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Migration as an End Product of Climate Change in Africa: A Case Study of Fulani Herdsmen in Nigeria

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ABSTRACT

One of the undeniable universal phenomena of this present age is climate change. It has made life uncomfortable and purgatorial for some people in different parts of the world. Fulani herdsmen are in fact one of those that have suffered due to these climatic changes. In recent years they have been prompted to leave their homeland. The purpose of this study, however, is to examine how climate change has triggered migration among Fulani herdsmen in Nigeria. Micro-individual approach as well as Duncan's Theory of Migration is adopted in the study. The study revealed that the Fulani herdsmen have been forced to leave their homeland in Chad, Niger, and some other parts of Northern Nigeria to farming communities in southern part of Nigeria due to drought and desertification. At the same time, the study recommends among other things that there should be legislation and strict implementation of policies on reducing the burning of fossil fuels, which is one of the major causes of climate change generally.

Introduction

Migration is of course one of the end products or consequential effects of climate change. Fulani herdsmen, who have been forced to engage in migration are one of the major victims of climate change in Nigeria. No doubt, Fulani herdsmen are not sedentary; they are highly nomadic in nature, mainly because of their pastoral work. Pastoralism clearly involves or comes with nomadism. Nevertheless, the rate at which the herdsmen are vacating their territories in recent times for other places in their daily forage is quite alarming.

Desertification, drought, and/or the shrinking of Lake Chad basin [which has served greatly as the herdsmen's source of water supply in the Lake Chad region] for example, have triggered migration automatically. No wonder Emoche (2018) notes that with intense drought and desertification in Sahel region, which could cause the herdsmen to lose a large number of their cattle, migration becomes a necessity for them. Fabiyi and Otunuga (2016) on the other hand note that the population of Nigerian cows as of 2016 were about twenty-two million and that an average cow drinks about 30-40 gallons of water daily and consume about 20-30 kg of hay. Thus, all Nigerian cows need, according to the duo, about one billion gallons of water and five hundred thousand metric tons (i.e. 500 million kilograms) of hay daily. However, due to the current scarcity of pasture and water in Sahel region, the herdsmen had no option than to migrate or

wander beyond their region to areas where they could secure water and fodder or grasses in abundance. On the other hand, this migration has resulted in a new conflict between the herdsmen and most farming communities (their host) in the country. The conflict no doubt has many economic, socio-cultural, political and security implications.

Methodology and Scope

The study employed qualitative method and descriptive research design to explaining how climate change has triggered migration among Fulani herdsmen. Data used in the study was generated from secondary sources, prominent among which are journal articles. On the other hand, the scope of the study is limited to the issues of migration and climate change, and to the nomadic Fulani cattle breeders within Nigeria precisely. Nevertheless, references were made to other African countries as well in the study.

CONCEPTUAL CLARIFICATION

Migration

The concept of migration has been defined by various authorities. However, the phrase "movement of people" is the cornerstone of the definitions. Nonetheless, the European Union defined migration in two broad ways: internationally and internally. International migration simply means the movement of a person or group of persons across an international border while internal migration has to do with the movement of people within

a state. Johns Hopkins University in 2006 considered migration to be geographic movement of people across a specified boundary for the purpose of establishing a new permanent or semi-permanent residence. It also notes that refugees are not and should not be considered as migrants. As defined in Demographic Dictionary of United Nations, migration “is such an event in which people move from one geographical area to another geographical area” (Mishra, 2015). There are many factors responsible for migration. The factors have been classified by many scholars, prominent among them was Ernest Ravenstein whom, in his 1889 work titled “*Laws of Migration*” classified them into push and pull factors. Push factors are those conditions that can force a person or group of persons to leave their area for another place. Such include famine, unemployment, drought, flooding, poverty, poor security of lives and property, etc. Pull factors on the other hand are favorable, pleasant conditions that attract people to a particular place. Pull factors are just opposite of push factors and they include low crime rate, good weather, adequate security of lives and property, peaceful society, employment opportunities, food security, less risk of natural disaster, etc. (see Johns Hopkins University, 2006).

Climate Change

There are serious, undeniable changes taking place all around the world presently. The changes have to do with the environment and/or the atmosphere. The evidence of the atmospheric or climate change could be seen in global temperature rise, incessant

desertification, sea level rise, cyclones, increasing flood and drought, declining Arctic sea ice, ozone depletion, ocean acidification, etc. taking place in different parts of the world (see Global Climate Change, NASA, 2019).

The Intergovernmental Panel on Climate Change (IPCC) tried to prove the reality of climate change by noting that the global average sea level rose by 19cm from 1901 to 2010, and that the sea ice extent in the Arctic has shrunk in every successive decade since 1979, with $1.07 \times 10^6 \text{km}^2$ of ice loss per decade. Very importantly, it is now widely believed that humans are the chief instigating factor for climate change. Andrew Heywood (1992), argued that industrialization, started by man, has caused great havocs to the climate and has also triggered environmental degradation. Amanda (2016) also notes that the burning of fossil fuels for the purpose of electricity in the United States traps the heat of the sun and produces about two billion tons of carbon dioxide (CO₂) annually. Environmentalists on the other hand have also argued that burning of fossil fuels as well as deforestation and improper disposal of chemical waste exacerbate climate change and produce “environmental catastrophe” (see Roskin et al., 2003:55).

Fulani Herdsmen

The people of Fulani generally are found in northern Nigeria, in Senegal, Gambia, Benin Republic, in Niger as well as in Chad. Majority of them are Muslims. Pastoralism is their predominant occupation. Due to the nature of their occupation they tend to be

nomadic and peripatetic rather than sedentary.



Fulani herdsman and his cattle

Ajibefun (2018) confirmed the above by noting that most Fulani pastoralists are nomadic in nature, herding sheep, goats and cattle across the dry grass lands of their environment. Ahmed-Gamgum (2018) also supported Ajibefun's assertion by wording the following: Fulani herdsman are naturally nomadic livestock breeders, whom, for the survival of their cattle, are ready to move anywhere in search of fodder for them.

In Nigeria, Fulani herdsman in the present as well as in the past have contributed greatly to Nigeria's economic development. They own approximately 90 per cent of the national herd, clearly estimated at 19.5 million cattle, about 975,000 donkeys, 28,000 camels, 72.5 million goats and 41.3 million sheep. In short, the livestock of the herdsman represents 20 to 30 per cent of total agricultural production and about 6 to 8 per cent of overall gross domestic product (GDP) of the Nigerian state (see International Crisis Group, 2017). Substantial amount of the milk Nigerians consume also come from the cattle of the herdsman. In terms of meat, Ajibefun

(2018) states that the goats, sheep, and cattle bred by Fulani herdsman are and remain a major source of meat and affordable source of protein consumed by Nigerians.

THEORETICAL FRAMEWORK

Duncan's Theory of Migration

This theory of migration was developed by Otis D. Duncan, an American sociologist. In his book titled "*The Theory and Consequences of Mobility of Farm Population*" he tried to explain reasons for the mobility of population engaged in agriculture. Generally, adherers and disciples of Duncan's theory of migration believe that the causes of migration could be natural, economic, social, and personal in nature. The economic and technical causes of migration, according to the theorists, have to do with changes occurring in the technique of production, in the method and structure of agricultural operations, in market structure, in price of commodities, and in wage level of workers.

The social causes are class conflicts, increase in knowledge, development of transport and communication systems in some places, over population, etc. Natural causes include but are not limited to diseases such as malaria, smallpox, etc., changes in the environment/atmosphere and/or natural disaster such as flood, drought, earthquake, hurricane, and tornado, etc. Personal causes of migration, according to the theorists, include health condition of an individual, the quest to satisfy some needs, emotions of alienation, perception or views regarding

neighbours, discrimination. Miscellaneous or other causes include strike, riots, increase in real wealth, labour force problems and exploring new resources (see Mishra, 2015).

Micro-individual approach on the other hand states that humans, particularly migrants, are highly calculative; they calculate the costs and benefits of migrating before thinking or deciding to vacate their region for another place. According to the exponent of this theory/approach – Larry Sjaastad, in his work titled “*The Costs and Returns of Human Migration*”, confirmed the above when he states that:

Migration is an investment increasing the productivity of human resources, an investment which has costs, and which also renders returns.

Everett Lee in his 1966 work titled “*A Theory of Migration*” also supported Sjaastad’s assertion by opining that migration is nothing but a product of an individual calculation based on positive factors at destination (where one is going or aims to go) and negative factors at origin (where one is coming from) (see Piche, 2013).

Application of Theory

In Duncan’s theory of migration, we are meant to understand that natural disaster such as flood, drought, earthquake, etc. can trigger migration among people of a particular region. This is in fact the case and plight of Fulani herdsmen. Desert encroachment or desertification of the Sahel region [which is a sign of climate change] has, according to

Conroy (2017), increased poverty, threatened livelihood, and increased grievances among Fulani herdsmen. Considering the population of Nigerian cattle and the amount of water and hay they consume daily, as revealed to us by Fabiyi and Otunuga (2016), and considering the drought and desertification in the Sahel region as well as the inability of the Nigerian government to provide enough ranches for the herdsmen, Abbas (2009) as cited in Aliyu (2015), notes that migration becomes the major alternative for the herdsmen. To demonstrate the seriousness of climate change in the Sahel savannah area of Nigeria [part of where the herdsmen used to take as their home], it should be stated that in states such as Borno, Sokoto, Yobe, Adamawa, Gombe, Jigawa, Knao, Nassarawa and Kaduna desertification claims up to three hundred and fifty thousand (350,000) hectares of land (see Ogungobi, 2017 cited in Njoku, 2018). Njoku also revealed that the Lake Chad which has been a great, invaluable source of water to the people [Fulani herdsmen inclusive] living within the Lake Chad Basin has shrunk to ten per cent of its original size due to drought.



A picture of Lake Chad

According to the interview conducted by Folami and Folami (2013), Musa, a Fulani herdsman, said that climate conditions forced him to migrate to Shaki area of Oyo State, western Nigeria. He reported that drought and desert storm were fierce in the place he was coming from and because of the fierceness there was no water for his cattle to drink and no forage for them to eat.

Another respondent by name Abu also claimed that he had to leave for southwestern Nigerian when extreme heat, desert storms, drought, diseases and other climate conditions affected not just his animals but his family too, to the point that they had ‘no water to cook, to bathe, to wash and to drink’. He said that prior to his migrating with his family, his wives had to trek almost 20 kilometers daily in search of water with which they would use for house chores and to quench thirst. Sule, another respondent, confirmed what others of his Fulani kinsmen had said to Folami and Folami that climate change really endangered his life and those of his animals and therefore he had to migrate to southwest. There, he said, rain at least falls periodically compared to where he was coming from. In essence, Fulani herdsman calculated the costs and benefits of leaving the Sahel savannah area of Nigeria for the southern part and the Middle Belt. They knew that climate change was and is a negative factor in their place of origin and that migration is the only route to accessing and enjoying the positive factors [such as enough water and pasture for their families and cattle] at their destination – the southern Nigeria. In short, trying to justify the action

of the herdsman, Ubeleji (2016) notes that “migration is a rational drive imposed on Fulani herdsman by climate conditions”.

Conclusion and recommendations

Humans have been in the business of migration since ages. Theories of migration and/or migration theorists believe that people migrate in order to look for better job opportunities and to improve their standard of living, to run away from crises/wars, for educational purpose, for healthcare purpose, for commercial/business purpose, and even for adventure. However as far as the Fulani herdsman are concerned, the need or the desire to escape harsh weather and climate conditions is the chief reason why they migrate. They leave some parts of northern Nigeria to southern Nigeria mainly to secure pasture and water for their cattle as well as for their families. This is because of the abundance of the basic necessities in the south, which drought and desertification have ruined in north region. To mitigate the issue of migration among Fulani herdsman in Nigeria, the study recommends that [at international level] there should be a legislation and strict implementation of policies on reducing the burning of fossil fuels by countries, since climate change is a global issue that affects all. At the national level, the government must build up enough standard ranches for the herdsman especially in the north. The herdsman should also be persuaded to make effective use of the ranches rather than perambulating round the country in search of fodder. At the same time, the herdsman or the owners of the herd,

through the help of the government, should be made to pay certain taxes for the maintenance of the ranches. In addition, the government should set up and empower an agency to monitor, apprehend and prosecute individuals and companies who engage in environmentally unfriendly activities such as deforestation, pollution, etc. This should be done with urgency since the above acts lead to environmental degradation or exacerbates climate change which in turn forces Fulani herdsmen to migrate.

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