note that, migrate n due to climate change has resulted to inter- tribal conflict. Akusu and Ihugu (2004) observe that, fresh water and grazing lands around Lake Chad have been the traditional convergence point for herders and pastoralists, including the Tuareg. Toubou, Feda and Kanembu. In the past it was peaceful, but with water scarcity in the region, it became conflictual. It is important to understand the major causes of conflict; they are either demand push and supply pull. In the process of searching for scarce natural resource, social interaction takes place which often lead to conflict. Therefore, conflict is inherent in social formation but also a historical driving force for social change as a result of scarce resource.

Nigeria is another epicentre for cattle grazing especially within the middle belt region of Taraba, Niger, Benue and Kogi state. Historically, Benue state is situated in the middle belt region of Nigeria. It is a semi savannah with a lot of grasses ideal for grazing. The people of the state are predominantly subsistent farmers. This occupation earns them the name the *food basket* of the nation. It is this agrarian nature that attracted

the pastoralists to the state. All that may have changed as a result of violent between herdsmen and farmers. In his own words, Egbedi (2014:23) says:

When most people hear of violence and the wanton destruction 'of lives and property in the Northern part of Nigeria, they erroneously ascribe all the violence to the activities of the dreaded Boko Haram group currently ravaging the North East, the real Boko Haram are the Herdsmen.

It has been observed by some scholars that, the conflict between herdsmen and farmers has the capacity to generate inter-ethnic crisis in the region, just as the Boko Haram with religions undertone. Many well-meaning Nigerians have advised the Federal government to pay serious attention to the activities of the Fulani herdsmen across the country. Egbedi(2014) noted that, a situation where a Fulani herdsman carries raffles and other dangerous weapons uncheck is unacceptable. He noted that, the activities of these herdsmen have put the lives of innocent Nigerians at risk. He however observed that carrying of firearm by unauthorised person is a criminal offence. Yet they are allowed to carry their guns everywhere they go and to use it on anybody they choose. In assessing the wanton destruction of property in Benue state alone, Akusu (2008) note that properties worth millions of Naira have been destroyed and many lives were lost to the conflict. This situation has force many villagers to migrate from their villages to other towns.

As Bamidele (2014:15) notes, "The insensitivity of these Fulani herdsmen to the plight of their host by reason of their activities is responsible for the ugly situation we find in most parts of the North central region, especially those not bedeviled by the Boko Haram menace"

Although scholars have written much on climate change generally and with particular reference to climate change and pastoral conflict, non has satisfactorily linked climate change to resource depletion in the Sahel region, including Nigeria between 1999 and 2013. Neither are there any studies that have effectively linked climate change to the pastoral conflict in Benue state between 1999 and 2013. Also, although these scholars appreciate the need for the study of climate change, they did not satisfactorily account for the effects of the conflict on national security.

Against this background, the broad objective is to examine climate change and pastoral conflict in Benue state. Specifically, the study intends to determine whether climate change is implicated in the conflict between local farmers and Fulani herdsmen in Benue state Nigeria between 1999 and 2013.

Definition of Basic Concepts

It is germane at this stage to define some basic concepts used in this article. Climate Change and Pastoral Conflict. Climate Change has been defined as "any long-term significant change in the expected patterns of average weather of a specific region of the earth as a whole over an appropriately significant period of time" (EPCC, 2007). It is also a phenomenon that "occurs when the climate of a specific area or planet is altered between two different time. This could occur when there is change in total amount of the sun's energy absorbed by the earth's atmosphere and surface" (Uguru et al., 2011). Climate change or global warming has manifested in global climate history as periods of warmth, melting of the ice caps and increased rainfalls, floods, rise in sea levels etcetera. Human activities are by far the major cause of climate change through continuous release of greenhouse gases and aerosols into the atmosphere, by changing land surfaces, and by depleting the stratospheric ozone layer (Uguru et al, cited in Ani, 2012:114).

Before we define pastoral conflict, it is inappropriate to begin with a definition of conflict. There is no universally accepted definition of conflict. One issue of contention is whether the conflict is a situation or a type of behaviour. Conflict has been defined as "some form of friction, disagreement, or discord arising with a group when the beliefs or

actions of one or more members of the groups are either resisted by or unacceptable to one or more members of another group.” (en.wikipedia.org/wiki/conflict-). Rakim (2010:15) defines conflict as “an interactive process manifested in incompatibility, disagreement or dissonance within or between social entities.” Conflicts can occur between individuals, groups and organizations. Rakin (2010:16) identified the following common elements in the definition of conflict:

- i. There are recognized opposing interests between parties in a zero-sum situation.
- ii. There must be a belief by each side that the other one is or will act against them.
- iii. This belief is likely to be justified by actions taken.
- iv. Conflict is a process, having developed from their past interactions.

Conflict behaviour manifests in form of disagreement and followed by verbal abuse and interference. Pastoral conflicts in the context of this article therefore are conflict between herdsmen and farmers arising from damage done to farmlands by the grazing activities of Fulani herdsmen.

Theoretical Framework

The theoretical framework adopted in this study is deprivation frustration-aggression theory. McDougall (1937) was the first to use the term frustration-aggression to conceptualize the aggressive behaviour of man. But this theory received its classical expression in the work of John Dollard and his colleagues at Yale University shortly before the outbreak World War II. Dollard and his group “took as its point of departure the assumption that aggression is always a function of frustration”, and that “the occurrence of aggressive behaviour always presupposes the existence of frustration” (Dougherty and Pfaltzgraff, 1971:212). Here, “*Aggression is defined as an action with the intent to harm, and can be physical and non-physical*” (Baron & Richardson, 1994:67).

The fundamental assumption of the theory is that resource scarcity is the product of insufficient supply (impact of climate change) or too much demand (population explosion) or unequal distribution of resource as result of deprivation which ultimately lead to aggression (Miller, 2009:54). Zillmann, (1979), Selig (1971) Maslow (1941), Miller (1941), Dollard et al. (1939).

The theory explains further that being frustrated means that one's access to reinforcer is being thwarted by another party or possibly by particular circumstances and that one's reaction to this thwarting is one of annoyance. Miller (1941) argued that, frustration is both a necessary and sufficient condition for aggression which can lead to serious conflict. He noted that, any hostile or aggressive behavior that occurs is caused by frustration. In other words, frustration is not a sufficient, but a necessary, condition for hostility and aggression. Zillmann, (1979) and Dollard et al. (1939) were very explicit in their treatment of this phenomenon. They proposed that a particular frustration instigates aggression primarily against the source of the frustration but also aggression against targets that are to some degree related to that source. Climate-induced scarcity is the main source of frustration, this frustration maybe misdirected by aggressor on the wrong target, this misdirection of aggression against the wrong target maybe counterproductive. In other words, the innocent poor people are more vulnerable to the effects of aggressive behaviour when it is misdirected.

A violent assault upon a frustrator is thus seen as cathartic. More significantly, however, is that the expression of minor, less direct, and possibly covert acts of 'aggression' are viewed as alternative, powerful means to bring about catharsis. The mere expression of annoyance, which does not harm anybody, is also considered an aggressive act capable of producing catharsis. In this context, the notion of *catharsis* is equated with the reduction of the instigation to aggression in general, irrespective of specific targets.

Wolf (2001) states that war over scarce natural resource is neither strategic nor rational. The mechanism assumed to govern the position, sustenance of instigational forces following frustration should equally affect their sustenance after catharsis. The simple explanation is that pastoralists are frustrated as a result of extreme weather events. For instance, some of them have lost their livestock, farmland and fain; members. These extreme events often times lead to migrate to a more favorable destination. It; assumed that, the more the pastoralist migrate from home the more frustrated they become. This is against the backdrop of the numerous challenges he faces, while he migrates. That is to say those frustration implications of the theory have been largely applied.

In his observation, Gilick (2009) posits that natural resource conflict is as old as man itself. However, he sees conflict as a struggle over values and claims to scarce resources in which the aims of the opponents are to neutralize injure or eliminate their rivals.

Deutsch (1973:57) sees 'conflict as an action which prevents, obstructs, interferes with injure; or reduces ineffective of another action with which it is incompatible'. In a similar study by Ohlsson and Homer-Bixon (1943), they focus on environmental scarcity as potential cause of conflict. Various studies of environments conflict are seldom mono-causal. However, they indicate that natural resource scarcity can be demand-driven, supply-driven or it can be of structural inequalities between different group of natural resource users. As they point out demand induced scarcity results from the natural of increasing populations and developments pressure as a justified cause of conflict. While supply-induced scarcity results from natural causes, for instance, rivers running dry, lowered water tables, polluted groundwater, and drought all indicators of extreme weather events are causes of conflict. In other words, migration of pastoralist to a new area will increase the population, thereby increasing the demand for resources. This demand driven as explained above will create competition between pastoral migrants and farmers for fertile land. In order to outsmart each other; various strategies may be applied to frustrate their opponent, so as to have the upper hand. It is observed that those who are frustrated become aggressive and may resort to violent conflict.

Application of Theory

In applying the deprivation, frustration-aggression theory to the explication of our study, it is to be noted that violent transgressions occur because of the accumulation of residual instigatory effects of frustrations. The aggressive behavior of any member of the pastoralists is regarded to have been instigated by resource depletion or scarcity, which in effect, hampers their own economic development. In other words, if a herdsman lost his entire flock to drought and water scarcity, he may be frustrated because he has lost the means of livelihood. He in turn becomes aggressive. Since his aggression cannot be channeled to or directed at the drought or water shortage, he now channels it to any person or group of persons who attempt to obstruct his movement away from the drought-stricken area to a more fertile one. Meanwhile, conflict ensues when the pastoralist and his flock trample on the crops of the Tiv farmer who himself may be suffering a milder form of frustration arising from the threat posed to his crop yield by the effects of inadequate rain, flooding or other adverse weather conditions arising from climate change as was clearly the case in Benue and other neighboring states in recent years. And since both the farmer and the herdsmen are defending their rights to existence and means of livelihood, such a conflict is usually intense and protracted in nature.

Climate Change and Resource Depletion

There are various reports, empirical evidence and observation to support the assertion that climate change is implicated in natural resource depletion in the Sahel region of

Africa, which significantly did not include Nigeria. It is important to show as a matter of fact, where the relationship all started. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC 2007) clearly pin points to the origin of the relationship between climate change and resource depletion, as far back as 1869 when the first climatic observation was carried out. They observed that the emissions of greenhouse gases mostly Carbon dioxide (CO₂), methane (CH₄) and nitrogen dioxide (N₂O) into the atmosphere has increased from a pre-industrial value of 278 parts per million to 379 parts per million in 2005. This observation has also shown that, the average global temperature rose by 0.74° C. They further note that, in the last century, atmospheric concentrations of carbon dioxide and other harmful gases have increased in geometric progression.

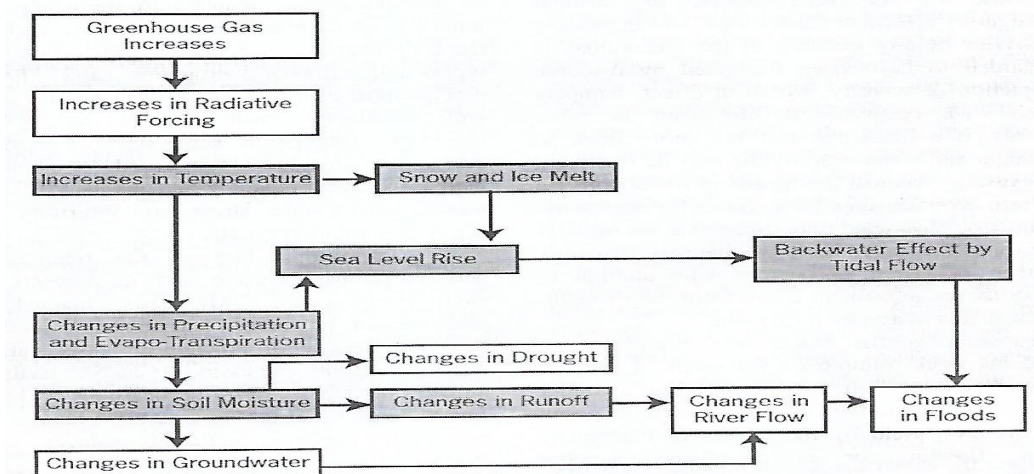
Meehl (2007), in support of the above assertion, opines that global warming as result of emission of harmful gases, resulted to frequency and intensity of extreme weather events, such as tropical cyclones (including hurricanes and typhoons), floods, droughts and heavy precipitation events, are expected to rise even with relatively small average temperature increases. Changes in some types of extreme events have already been observed, for example, increase in the frequency and intensity of heat waves, led to water stress, soil infertility and heavy precipitation events.

To further buttress the relationship between climate change and its impacts on environment, Leed, (2007) has blamed the phenomenon on human activities such as their increased release of greenhouse gases, carbon dioxide, carbon monoxide (CFCS), methane nitrous oxide, chloro-fluorocarbons (CFCs). The increase in all these gases often lead to the progressive depletion of the ozone layer in the stratosphere (Goldberg 1994). This will eventually lead to widespread deforestation, desertification, both of which will alter the balance of atmospheric gases in favour of the greenhouse gases (GHGs). The ozone layer is the shield that absorbs about 90% of the harmful dectro-magnetic energy emitted by the sun on the earth. The abundance of greenhouse gases result in phenomenon of greenhouse effect. The greenhouse gases allow shortwave energy to get to lower atmosphere but hold back long wave radiation from escaping thus regulating the earth's heat budget. The imbalance between the short wave and the long wave is responsible for extreme weather event, such as drought and flood.

To further demonstrate the relationship that exists between climate change and resource depletion, Lindth (2007) states that, human activity are responsible for climate change. He observes that since the era of industrial revolution till date, human have emitted copious amount of harmful gases into the atmosphere. He further notes that these gasses are trapped in. the atmosphere, thereby causing heat entrapment within the atmospheric calculative system. This entrapped heat directly interferes with global weathers, thereby leading to increase in global temperature. He illustrates this relationship with the diagram in figure 1 below. He explains the inter-connectivity or- relationship between greenhouse gases and increase in temperature. The impact of climate change was equal explained in the diagram.

Figure 1:

Figure 1: Climate Change and Water Resources in South Asia



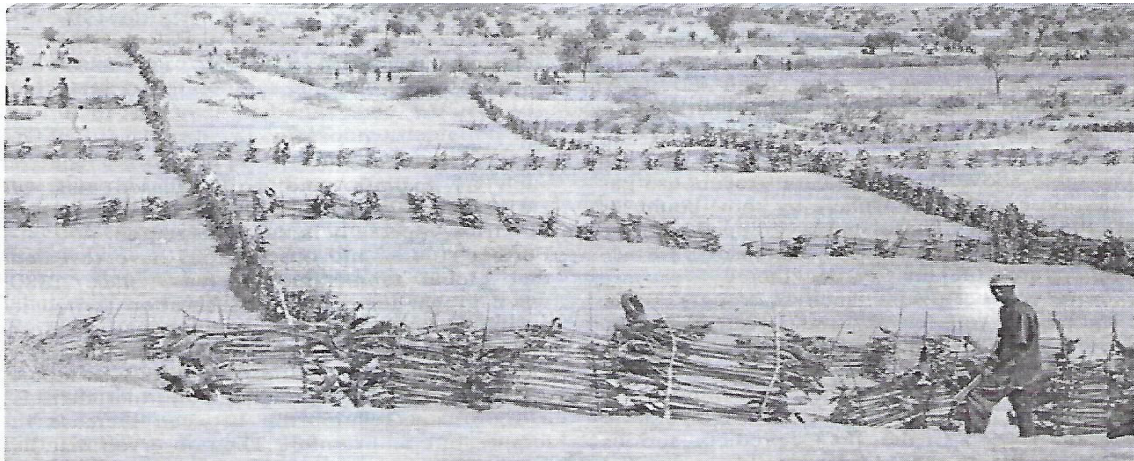
Source: M. MonirulQader Mirza and Q. K. Ahmad Asia (London: Taylor & Francis Group, 2005).

Climate change will have wide-range of effects on the environment and natural resource depletion as an integral part, and other socio-economic related sectors, including water resources, agriculture and food security, human health, terrestrial ecosystems and biodiversity and coastal zones (Wolf, 2001). Prediction into the future shows that, changes in rainfall pattern are likely going to lead to severe water shortages and/or flooding (Allam, 2002). Further observation by Meehi (2007) shows that the melting glaciers will cause flooding and soil erosion. Rising temperatures will cause shifts in crop growing seasons which affects food security and changes in the distribution of disease vectors putting more people at risk from diseases such as malaria and Ebola fever. Temperature increase will severely increase rates of extinction and depletion of natural resource, including many habitats and species in the Sahel region (Ohlsson&Homex-Diox). Other consequences that have been observed are on Biodiversity, which are terribly vulnerable to climate change. Many species of plants and animals are rapidly going inter extinct. Trees density, farm land and floristic richness are decreasing. Fish spawning patterns have changed; the extinction of rare and endangered species of plants and animals have increased. The consequence of these on the economy: poor agricultural output which can lead: excessive increase in prices of food. There is no doubt that the overall effect of this on the economy is likely to engender conflict in the society.

Peter Hugue and John Boustine from Centre for Climatic Studies, USA, performed a simple experiment to demonstrate the effect of carbon dioxide (CO₂) on fossil fuel burning. They note-that, CO₂ emitted from fossil fuel burning :-partitioned into three mobile reservoirs: the **atmosphere, oceans and terrestrial biosphere** One result of fossil fuel combustion has been that atmospheric CO₂ has increased from about 280 ppm (ppm = parts in 106 by dry-air mofraction) at the start of the industrial revolution to more than 380 ppm today. Since high-accuracy measurements began more than 50 years ago, -57% of the emitted CO₂ has remained in the atmosphere and the remainder has gone into two "sinks," oceans and land biosphere, which include plants and soil carbon.

This is what depletes the natural resource. The picture below in figure 2 shows the impact of climate change on the Sahel region of Africa. Figure 2 shows drought areas of

Niger in the Sahel region of Africa.



Scientific evidence has shown that Methane is equally responsible for climate change, which leads to resource depletion, drought, deforestation, desertification and extreme weather events (Boko, 2007). He is noted that, Methane's contribution to anthropogenic radioactive forces, including direct and indirect effects, is about 0.7 W m⁻², about half that of CO₂. Changes in the burden of methane also feed back into atmospheric chemistry, affecting the concentrations of OH and O₃. The increase in methane since the pre-industrial era is responsible for approximately one-half the estimated increase in background tropospheric O₃ during that time. Changes in OH concentration affect the lifetimes of other greenhouse gases such as the replacement refrigerants (HFCs, HCFCs). He however conclude that over -57% of the emitted greenhouse gases has remained in the atmosphere and the remainder has gone into two "sinks," oceans and land biosphere, which include plants and soil carbon. Further observation by International Agency for Emission Trading in Europe's report 2011, shows that industrialized nations still emits copious amount of greenhouse gases into the atmosphere. They conclude that, the more greenhouse gases emitted into the atmosphere the more carbon that is entrapped in the biosphere. It is this entrapped carbon that is responsible for the depletion of natural resource, such as water, natural gas, crude oil, Bauxite, Columbite, Gold, Diamond, Iron ore, Tin, Limestone and Phosphates.

Table 1: Greenhouse gas emission by some selected industrialized nations in 2011

Name of country	Mega Tons of carbon	Rank in the world	Percentage %
United states of America	2,123.89	1 st	25.27%
China	1978.40	2 nd	19.43%
European Union	1659.54		15.45%
India	769.31	6 th	6.43%
Brazil	109.7	19 th	1.28%
Africa	34.07		0.54%
Small Island states	0,9		0.12%

Source: EEA 2013

The table above shows data for greenhouse gas emission into the atmosphere by some countries of the world. These gases trapped in the atmosphere will also increase surface temperature of the earth, thereby causing extreme weather events, such as drought, water evaporation, soil fertility and livestock losses. Besides, IPCC, (2007) predicts that greenhouse gas emissions could rise by 25 - 90 per cent by 2030 relative to 2000 and the Earth could warm by 3°C this century. Even with a temperature rise of 1-2.5°C the IPCC predicts serious effects including reduced crop yields in tropical areas

leading to increased risk of hunger, migration, spread of climate sensitive diseases such as malaria, and an increased risk extinction of 20 - 30 per cent of all bio-diversity in Africa, especially in the Sahel region. Further studies and observations have revealed that global temperature increase since 1880 when global temperature observation starts attributed to climate change with negative effect on natural resource. For instance, the National Oceanic and Atmospheric Administration report 2012, on the Sahel region, indicates that, there is a significant relationship between increase temperature and rainfall. They observed that, as temperature increases rainfall decreases, as illustrated in the table 2 below.

Table 2: Temperature and Annual Rainfall in the Sahel region of Africa

Period	Average Global Temperature	Average Annual Rainfall	Average renewable water
1880-1920	.4 ^{oc}	1875-2200	18.7
1920-1950	.44 ^{oc}	1740-2000	17.0
1950-1970	.64 ^{oc}	1418-1860	15.6
1970-1990	1.7 ^{oc}	630-1100	5.9
1990-2010	1.8 ^{oc}	600-1000	4

Source: NOAA 2012.

Table 2 above shows that, increase in temperature significantly affect rainfall in the Sahel region of Africa; for instance, between 1880 and 1920 the temperature was 4^{oc}, with annual rainfall at 1875-2200. However, with increase in temperature of 1.7^{oc} in 1970-1990, the annual rainfall has decreased to 630. Therefore, the predictions by Leed (2007) that climate change in Africa seem to show a trend of decreased precipitation in current semi-arid to arid parts of the continent, such as the Sahel region is true. One of the main impacts of climate change will be a reduction in soil moisture in the sub-humid zones and a reduction in runoff. This may pose a problem for the future water and other mineral resources of these sub-humid regions. However, precipitation scenarios are not the same everywhere in as simulations seem to indicate an increase in precipitation in East Africa decrease in rainfall in Southern Africa next 100 years. These changes in precipitation will affect the levels of water storage in lake and reservoirs as they respond to climate variability. This could cause major problems for lakes, such as Lake Chad in the Sahel region, which has already decreased in size by about 50 percent in the last 40 years.

From the empirical evidence shown a study can comfortably say that, there is relationship between climate change and resource depletion in the Sahel region. This is what researcher believe is responsible for migration of pastoralist to Benue state Nigeria, a land with abundance of water and fertility and the resultant conflict between farmers and pastoralists.

Climate change, Resource Depletion and Pastoral Conflict in Benue State

To further prove that climate change is implicated in the conflict between local farmers and Fulani herdsmen in Benue state, we need to establish the link between resource depletion in the Sahel region and pastoral migration to Benue state Nigeria between 1999 and 2013. Empirical evidences point to the fact that resource depletion occasioned by climate change is responsible for the migration of pastoralist from resource depleted and drought prone areas of the Sahel region of Africa to other regions, such as Nigeria. Adegboyi (2013) opines that, Geography and climate are critical drivers of communal conflict across the region, both shape conflict in complex ways. In some parts of the region, worsening resource scarcity, combined with profound poverty and underdevelopment are clearly exacerbating communal conflict. The more arid zones of the lowlands of the

Sahel of Africa suffer frequent and sometimes devastating drought. This is why the region is prone to communal clashes over pasture and access to water. Rapid population growth, possible long-term climate change, increased alienation of land to irrigate farms or ranches, and disruptions of pastoral movements are among the many factors intensifying pastoral and agro-pastoral clashes in semi-arid north east zones of Nigeria. Periodic catastrophic droughts, including the 2011 crisis which produced famine conditions in parts of Mali, Niger, Chad and Nigeria, affected more than 22 million people in the region. This study observes this situation as the trigger of the large-scale population displacement and migration. The migration of pastoralists has badly strained the relationship between the host communities and the migrant pastoralists. The picture below shows pastoral migrant in a major road in Makurdi the Benue state capital. Their movement suggest that they are moving to southern Nigeria.

Figure 3: shows the picture of a pastoralist on a highway.



Source: Tribune.com.ng 2013.

Portions of the Sahel region that receive better rainfall have a different resource problem, namely, growing pressures on available land due to dense populations and rapid population growth. Competition for land and water has intensified in recent decades across the region and can play an important role in both communal clashes and civil wars.

Adegboyi (2013) argued that, although local communities possess well-established mechanisms for managing resource scarcity, those mechanisms have since been overwhelmed by the magnitude of new pressures and competition for land, water, and access to these resources in Benue state. As Akusu (2007) points out, since 1998 large scale migrant farmers from other parts of the region, motivated by the cultivation of new cash crops such as soybeans and millet, took over large tracts in the lowlands of the state. Others are forced to change their traditional migration pattern, because of the constant crisis along their route.

Akusu (2007) continues that the migration of pastoralists to the mid belt, especially Benue state has resulted to several conflicts. He therefore conceptualize conflict as a situation of incompatibility, struggle or unhealthy competition or rivalry between individuals groups in a condition where there is a strong desire on the part of one party to carry out means or achieve the ends, or the distribution and allocation of collectively owned resources which are, or appear to be incompatible with others. But for Phil-Eze (2009:311), 'conflict *thus a manifestation of a struggle to rests: overcome opposing forces or powers in a condition of opposition, antagonism or discord*'. It is instructive to note that a number of violent conflicts have erupted in various parts of Benue state Nigeria over struggle and control of environmental resources, such as farm

land, instance, in several other parts of the state most especially in the southern part, grazing corridor has fuelled conflicts.

**Figure 3: Map of the Sahel region of Africa
Climate Migration in Northwest Africa, Nigeria, Niger, Algeria and Morocco
Bear Brunt of this Growing Security Challenge**



Source: Center for American Progress (2012)

The map above illustrates the migration pattern of people in the Sahel region of Africa. The arc of tension as it is called, represents the up and down migration of people, arms, livestock and others along the route. As some scholars and have observed, the intensity of extreme weather events have forced pastoral communities in Mali, Niger to migrate toward Lake Chad.

Further observation reveals that, when scarcity in Lake Chad got worse as a re' climate change, pastoralists was forced again to migrate to a more suitable environment for livestock grazing. However, con searching for alternative by pastoralists yielded result in the savannah grass land region, stretching from Adamawa to the Niger Delta insouthern Nigeria.

It is worthy of note that pastoral communities are set apart from other populations by certain common characteristics which more generally provide the context within which pastoral issues have to be considered. First, pastoralists by nature derive a substantial proportion of their livelihoods from livestock. They are willing to give up their own lives for their flock. They are nomads who live and share communal rangeland resources. However, these rangelands are prone to extreme weather events, such as erratic rainfall that considerably varies between and within years. These rainfall patterns have direct implications on livestock mobility and for the land-to-livestock ratio, or grazing pressures of the rangelands.

Again, in the arid pastoral areas, the production potential of livestock and the rangeland resources are low because of rainfall patterns and low amounts of precipitation. In addition, livestock accumulation (and restocking efforts) is stated as a major cause for incidents of conflicts during periods of drought.

Pastoralists are also frequently confronted with basic security problems and inter-ethnic conflicts that are often attributed to competition for or prevention to access scarce natural resources. Many scholars like Bamidele (2014) and Mbolie (2001) and some environmental policy makers view the incidences of pastoral conflicts as a '*usual traditional-cum-cultural phenomenon*' or merely brush. In this way, they are wrong considering the magnitude of the problem. But this has changed, since the advent of the

Arab uprising where militia groups such as, the Algeria jihadist movement, the Mali separatist movement and Nigeria Boko Haram Islamic group have taken up arms against innocent people. All these groups are known to have extremist religious ideology, which they have passed on to migrant pastoralists. These pastoralists are highly armed with sophisticated weapons to attack anyone that opposes them or who tries to deny them access to any resource. The picture below shows a herdsman with a gun.

Figure 4: Fully Armed Pastoralists



Source: Starafrika.com. 2014.

Many observers believe that pastoral conflict in Nigeria are politically instigated and should be blamed entirely on political leaders in the region. Akusu (2008) suggests that there is the need for a closer investigation into those people who incite others to fight and those who engage in conflict. Worthy of note are those who benefit from conflicts among pastoral communities and those who use politics to fuel the conflict. Among other issues, the trends in incidences of pastoral conflicts are yet to be understood, and a better analysis of the underlying causes of the problem is needed. Ethnic frictions and conflicts are non-trivial issues in Nigeria. Incidences of pastoral conflicts are common across Nigeria, but attributable to a number of factors besides scarcity of natural resources. The reasons can be aggregated to include migration of pastoralists. This study draws data on the cases of pastoral migration within the Sahel region and their intended destination.

Table 3: Cases of pastoral migration and destination in the Sahel region

Countries	Period	Estimated cases	Destination	Period	Estimated cases	Destination
Niger	1970-1990	750	Lake Chad	1990-2010	18,950	Benue
Nigeria	1970-1990	1,500	Lake Chad	1990-2010	20,150	Benue
Mali	1970-1990	905	Lake Chad	1990-2010	8,100	Benue
Chad	1970-1990	30	Lake Chad	1990-2010	3,100	Benue

Source: ERC 2009

The table above shows that in 1970, Niger had 750 estimated cases of pastoralist migration to Lake Chad, but between 1990 - 2010, pastoral migration have increased geometrically to 18,950, and their destination is Benue state Nigeria. A critical analysis of the table above shows that between 1970 -1990, a total of 3,185 cases of migration were recorded. But with advent of climate change and resource depletion in the Sahel region, the pastoral migration between 1990- 2010 has increased to 50,300 cases of pastoral migration to Nigeria. It is estimated that over 20,140 foreign pastoral migrant are in Nigeria. This influx of pastoralists has generated a lot conflict between pastoral

migrant and farmers in Benue state. To buttress how climate change is implicated in the conflict between local farmers and Fulani herdsmen in Benue state, a recent survey, instance, showed that in Benue State, the clash between the Fulani herdsmen and farmers started ten years ago when herdsmen attacked Tiv farmers in Gwer West Local Government Area. However, it gradually spread to Makurdi and Guma local government areas. Now, the conflict has engulfed Logo Local Government Area, the country home of Governor Gabriel S us warn. Other local government areas affected are Kwande, Katsina Ala and Gwer local government areas. This means the attacks have occurred in all the three senatorial zones in the state. In most of the cases, those at the receiving end of these crises have been Tiv farmers. Their crops, land, houses and yam seedlings have been destroyed. The Fulani herdsmen on their part often complain of their frustration over grazing corridor for their flocks. Instructively, expansion and intensification of the conflict have coincided with the intensification of adverse effects of climate change on both herdsmen and the farmers alike. When most people hear of violence and wanton destruction of lives and property in the Northern part of Nigeria, they erroneously ascribe all the violence to the activities of the dreaded Boko Haram group currently ravaging the North East. But this assumption is not true. Since the influx of pastoralists in Benue in particular and the mid belt in general, there have been countless incidences of pastoral conflicts in the region. Observers believe that, there exists a deadlier group whose activities predate Boko Haram and they appear sure to outlive them. They go by the name Fulani herdsmen, the mostly foreign pastoralist. The Fulani herdsmen in Benue state are more deadly, in terms of operation and the sophistication with which they carry out their attacks. Their activities have been popularized by the media in Nigeria compared to Boko Haram. They act with impunity like they are backed by extant laws of the republic to carry out genocide against their perceived enemies. The Fulani Herdsmen are the only group that traverse the length and breadth of Nigeria, armed to the teeth with their dangerous weapons in full glare of people, and at all times. The impunity with which these Fulani herdsmen carry out their activities is very worrisome. In most of these communities they visit, they leave behind a trail of blood of their victims. They behave with so much alacrity and temerity in foisting their calamity on the land owners and their gracious host communities. The picture below shows a village burnt by Fulani herdsmen in Benue state Nigeria.

Figure 5: Burnt village by pastoral conflict in Benue state

Source: NPF 2012



Empirical evidence shows that Fulani herdsmen often clash with farmers in Benue state. This has claimed many lives, wrecked homes and displaced thousands of people in the

state and other neighbouring state such as Nasarawa and Taraba states. Their activities have also wasted farmlands, crops and cattle, making food scarcity imminent in the near future. The invaders sometimes occupy the homes of their fleeing victims. In some cases, the invaders reportedly cook the abandoned raw food and settle down to eat them. Data from Police reports show that attack by pastoralists on villages and farm settlement have intensified since 2006.

Figure 4: The picture below show victims of Fulani herdsmen brutality.

Source: Police report 2013



According to analysis, the intensity of the attack has drawn the attention of the media and the Federal government of Nigeria to act. Many farm settlements and villages have been displaced, creating problem of refugee for the state and federal government. These attacks by the Fulani herdsmen have serious security implication on the Nigeria State. Some observers have argued that there is link between Boko Haram and Fulani herdsmen because they all have the same ideological principle of kill and destroy the enemy. The table below shows the number of cases reported to the police between 2006 and 2013. It shows a cor.; increase in the number of cases and the n. of properties destroyed in the attacks. Y news reports, both print and electronic shows that thousands of internally displaced persons are suffering in the Benue star: they are calling on the state and federal government to come to their aid.

Table 4: Reported cases of pastoral conflict in Benue state

Period	Description of attacker	Number cases	Men killed	Women	Houses
2066	Fulani Herdsmen	10	17	25	90
2007	Fulani Herdsmen	17	41	43	142
2008	Fulani Herdsmen	29	80	12	231
2009	Fulani Herdsmen	47	104	71	631
2010	Fulani Herdsmen	77	129	96	503
2011	Fulani Herdsmen	230	947	153	701
2012	Fulani Herdsmen	255	869	431	1,489

Source: Nigeria Police Report (2013)

As shown in table 4 above, it is clear that all the reported cases of pastoral conflict in Benue state are between Fulani herdsmen and poor village farmers in Benue state Nigeria. The study also observed that the incidence of conflict is on the increase. This is attributed to the influx of migrant pastoralists, as a result of resource depletion in drought prone areas of the Sahel region. The analysis also shows that in 2011 the number of reported

cases of conflict between pastoralists and farmers in Benue State has increased to 230 cases with 1100 death recorded. This increase can be attributed to political factors. For instance, the election violence of 2011 was an added fuel to the conflict.

The Daily Independent newspaper of 7th April 2013, reported that over 1,200 people were killed between January and April that year. They also reported that, for more than four years now, there are no schools in the affected areas. Some local government councils like Agatu and Guma have been shut, while market activities are permanently closed. According to the State Emergency Management Agency (SEMA), over 8,000 internally displaced persons are in various camps, taking refuge in primary schools and uncompleted buildings.

Further police report revealed recently that, Fulani herdsmen/militia have shifted their attention to Tombo community, near Anyiin where hundreds of people were killed and displaced. The report also pointed out that, the militia started their operation in a farming community called Ayibe. From Ayibe they proceeded to TseDzungwe and on to TseIbwar. It was in TseGbeleve they killed residents and set the settlement ablaze. They continued their attack on Mbaya, Adzegeh, Uzer up to Ayilamo, the headquarters of Tombo Local Government Area of Benue state.

Therefore, one can conclude that, there is a relationship between climate change and resource depletion in the Sahel region of Africa as stated in the hypothesis. The study also observes that, once there is resource depletion in an area there is the tendency for people to migrate to other region where abundant resources abound. Again, the migration of pastoralist is responsible for the grazing conflict in Benue state Nigeria.

Conclusion

This study examines Climate change and Pastoral conflict in Benue state. Specifically, it aims at ascertain whether climate change is implicated in the conflict between local farmers and Fulani herdsmen in Benue state Nigeria. The researcher adopted the deprivation, frustration, aggression theory to explain the conflict in Benue state. The study observes that, pastoralists are frustrated over lack of grazing land, as they watch helplessly the death of their flock. On the basis of the analysis, of data, the study found as follows:

There is a relationship between climate change and resource depletion in the Sahel region between 1999 and 2013. The study also affirmed that, Pastoral migration is as a result of climate change and resource depletion was responsible for the pastoral conflict in Benue state Nigeria between 1999 and 2013. In attempt to express their displeasure over the destruction of their farms and farm produce often result to serious conflict between farmers and pastoralist, in Benue state.

Recommendations

Against the observation that climate change has dire consequence on every aspect of our lives, the study recommends that, Africa must step up their cooperative approach towards addressing the impact(s) of climate change. Funding of institutional framework should be encouraged, for effective research and development. This study recommends a legal framework that regulates pastoralists and their activities. For instance, the creation of grazing corridors or ranches for pastoralist should be encouraged. Finally, the study further recommends stiffer penalties for any offence who contravenes the law.

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