



Herdsmen on the Move: The Burdens of Climate Change and Environmental Migration in Nigeria

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Abstract

The changes occurring in the climate, such as rainfall pattern change, can induce human (and animal) migration as a form of adaptive strategy especially by families that are agricultural or natural-resources dependent. Climate change is a global concern now that different countries including Nigeria are living in the reality of its impacts. These impacts are felt more in northern Nigeria (the arid region) where there is an evident ecological decline resulting in drought and desertification. Herders from this region, who are predominantly into cattle rearing as a source of wealth and livelihood, are forced to embark on a

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north–south migration in response to drought and unavailability of forage and water to feed their cows. Often, however, this change of environment is characterized by conflicts between migrating herdsmen and receiving communities for various reasons including competition emanating from scarcity of natural resources. This review is relevant at this time of a national debate in Nigeria on finding the right policies to abate the continuous clashes between herdsmen and farmers. The paper assesses migration in the context of climate change, the challenges associated with migration of herdsmen, the mutual cooperation that existed between herdsmen and farmers, and the conflict that now characterize their relationship.

Keywords

Environmental migration · Climate change · Natural resources · Conflict · Herdsmen · Farmers · Nigeria

Introduction

Climate change are irreversible observable variations in the state of the climate over time. It is caused by an increased concentration of greenhouse gases (GHGs) in the atmosphere. Greenhouse gases which includes methane (CH₄), carbon dioxide (CO₂), water vapor (H₂O), and nitrous oxide (N₂O) are emitted through various human activities like burning of fossil fuels, wood burning, agricultural practices, gas flaring (Ogbo et al. 2013), and overgrazing. The wanton release of greenhouse gases into the atmosphere as a result of burning of fossil fuels, burning of wood, gas flaring, agriculture, and other economic activities has continued to cause an increase in the average world's temperature. Recently, climate change has gained global attention as never before (Odjugo 2010) due to the problems it has triggered around the world. Nigeria particularly is experiencing the adverse effects of climate change evident in the occurrence of drought and desertification especially in the northern parts of the country (which are the arid region). The irregular rainfall has affected the agriculture system, the reason being that it is very much rain-fed (Idowu et al. 2011; Ogbo et al. 2013; Olaniyi et al. 2014). The subsistence farmers (and pastoralists) who are unable to access better technologies and improved agricultural practices are at the receiving end of these climate risks (Hendrix and Salehyan 2012).

Climate change affects the availability of pasture and water for animal consumption and is responsible for droughts, desertification, extreme cold, and storms. Lakes are drying up and there is a decline in river flow in the northern regions. There is fewer supply of water for agricultural purposes like crop production and maintenance of pasture for cattle rearing. When herdsmen are short-changed by these basic needs for their cattle due to climate change, it is common to find them moving from northern Nigeria down south in search of better environmental and weather conditions. This migration usually for adaptation purposes creates problems for the receiving communities. This kind of encroachment, according to Odoh and Chigozie (2012), could engender conflict given the pressure on land, food shortage, conflicts

of interest, cultural differences, overpopulation, social disorganization, and religious, social, and cultural intolerance that follows. This paper has been divided into five sections “[Introduction](#),” “[Conceptual Clarifications](#),” “[Conceptual Framework](#),” “[Climate Change, Herdsmen, and Migration in Nigeria](#),” “[Climate Change and Environmental Conflicts](#)” and “[Why the Farmers-Herdsmen Crises have become Intensified](#)” before the conclusion is made.

Conceptual Clarifications

Climate Change

An important component of this paper is the concept of climate change. Climate itself encompasses the statistics of temperature, humidity, atmospheric pressure, wind, rainfall, atmospheric particle count, and other meteorological elemental measurements in a given region over long periods. The climate of a region functions by its climate system which has five components: atmosphere, hydrosphere, cryosphere, land surface, and biosphere. The more the quantity of greenhouse gases in the atmosphere, the more the amount of solar energy trapped by the planet which results in global warming or cooling (IPCC 2007; Odoh and Chigozie 2012). Climate changes are irreversible observable variations in the state of the climate over time; it is caused by two major factors: the natural process also known as bio-geographical and human activities also known as anthropogenic (IPCC 2007).

Environmental Migration

Migration is the movement by people from one place to another with the intention of settling permanently or for a period of time. It could be within or outside a country. People can migrate to get a better life and seek refuge or asylum or for tourism (Oiarzabal and Reips 2012). The definition of environmental migrants adopted in this study is that of El-Hinnawi which was modified by the International Organization for Migration. According to this definition, they are “persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad” (Brown 2007). The decision to migrate as a result of environmental degradation can be voluntary or made out of compulsion. Voluntary migrants migrate for a number of reasons, particularly to seek better economic opportunities. On the other hand, those who are compelled to migrate do so for external factors and reasons and take the status of refugees. In between voluntary migrants and environmental refugees however are anticipatory refugees who have prior knowledge of impending degradation and have the ability to move before they are forced to (Bates 2002; Kunz 1973). Poor people are more vulnerable to a deteriorating environment and the migration resulting from it. Households in this

situation usually send a member, usually young men, in what is referred to as “dispatch migration” to take advantage of distant opportunities. The movement of the entire household is a last resort, and when it does happen, it is within the country (Bates 2002).

Herdsmen

Herdsmen are owners or keepers of herds of animals like cattle. They usually move their herds between places to search for pasture and water. In Nigeria, it is predominantly the occupation of the Fulani ethnic group which means they are the majority who own and rear cattle for commercial purposes (Oli et al. 2017). They are concentrated principally in Nigeria, Mali, Guinea, Cameroon, Senegal, and Niger. Their indigenous language is known as Fula and it is classified within the Atlantic branch of the Niger-Congo language family. They constitute the fourth-largest ethnic group in Nigeria with an estimated population of over seven million (Burton 2016). Pastoralism is a lifestyle that “obtains livelihood from mobile livestock rearing on unimproved, communal pastures. It is essentially a subsistence system where the people involved derive all or large part of their food and other living needs using the herds (cattle, sheep, goats, camels, yaks, llamas, reindeer) they tend” (RASS 2006 cited in Msuya 2015).

Conceptual Framework

The conceptual framework (Fig. 1) adopted for this study illustrates the complex path to climate conflict originating from climate change. Climate change, from this framework, leads to the loss of means of livelihoods through increase in extreme events such as droughts and desertification. Loss of means of sustenance, in this case grazing land and water source for the cattle, influences migration decision by herdsmen. Migration in turn leads to pressure and competition on limited resources among other things and finally leads to conflicts. Different from the common explanation that the clashes between herdsmen and farmers are ethno-religious, this pathway offers a new perspective on how resource scarcity can engender conflict.

Climate Change, Herdsmen, and Migration in Nigeria

The Fulanis in Nigeria are known for their nomadic and pastoral nature and have a relatively large and wealthy population. According to Odoh and Chigozie (2012), “Nigeria has a restricted inventory of pastoral peoples, the Fulani, the Kanuri-related groups, the Shuwa, the Yedina and the Uled Suleiman.” Fulanis are the most widely spread around Africa and around the Volta region of Ghana, Gambia River, and Chad and most likely entered Nigeria before the fifteenth century. The raising of concerns

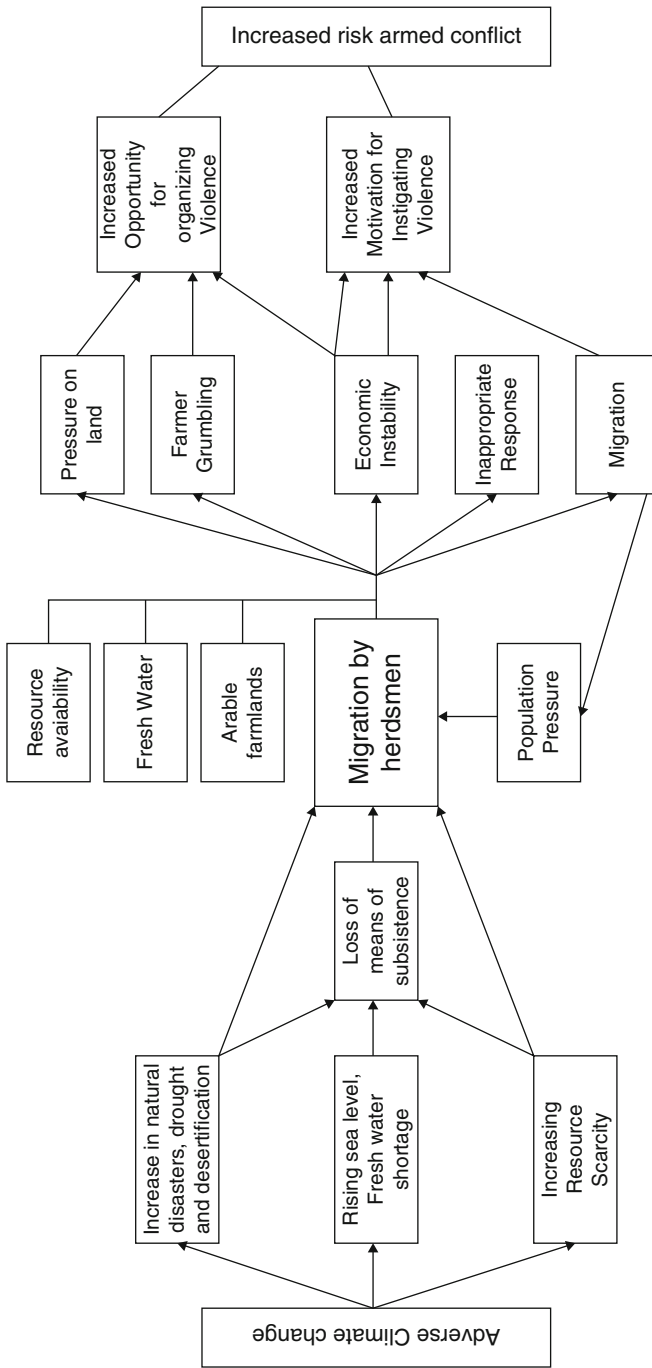


Fig. 1 Conceptual Framework showing pathway to climate conflicts. (Source: Odoh and Chigozie 2012)

about the rise of environmental migrants began about three decades ago when the then director of the United Nations Environment Programme projected a figure of about 50 million environmental refugees at the time (Bates 2002; Tolba 1989). In time past, the herders were restricted to the edge of the desert, but during the twentieth century they began to migrate and settle in different zones which was formerly impossible for them to do. The West African Sahelian drought and famine of 1968–1974, consequent upon climate change in the region, led to migration of Fulani herdsmen and their cattle and resulted in pressure on and competition in resource use and conflict between farmers and herdsmen (Shettima and Tar 2008). The incidence of severe heat and less rain in northern Nigeria predisposes the region to climate impacts such as desertification and water and land scarcity. Pasture and water for cattle become scarce and found at different times of the year in different places thereby necessitating what is referred to as “seasonal migration” of the herdsmen and their herds (Emmanuel 2017). With almost two-thirds of the north western and eastern states at the risk of turning into desert or semi-desert, the risk of climate conflicts cannot be ruled out.

When pastoralists move out of their climate-affected communities down south in search of water and forage for their cattle, they do so into communities of farmers who fear that their crops will be destroyed by the herders and their herds. Since climate change does not only affect pastoralists, it has also pushed farmers to expand their cultivation area which limits the area of land available for pastoralists to graze their animals. This leads to competition over the use of resources between the sedentary farmers and migrating herdsmen often resulting in fights. Unfortunately, many of the communal clashes are misinterpreted as ethnic and religious clashes between Muslim Fulani herdsmen and Christian farmers (e.g., see Adamu and Ben 2017) when actually the control of natural resources is a significant cause of the conflicts between the two groups. Apart from environmental degradation, resource scarcity, and climate change which are responsible for these conflicts, there are conflict entrepreneurs, who, according to Frerks (2007) and cited in Shettima and Tar (2008), use political and socioeconomic factors often as tools to fuel distrust and hate among herdsmen and farmers.

Climate Change and Environmental Conflicts

The connection that exists between climate change and conflict has been simplified by Odoh and Chigozie (2012) when they pointed that poor responses to climatic shifts (such as changes in temperature, rainfall pattern, sea levels, storm, etc.) in a region, population, or sector lead to shortages in resources (such as land, water, vegetation/forages, etc.) and poor responses to these shortages engender conditions like sickness, hunger, job losses, and poor economic growth which could heighten conflict risks. Poor governance and societal inequalities in the country has also promoted political and economic instability, social fragmentation, and migration. Climate change impacts the social and economic life of the herders because the well-being of the people is affected as there is unbearable heat and limited water supply

Table 1 Yearly death statistics resulting from herdsmen-farmer clashes (2014–2018)

S/No	Period	Number of deaths	Source
1.	January–April 2018	937	Bloomberg (https://www.bloomberg.com/news/articles/2018-05-22/qaddafi-regime-s-legacy-fuels-bloody-conflicts-in-west-africa)
2.	2017	549 (14 states)	Amnesty International (http://www.dailypost.ng/2018/01/30/amnesty-international-reveals-many-nigerians-fulani-herdsmen-killed-2018)
3.	2016	2500	Voice of Africa news (https://www.voanews.com/a/farmer-herder-conflict-rises-across-nigeria/3326151.html)
4.	2015	4780	The Cable News (https://www.thecable.ng/path-of-a-ruthless-killer-all-boko-haram-deaths-in-2015)
5.	2014	6347	Armed Conflict Location and Data Project (http://www.theguardian.com/global-development/2015/jan/23/boko-haram-nigeria-civilian-death-death-toll-highest-acled-african-war-zones)

for household consumption. Environmental degradation and desert encroachment in the northern region have caused herdsmen to migrate southwards to search for forage and water to cater for their cattle and this has eventually led to increased motivation to instigate violence due to resource scarcity (Olakunle and Adejoke 2013; Theisen et al. 2013).

Farmer-herder conflicts have for years affected economic livelihood in West Africa with consequences on human and animal lives, properties, peaceful coexistence, and orderliness. This conflict is not a new phenomenon although recent conflicts seem more pronounced than in the past. Farmers and herders enjoyed low-intensity conflicts in the past because scarcity of resources, land degradation, and increase in population did not pose as much a challenge as they do now. But recently in the country there have been incessant massacre and continual crisis (see Table 1) which has consequently caused host communities to lose peace and lives in the heat of the crisis (Ubelejit 2016). In spite of the cooperation that existed between farmers and herdsmen, competition for resources and environmental degradation have now threatened such relationships and resulted to different kinds of communal clashes, destruction of agricultural produces, and death of those involved in the conflicts.

For example, there was a violent conflict in 2009 when Udeni Gida village was attacked by herders. This was as a result of a previous clash that had occurred when some herdsmen led their cattle into a rice plantation, destroying crops and even leading to the death of a farmer. The local authorities immediately reacted expelling about 700 herders from Borno state and 2,000 from Plateau state in the same year. Recently, armed conflict between the Fulani herdsmen and the sedentary farmers had been reported to take place in over 20 villages in Nigeria, including, Ago Nla, Ago Kekere, Idi OpeKekere, Olukore, Olokuta, Apena, Jaramosan, Akeeran, Alagigo, Aaaro, Temidire, Iya Ibadan, Ideto, Apapa, Akele, Agwo, Bodija, Olufayo,

OkoTeku, Moniya, OkeOgun, Shaki, Egbedore. Ilobu, EfonAlaye, Alu, and Iyamoye (Odoh and Chigozie 2012). A study carried out by Sulaiman and Ja'afar (2010) and cited in Odoh and Chigozie (2012) in Bauchi state (Northern Nigeria) from 2003 to 2007 showed that livestock lost in the course of the farmers-herders clash included 34 cattle and 11 sheep/goats, worth about 1.8 million Naira and 66, 000 Naira respectively for cattle and sheep/goat. Six persons lost their lives during the period with anticipated economic contribution valued at 2.8 million Naira. The number of persons injured in the farmer-pastoralists conflict as revealed by the study was 45 among whom 15 persons were injured and were not able to perform their economic activities during the period of receiving treatment.

Why Has the Farmer-Herders Crises Become Intensified?

The relationship between farmers and pastoralists is supposed to be mutual rather than parasitic. They have enjoyed a lot of mutualism in the past both in Nigeria and other African countries before the turning of the tide and launching of attacks on one other. According to Shettima and Tar (2008), pastoralists needed the farmlands of crop farmers to feed their cattle and the local farmers require the products from the pastoralists' cattle. Different kinds of relationships have existed between nomadic herders and sedentary crop farmers such as the provision of clothes and cooking utensils among other things by farmers in exchange for salts (Webb 1995 cited in Hussein 1998); trading of manure by herders for grains (Blench 2000) and the soliciting of animals by farmers to graze farms after harvesting in exchange for money, sugar, and tea (Horowitz and Little 1987 in Shettima and Tar 2008); and farmers putting animals in the care of herders in exchange for grazing and exchanging agricultural produce for milk, cattle, and manure (Shettima and Tar 2008). Conflicts between herders and crop farmers, however, begin when the activity of one group starts affecting that of the other. The coexistence and complementary relationship between farmers and nomads are tried when planting of crops prevents the movement of cattle and their herders to a point where they cannot access pastures and water or when the herders and their cattle get on farms and destroy the crops during planting season.

The reason for the prolonged crisis may be a result of lack of a representative voice by the herdsmen or lack of power as pointed by Shettima and Tar (2008). It is common to hear in the news how many lives and crops were destroyed by "Fulani herdsmen," but it is difficult to read how much of the brunt is worn by the herdsmen. Shettima and Tar (2008) cited the arguments of Toulmin (1983) and Winter and Rowley (1998). Toulmin (1983) argues that when conflicts between farmers and pastoralists get in the hands of state arbitration structures, they listened to the farmers which means the pastoralists are left "defenseless and powerless." In Winter and Rowley's (1983) similar views, pastoralists are often criminalized as being the cause of the conflicts because, according to the judges, "It is the cattle that move to meet the farm and not the farm that move to meet the cattle." But Traore (1996) and Shettima and Tar (2008) think that while "straying animals" are used as an excuse to

put all the blame on the pastoralists, it also makes sense to talk about “straying fields” into grazing lands which would mean that farmers also play a part in causing the conflicts. This was the case in northern Benin where encroachment of farmers into grazing land and the disappearance of paths to grazing and water areas were some of the reasons that led to conflicts with the pastoralists, according to De Haan (1998).

Conclusion

This study examined the causes and effects of the Fulani herdsmen and farmer crisis. Farmer-herder conflicts, being a common feature of economic livelihood in West Africa, has been identified as a threat to peaceful coexistence, security, and orderliness. From the points argued in this paper, it is clear that environmental scarcity which is a result of migration (and migration results from climate change) is a cause of environmental conflicts. The crises have, however, been heightened owing to the way it has been handled by the government or the people. While government’s body language seems like it approves of the killing of herdsmen, media reportage, too, has made the situation look like only the farmers suffer in this climate-induced conflict. To holistically and sustainably address environmental conflict issues in Nigeria, therefore, a lot of trust needs to be developed: trust between farmers and herders, trust between government and parties involved in conflicts, and trust between arbitrators and victims of the conflicts. There should be no indication that one party is being favored at the expense of another. Traditional and indigenous peoples also have valuable lessons to offer about successful and unsuccessful adaptations to climate change, lessons which could be vital in the context of global climate change (Egeru 2012; Macchi 2008). Incorporating indigenous knowledge into climate change policies can lead to the development of effective adaptation strategies that are cost-effective, participatory, and sustainable (Egeru 2012; Robinson and Herbert 2001). The media houses, too, have a big role to play in managing the overarching crises by maintaining professionalism in reporting. The government should provide climate-smart interventions in the Sahelian areas which are more prone to climate change impacts for adaptation and mitigation; diversify crops, adopt improved silage and forage, and improve range management; and implement other improved agricultural systems as suggested in Nigeria’s National Adaptation Strategies and Plan of Action towards climate change (BNRCC 2011).

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