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# **Investigating the effect of Climate Change and Water Scarcity on the Conflict between Herders and Farmers in Nigeria: A case study of Benue state, Nigeria**

By

**Abraham Lubem, Abado**

**STUDENT NO : UB 18023300**

**SUPERVISOR : Dr. Afshin Shahi**

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## **DECLARATION**

I hereby declare that this dissertation is my work and has never been presented in any other university electronically or in card copy, neither have I plagiarized in the cause of the research or allowed anyone to copy my work. I further affirm that all materials sources and used in this research are appropriately cited and acknowledged.

## List of Abbreviations

- FOA - Food and Agriculture Organization.  
GTI – Global Terrorism Index.  
ICR- International climate regime.  
IDPs- Internally Displaced Persons.  
IPCC- International Panel on Climate Change.  
IPCR- Institute of Peace and Conflict Studies.  
MENA- Middle East and North Africa.  
NGO- Non-Governmental organization.  
NSA- National Security Adviser.  
PHO- Political Officer holders.  
PLWD- People living with disability.  
UN- United Nations.  
UNDP- United Nations Development Programme.  
UNESCO- United Nations Education Scientific and Cultural Organization.  
WMO- World Meteorological Organization.
- 

**ABSTRACT:** This study examines how Climate Change and its effects on humanity have continued to extend beyond the well-known frontiers. One of such issue that is yet to be sufficiently explored is the consequences of climate change on security and conflicts around the world. In Nigeria, effects of climate change such as desertification and water scarcity have constituted a major security threat to the peace and unity of the country. In recent times, the country has been engulfed in a recurrent decimal of conflicts; between the herders who are mostly Muslims, and farmers/landowners who are predominantly Christians. This situation has led to a general perception that the conflict is a planned domination, and conversion of the Cristian tribes of the middle belt and southern Nigeria into Islam. But this study looks at the conflict from the view of Greed and Grievance theory. Relevant data gathered from secondary sources formed the bedrock of the study. In analysing of data, “descriptive analysis” was used as the main analytical tool for the study. The study has been able to empirically prove that the conflict has been triggered by climate change, which has led to the pastoralist migrating from north to the southern part of the country in search of foliage and water for their animals. And that no sufficient link to a jihadist agenda has been found as widely perceived. The lackadaisical handling of the conflict by the Federal government and security agencies in Nigeria seems to have greatly contributed to the lingering of the conflict for a long time.

**KEYWORDS:** Climate change, water scarcity, herdsmen, farmers, conflict, Jihad, open grazing, religion, ranching, Nigeria, Benue state.

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## CHAPTER ONE INTRODUCTION

### 1.1 Background of the study

Climate change does not pull a trigger, nevertheless, over time, there has seemed to be a consensus, that it is; “a driver of conflict”, “threat to global security”, “a threat multiplier”, and “an accelerator of fragility”(Skah and Lyammouri 2020). This research seeks to unearth the challenges of climate change and how it has culminated into a matter of global concern, especially as it exacerbates water scarcity globally, and the nexus to insecurity around the world. For the avoidance of generalization, the study hopes to test the veracity that climate change inherently led to political instability, nay civil wars, using the ongoing conflict between the herders-farmers in Nigeria, with Benue state the epic centre of the conflict as a case study.

In Nigeria, some of the major effects of climate change are becoming more glaring, such as desertification, which has impacted negatively on available water resources (Rafiat Ogunpaimo et al. 2021). For instance, Lake Chad which used to be a large catchment area for farming and other economic activities, engaging a large population of Nigerians and beyond is under the threat of extinction (Mahmood et al. 2019; George et al. 2021). Available statistics show that Lake Chad was the 6<sup>th</sup> largest inland water body in the world by 1960, when Nigeria got independence (Sayan et al. 2020). Lake Chad was estimated to be 25,000km<sup>2</sup> in 1960, it declined to 5,800km<sup>2</sup> by 2001, and analysts have forecast another reduction to 1,800km<sup>2</sup> by 2010 (Pham-Duc et al. 2020).

Recently in Nigeria, the herders- farmers crisis has become the most tropical issue that is treating the survival of the country, since the country’s civil war in 1967 (Iloanya et al. 2020). Scholars have attributed the root causes to population explosion, urbanization, water shortages, the decline of arable land for both farming and animal husbandry, the encroachment and development activities on the old grazing routes, among others (Buba 2021; George et al. 2021). More than three million persons have been estimated to have been displaced in the last 10 years as a result of the conflicts (George et al. 2021).

Benue state which is the area for the case study is the most fertile in Nigeria, thus referred to as the “Food Basket of the Nation”(Enya and Onen 2020; Osuchukwu and Enemuoh 2020). This, therefore, make Benue State a favourite destination for the herders. However, the conflict usually arises from the herders as they push to coexists with the tribes in the state who are mostly farmers, and this turns out to be the melting point that is yet to be effectively sorted out. Between 2009 and 2018 alone, Benue state suffered 267 attacks from the herdsmen (Igbokwe and Iwuoha, 2019). The perception of the crises from an average Nigerian, depending on which side of the divide the person comes from, i.e., either Christian or Muslim, north or southerner, you will tend to get varying opinions. Strongly among the views is that; the Fulani are out to accomplish the agenda to conquer the remaining Christian tribes of the south, and complete the jihad of the Sokoto Caliphate, as started by the late Othman Dan Fodio in 1804 (Genyi, 2017; Buba, 2021). But some scholars simply see the crises as purely motivated out of economic reasons (Attah et al., 2021). Wherein, this research aims to investigate and provide an understanding of the connection between climate change and water scarcity on the persistent conflict between herders and farmers in Nigeria. For the avoidance of generalization, the study will be narrowed to Benue State in North-central Nigeria, which has been the epic-centre of the herders-farmers crises in the last ten years.

Chapter one details the background of this studies, and some of the obvious effects of climate change in Nigeria, and while this research is imperative, limitations to the study, which include the inability to make a physical research and collate primary data, due to time constrain and the restriction on global travels due to covid-19 pandemic. In chapter two, critical literature in understanding the core of the research is being examined.

The second chapter examined the theoretical framework for the study, and The Greed and Grievance theory is considered on its merit as it effectively suits the analysis and dynamics of the study. The theory holds the notion that there are two critical divides of conflict, on one hand economic and benefit, which is viewed as the “Greed” aspect, while on the other hand; religious motive, cultural identity, and survival among others constitute the “Grievance” side for reasons that escalate internal conflicts. Though it has been criticised for not factoring in issues such as tyrannic governments, corruption, and external interference in most of the internal conflicts and civil wars around the world, among others. The chapter also considered critical literature to the study, specifically evaluating threats of climate change in Nigeria such as desertification, deforestation, and the decline of Lake Chad. How it has displaced millions of people from their sources of livelihood, as well as induced migration of herdsmen towards the southern part of Nigeria in search for pasture and water waters for their animals, thereby resulting in a recurrent decimal of clashes

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with the natives of the lands who are predominantly farmers, among others. The literature examining the evidence to collaborate the perception of a Jihadist agenda by the herders, as well as the role of the Nigerian government and security agencies since the outbreak of the conflict.

Chapter three highlight the research methodology. There has been no primary data collection, as all data used are sourced from secondary sources. Descriptive analysis has been adopted for the study, because of its flexibility in data assimilation. Though the method is not without its limitations, such as the inability to predict a future occurrence, unable to test hypotheses, and even the tendency to bias, among others (Grimes and Schulz 2002). Despite the above-mentioned limitations, the method is still considered to be the best in these circumstances. Chapter Four presents' data of the attacks, date, areas, and number of lives lost because of the conflict between 2010-2020. The data between was sourced from Daily Post Newspaper of Nigeria, while the data from 2018-2020 is from the "Fulani militias terro:2017-2020" working paper, Belgium. The data demonstrate the gradual rise of the attacks and loss of lives over the years because of the conflict, but 2016 according to the data was the worst hit, with a total of 654 killings occurring in just one year, while 2017 was recorded as the most peaceful year, with only 14 lives lost.

Chapter five presents a general synopsis of the entire study. The chapter furthermore presents the critical discoveries and new knowledge added by the research, as well as suggestions that when implemented will help to resolve the herders-farmers impasse and ender a lasting peace and tranquillity. The chapter also put forward recommendations for future research, in addition to highlighting the limitations of the study.

## **1.2 Statement of the problem**

The fallout of climate change has been largely responsible for the shortage of fresh water in almost all identifiable sources of water globally (Wolf 1996; Misra 2014; Pakmehr et al. 2020). In Nigeria, the trend has not been different. For instance, the lake Chad which used to serve as a reservoir for fishing, farming, and other sundry activities, and source of feeding and water for the herder's animals has dwindled to less than half of its initial capacity (Sayan et al. 2020). This development has spiked a high migration of the herders down to the middle belt and southern part of Nigeria(Okoli and Atelhe 2014; Oghuvbu and Oghuvbu 2020). Thereby resorting to constant conflicts with the farmers/ landowners along the line. This research hopes to unearth the salient issues surrounding this conflict and come up with recommendations that will help put the crises in abeyance.

## **1.3 Research aims and objectives.**

The cardinal goal of this research is to establish the nexus between climate change and the increasing clashes; between the headers, who are nomadic pastoralists of Fulani extraction, and the indigenous tribes in the rich Benue valley, of Benue state, North-central of Nigeria, who are predominantly farmers and the landowners.

The research objectives are to: -

- i. Highlight's climate change and its security-related implications,
- ii. Appraise the impact of climate change on Nigeria,
- iii. Establish the link between climate change and water scarcity,
- iv. Establish the nexus between climate change and the ongoing crises between the herders-farmers in Nigeria and Benue in particular,
- v. Dispels some of the conspiracy theories about the crises,
- vi. Identify other factors that may have been responsible for fuelling the crises between the herders- farmers in Benue state and Nigeria in general,
- vii. Evaluate the economic and human loss arising from the crises,
- viii. Identify ways of addressing the crises and engendering lasting peace and stability.

## **1.4 Research question**

- i. How are the herder-farmers conflict in Nigeria a result of climate change and water scarcity?
- ii. How can the conflict between the herders-farmers in Nigeria be permanently addressed and bring about lasting peace and development?

## **1.5 Significance of the study**

Nigeria the most populous black nation in the world, with a population of over 200 million people and more than 250 tribes (Emeh et al. 2020). In recent years, has been thrown into a theatre of conflicts from all flanks, with unquantified loss to both human and economic resources. This development is pushing the country to the brink of a full-blown civil war. The crises are perceived by many as religiously induced, with the motive to totally Islamise the country. Another twist to the crises is that the herders who are predominantly of Fulani extraction are at the centre of the conflict and happens to be the Tribe of the current President of Nigeria, as such, it is widely perceived that the herders are having the backing of the current central government in Nigeria, due to lack of



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prosecution or any punitive measures against them by the law enforcement agencies in the country (Opeyemi et al. 2020). Thus, the conflict is seen as the Fulani's versus the rest of the other tribes in Nigeria.

The humanitarian catastrophe that will hit the world, if Nigeria the most populous black nation in the world slides into full-blown civil unrest, can be best imagined and is not a situation the world would be able to easily contain. The study will therefore help establish facts and dispel the religious conspiracy surrounding the crises. Furthermore, the research hopes to prove beyond reasonable doubt that; climate change has brought about acute water shortages in most traditional sources of water, and as such has been responsible for the inroad migration by the herders in search of water and greener pasture for their animals. This development has in turn has constituted the major conundrum that results in the continuous clashes among the herders and the farmers. The knowledge provoked in this research will also be of great benefit in applying to solve similar trends elsewhere around the world and further research.

## **1.6 Limitation of the study**

Though the conflict has been a reoccurring decimal, the last ten years however took a more worrisome dimension. Therefore, for the reasons of data collection, limited time, etc, the study will be focused on the crises between 2010 to 2020. Though qualitative data collection was contemplated, using alternative mediums of data collection, such as WhatsApp and zoom interviews, considering that the area of study is in a developing country, where energy supply, internet connectivity, etc are still a challenge, this is envisaged to slow down the effective process of information gathering. Another limitation anticipated is the issue of the low illiteracy level of some participants on the effects of climate change, even among the most educated people. This is also envisaged to be capable of causing a glitch in a clear response to the relevant research questions. In addition, due to the current difficulty associated with COVID-19 in international travel, and further additional travel restrictions by the University, travelling to Nigeria for the study proves difficult. For the above reasons and time constraints, secondary sources such as reports by relevant International Organizations, Journals, Government gazette/archives, newspaper publications among others will be explored for information gathering instead. Be that as it may, the research will aim at gathering accurate, and unbiased information as much as possible.

## **1.7 Outline of the dissertation**

The dissertation is structured into five chapters. Chapter one gives an introduction and background to the study, while chapter two deals with the adopted theory for the research, as well as the review of cognitive pieces of literature that are relevant to the research. Moving forward, the third chapter dwells on the Methodological approach and data used for the research. While chapter four is dedicated to the result and discussion of the research findings, and finally chapter five encompasses findings, limitations, conclusions, and suggestions for further study.

## **CHAPTER TWO LITERATURE REVIEW**

### **2.1 Introduction**

There has been a growing concern about the challenges of climate change, especially as it relates to water scarcity and the recurrent decimal of conflicts around the world. Several scholars have tried to theorise the origin and factors responsible for civil wars and conflicts around the world; notable among them is the Greed and Grievance Theory. This chapter will elaborate on this theory, as well as justify and link it to this research. Furthermore, relevant literature to this research shall be reviewed accordingly under the relevant sub-headings.

### **2.2 General synopsis of climate change**

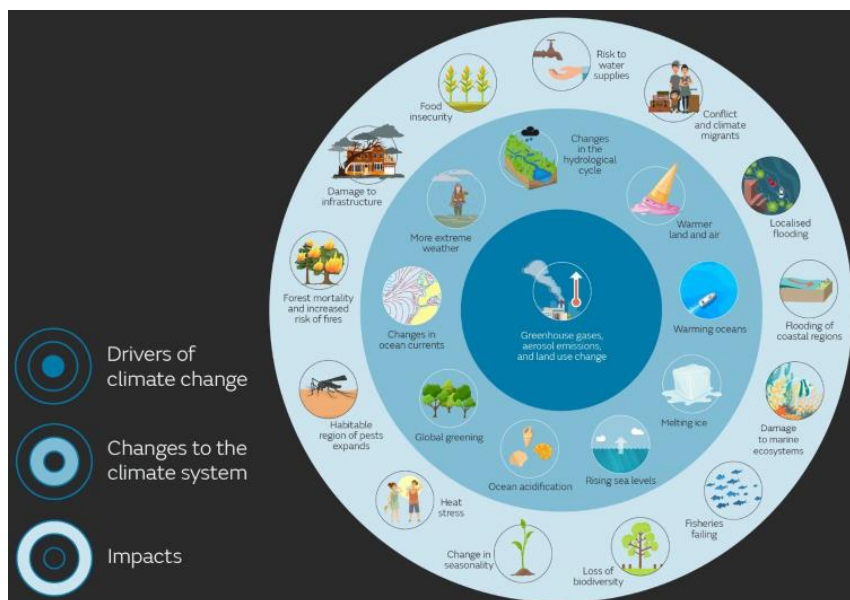
There appears to be a general consensus that climate change has come to be the greatest challenge humanity has to deal with, more than thirty years after the International Panel on Climate Change (IPCC) made public its First Assessment Report (FAR) in 1990 (von Uexkull and Buhaug 2021). It has now not just become a major threat on the front burner for scientists, but also political scientists, due to the acceptance of its cross threat (Kaijser and Kronsell 2014). In summary, climate change is agreed to be an environmental, social, and scientific phenomenon that is linked by its relationship to the future (Yusoff and Gabrys 2011).

Researchers have demonstrated that climate change is real, and anthropogenic emissions are the dominant causes for this change, with both natural and human systems been impacted in complex ways as a result of this development (Cohen et al. 2021). For instance, as a result of the effect of climate change, the world has between 2001-2010 suffered the warmest weather since modern measurement which began in 1850 (Misra 2014; Yosef et al. 2021). According to the International Panel on Climate Change (IPCC) diverse analysis of climate changes in biological systems, there is an indication of a range shift, averaging 6.1km per decade towards the pole (Parmesan and Yohe 2003). Furthermore, the analysis projects the advancement of 2.3 days of spring events per decade.

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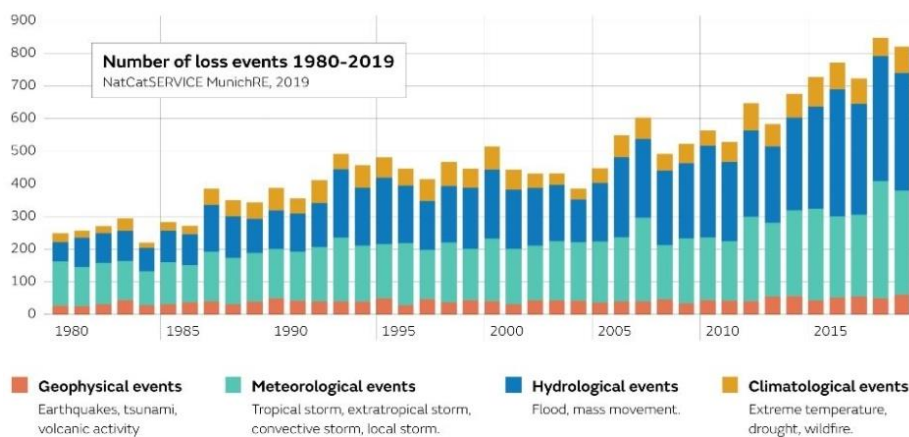
Other findings of the devastating effects of climate change indicate that 75% of the Himalayan glaciers are at threat of total extinction by 2035, and rainfall in Sub-Saharan Africa is estimated to drop by 10% by 2050 (Misra 2014; Sun et al. 2021). **Figure 1** below demonstrates the various interconnectivity of climate change and the environment and the various drivers.

The effects of climate change have continued to expand beyond the traditionally identifiable areas, into a new paradigm that was before not known or unimagined, such as security (Change 2001). Various studies into violence and conflicts relating to climate change have accepted that climate change has indeed accelerated political instability and other forms of social unrest (Sofuoğlu and Ay 2020).



**Figure 1: Illustration of major drivers of climate change.**

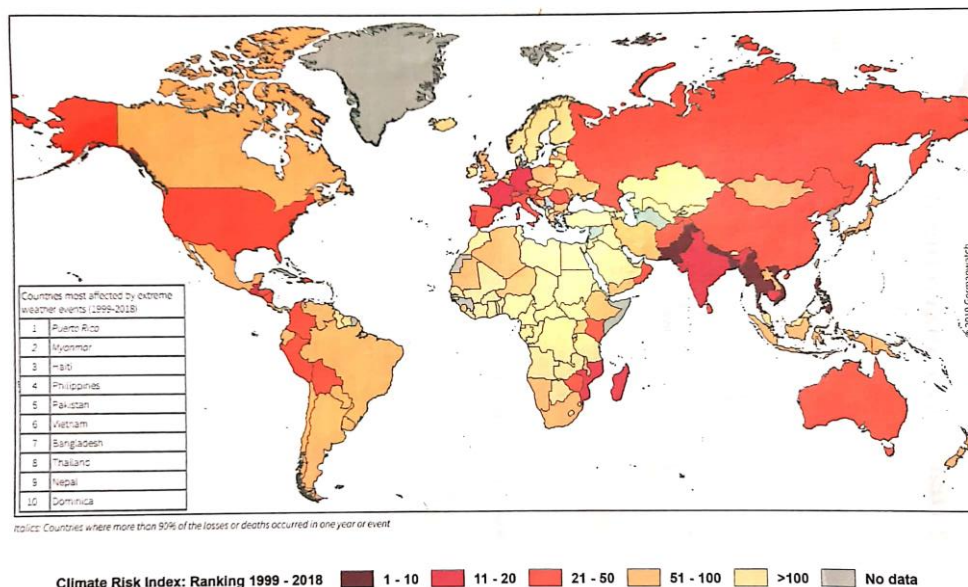
Source: (Metoffice.uk.gov 2021)



**Figure 2: Number of loss events because of climate change between 1980-2019.**

Source: (Metoffice.uk.gov.2021)

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**Figure 3: Global Climate Risk Index, showing the risk standing by each country.**

Source: (Eckstein et al. 2019)

### 2.3 The Greed and Grievance theory

The recurrent decimal of civil wars and other forms of violence around the world has continued to be a source of concern, as it has been identified as one of the major causes of underdevelopment (Mac Ginty and Williams 2016). The scholarly work of Collier and Hoeffler into causes and motives that fuel civil wars has led to the identification of two key rationals: greed and grievance (Collier and Hoeffler 2004). Furthermore, they have avered that economic reasons on one hand and relative deprivation by groups on the other are the twin drivers of internal conflicts (Ille 2021) Furthermore, laying credence to the grievances-based postulations, Murshed and Tadjoeiddin asserted the centrality of identity and group formation to the comprehension of the outbreak of conflicts (Murshed and Tadjoeiddin, 2007). Berdal and Malone relying on the work of Collier and Hoeffler explained that combatants in armed conflicts are primarily driven by motives to better their conditions (Berdal and Malone 2000).

Though there are a number of critics who have to disagree with the above position. For instance, Beusted agree that Collier and Hoeffler failed to factor in other vested interest that ignites conflicts and civil wars around the world; such as the suppliers of arms, bureaucratic corruption, which they admit in their work as very difficult to measure, pre-conceived agenda, and their seemingly viewing of all humans as *Homo-economics* among others are the big knocks of the theory (Bensted 2011). Nonetheless, the theory remains the most acceptable and encompassing on reasons for conflicts by scholars.

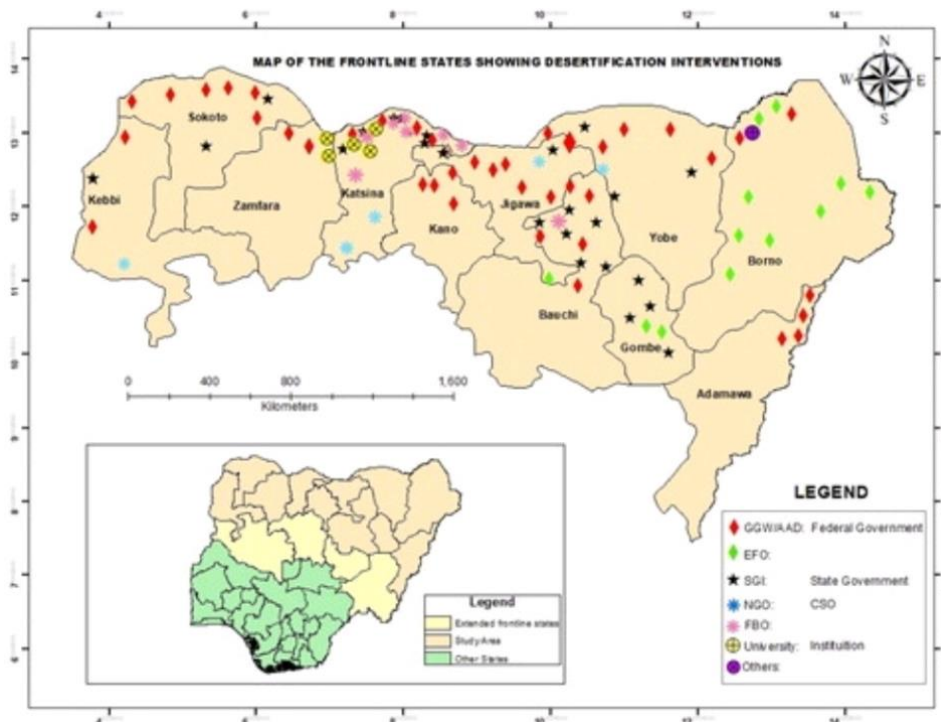
Deducing from the above, therefore, one can better appreciate the interplay of the herders and farmers' conflict in Nigeria. From the Greed/economic reasons, both the herders and the farmers are persuaded by economic reasons, because the herders need their cows to feed and survive so as to later sell and make money. There has also been a strong belief that the cows are majorly owned by powerful and well-placed people in the society who are into the business and the herders are just mere caretakers of the animals. Meanwhile, the farmers also need their crops and farms to do well for them to be able to sell and make money. From the Grievance angle, the conflict is viewed as a religious attempt to dominate the farmers who are majorly Christians, by the herders who are Muslims. In the same vein, the conflict is also viewed from the premise of tribal/cultural domination versus survival by the farmers. The Fulani's who are the herders and the indigenes who are the farmers thereby rightly justifying the position of Collier and Hoeffler, and hence the adoption of the theory for this research.

### 2.4 Climate Change in Nigeria

Nigeria has had its fair share of climate change-related phenomenons. These include but are not limited to desertification which in turn results in a lack of water availability, both for farming, pastoral, and other related needs (Jalam et al. 2020). Figure 4 below showing the map of Nigeria and the desert-prone states in Nigeria. Furthermore, there has been a noticeable reduction in rainfall, thereby resulting in sparse growth of vegetation, which results in a huge deficit of available greener pasture for the feeding and sustenance of animal husbandry that is the mainstay of the nomadic herdsmen (Ikhuoso et al. 2020). This development has in turn generated a surge in migration towards the middle-belt, as well as the Southern part of the country in search for greener pasture by the pastoralist.



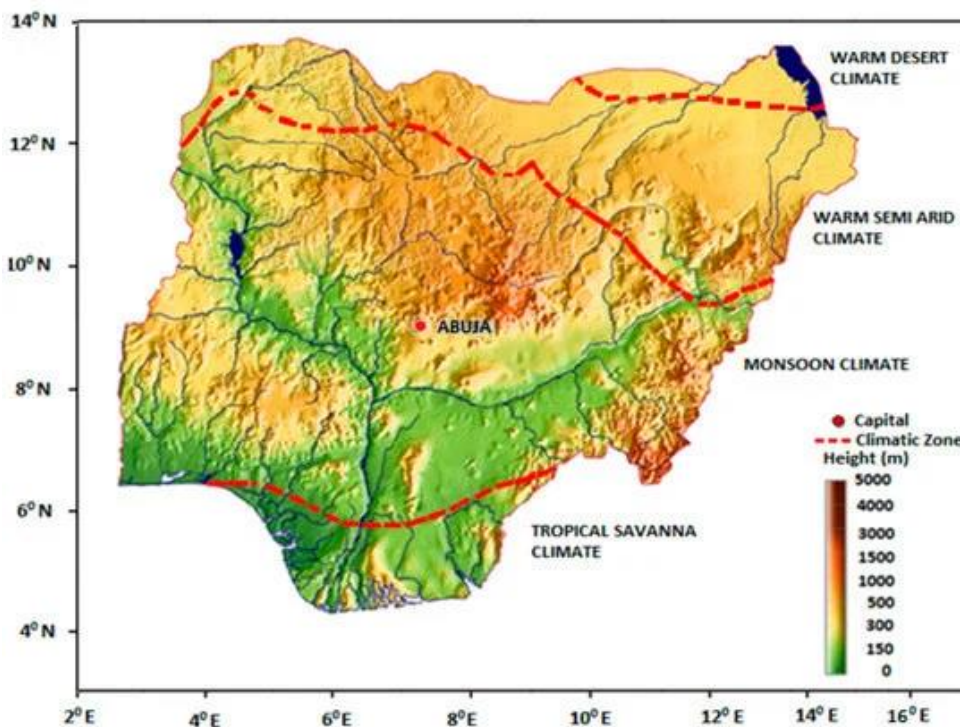
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**Figure 4: Desertification frontline states in Nigeria.**

Source: (Jalam et al. 2020)

As seen from Figure:4 above, fifteen 15 states out of the thirty six states in Nigeria are clearly under the stress of desertification, covering about 60% of the total land mass in Nigeria (Olagunju et al.). This is a clear illustration to the existential threat that is posed by climate change in Nigeria.



**Figure 5: Map of Nigeria showing the different climatic classifications.**

Source: (Shiru et al. 2018)

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Other activities that have induced the effects of climate change in Nigeria include harmful vegetational practices, such as bush burning, use of herbicides that are injurious to the eco-system, deforestation which is likely to lead to drought, among others (Adetola and Adebisi 2019; Ikhuoso et al. 2020). **Figure 5** above shows the different vegetation belts in Nigeria.

According a Food and Agriculture Organization (FOA) report, Nigeria is among the world's highest deforestation countries, losing 55.7% of its primary forest between 1990-2010, at the rate of 3.6% (Adetola and Adebisi 2019; Momoh et al. 2021). Another joint findings by the Food and Agricultural Organization (FAO), the World Meteorological Organization (WMO), and United Nations Education Scientific and Cultural Organization (U.N.E.S.C.O) has indicated that 15% of Nigeria's land is prone to desertification (Adetola and Adebisi 2019). The above development has not just helped in aggravating the climate change situation in Nigeria, but with an ever-growing population of Nigeria heightened the state of insecurity in the country.

**Table 1. Annual loss of primary forest cover in Nigeria per hectare from 2001-2018**

Year	Primary forest	Tree cover
2001		43,540
2002	6132	32,411
2003	1830	13,406
2004	3055	14,672
2005	1922	14,672
2006	3458	26,220
2007	2753	24,630
2008	4090	27,541
2009	3924	25,350
2010	6781	32,867
2011	7403	54,011
2012	6062	35,068
2013	6385	43,546
2014	9928	68,819
2015	5318	41,020
2016	12,336	72,372
2017	17,383	171,538
2018	15,183	120,143
Primary loss 2002-2018	133,948	
Tree cover loss 2001-2018		818,286
Primary tree cover loss	13.9%	
Percent loss 2001-2018	6.0%	
Loss/year(2001/2-2010)	3771.59	25,531
Loss/year (2011-2018)	10,000.49	72,815

**Source:** (Ikhuoso et al. 2020) with modification.

### 2.4.1. Climate change and water scarcity

Several scholars have researched the nexus between climate change and water scarcity. According to Van, Climate change has induced an increase in the frequency of hydro-climatic extremes like drought and floods (van Vliet et al. 2021). Findings have indicated that by 1955, only as few as seven countries were under the water-stressed situation in the world, but by 1990 the figure climbed to twenty, and it is forecasted that by 2025 an additional 10-15 counties will go the same way by 2050, representing 2/3<sup>rd</sup> of the world (Misra 2014). Research has further shown that the average global temperature may increase by 1.4-5.8 °C, in addition, the research predicts a downward reduction in freshwaters by the end of the 21<sup>st</sup> century (Misra 2014). **Figure 6** as accessed from NASA indicates how the temperature has been rising between 1880-2020.

## Investigating the effect of Climate Change and Water Scarcity on the Conflict between Herders and Farmers in Nigeria: A case study of Benue state, Nigeria

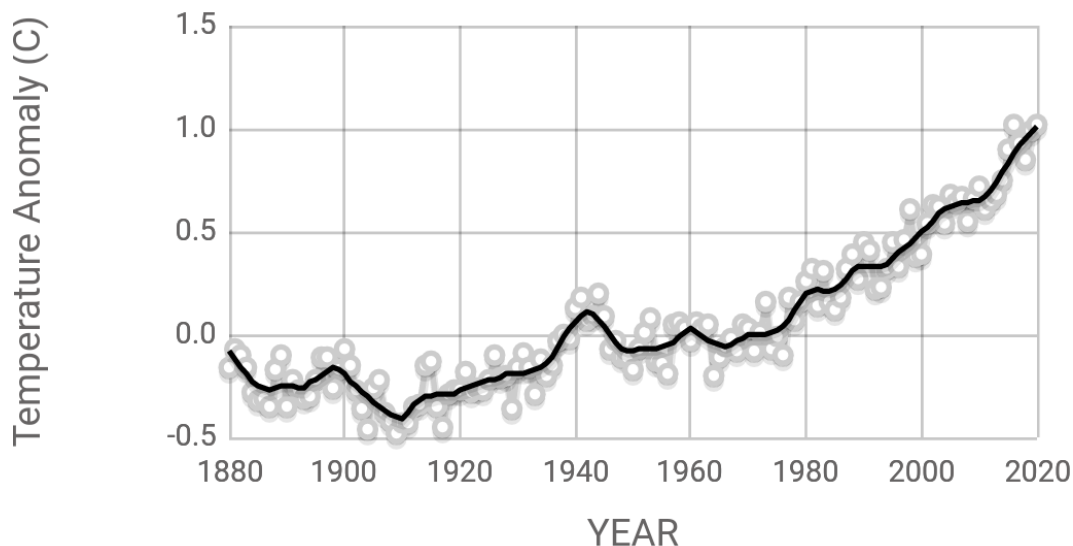


Figure 6: Global rise in temperature from 1880-2020. Source: (Climate.nasa.gov 2021)

Meanwhile, the world’s population has continued to grow at an exponential rate, but the total quantity of water available has relatively continued to remain the same; 97.5% is typically salty water and unsuitable for human consumption, while 1.72% is locked-up in icebergs, thereby resulting to only 0.007% available for human consumption, the equivalent of 13,500km<sup>3</sup> (Wolf 1996). According to a (United Nations Report), only about 2300m<sup>3</sup> water is left per person, representing a 37 percent drop since 1970 according to the report (Wolf 1995).

According to a World Bank report (2007), the countries in the Middle East and North Africa (MENA) region are currently unable to meet their water needs, and it is estimated to get worse due to population increase and climate change (Terink et al. 2013). To highlight how contentious water is going to be an issue in the 21<sup>st</sup> Century, the former Vice President of the World Bank Ismail Serageldin availed that; wars of the next century may be fourth because of water, more than any other reason (Falkenmark 1989; Gleick 1993; Wolf 1996; Sivakumar 2011). In view of the above, Wolf suggested the harnessing of “sophisticated mechanisms for cooperation” among nations (Wolf 2001). Figure 8 below is a chat presentation of the water-stressed situation for each continent.

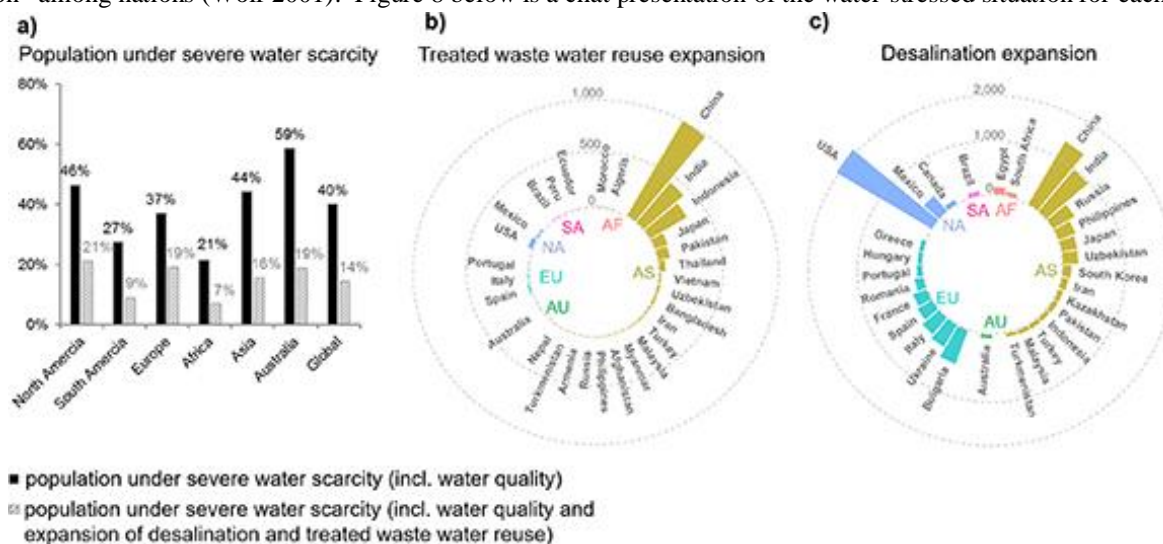


Figure 7: The water-stressed situation of the world. Source:(van Vliet et al. 2021)

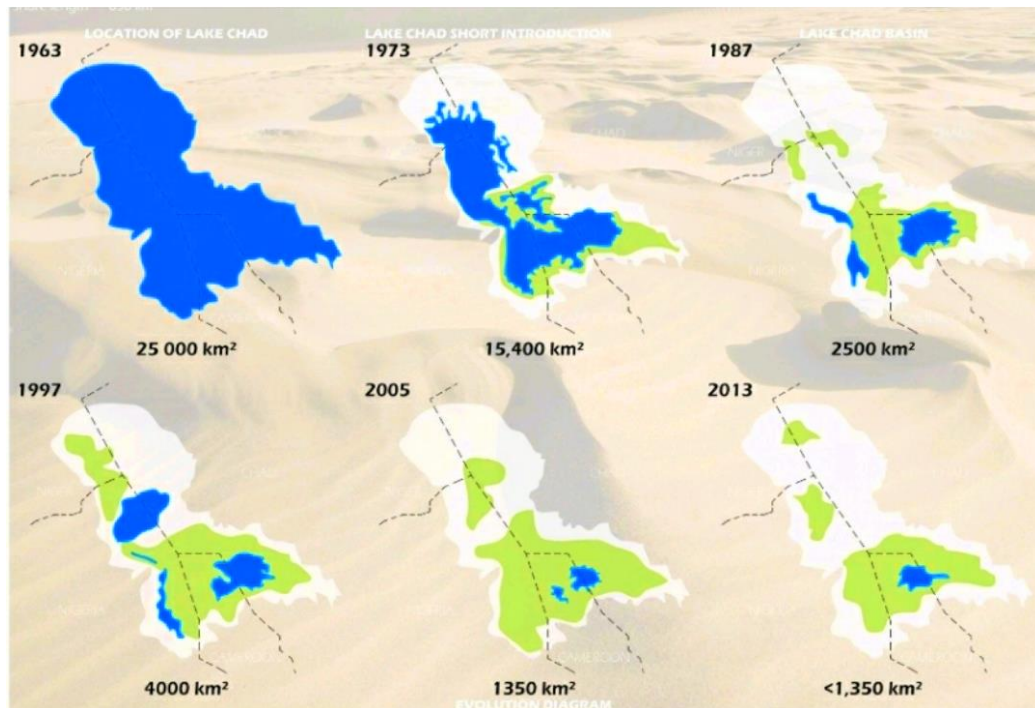
### 2.4.2 Decline of the Lake Chad

Lake Chad is located between latitude 6<sup>o</sup> and 24<sup>o</sup> north, and longitude 8<sup>o</sup> and 24<sup>o</sup> east, and it is considered the fourth largest inland freshwater in Africa (Magrin 2016; Okpara et al. 2016; Riebe and Dressel 2021). It use to serve the livelihood of over 30 million people, cutting across Nigeria, Chad, Cameroon, and Niger (Zieba et al. 2017). From about 25,000km<sup>2</sup> in 1963, the lake has shrunk to about 1,350km<sup>2</sup> by 2018 (Pham-Duc et al. 2020). Analysts have even concluded that the emergence of *Boko Haram* and terrorism in Northern Nigeria, is a direct fall-out of the decline of lake chad (Kanu et al. 2019; Skah and Lyammouri 2020; Agba et al. 2021; Riebe and Dressel 2021).



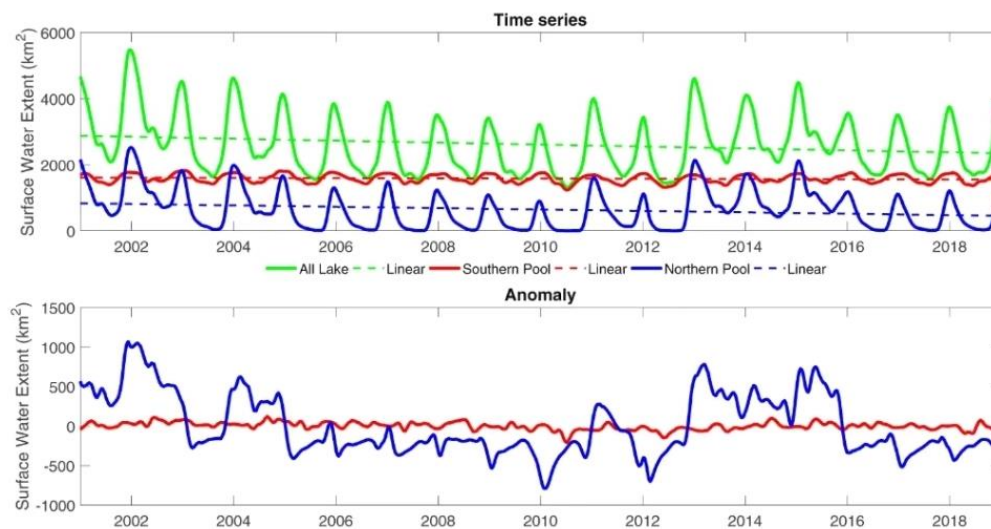
## Investigating the effect of Climate Change and Water Scarcity on the Conflict between Herders and Farmers in Nigeria: A case study of Benue state, Nigeria

Very interestingly, there is a school of thought that believes that the defeat of the *Boko Haram* will be better achieved with “water”, by recharging Lake Chad, which will resuscitate the livelihood of millions of people that have been rendered redundant without means of survival, rather than the sole military approach that is currently been used by the Nigerian government (Zieba et al. 2017; Pham-Duc et al. 2020; Skah and Lyammouri 2020). The critical situation of Lake Chad is as presented in **Figure 8** below, the Lake Chad decline from 25,000 km<sup>2</sup> in 1963 to 1,350km<sup>2</sup> by 2013 and other historical stress situations of the Lake Chad in **Figure 9**.



**Figure 8:** Satellite images of Lake Chad decline from 25,000km<sup>2</sup> in 1963 -1,350km<sup>2</sup> by 2013.

Source: [www.livinspaces.net](http://www.livinspaces.net).



**Figure 9:** Lake Chad time series (top) and anomaly (bottom) of surface water from 2001-2018. Northern pool (blue), Southern pool (red), Lake Chad (green). Source: (Pham-Duc et al. 2020)

### 2.4.3 Climate Change and Migration

One among the effects of climate change is its impact on human migration, it has taken an unprecedented dimension. In the words of Parson and Nielsen, “it represents a crisis, a flood, and disaster”(Parsons and Nielsen 2021). No doubt facts have been able to validate that; climatic conditions around the world have impacted negatively on the livelihood of people, thereby compelling many to migrate in search of a better environment for survival (Hartmann 2010; Petrova 2021). These effects include an increase in natural disasters, desertification, drought, shortage in freshwaters, rise in sea levels, among others (Olagunju et al.; Reuveny 2007; Jalam et al. 2020; Kaczan and Orgill-Meyer 2020).

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In Nigeria, the changing climatic conditions in Sudan- the Sahel and the Guinea savannah segments of the country have accounted for the migration of the Fulani herders down to the middle belt and southern regions (Adeniran 2020). Before 1970, over 75% of people living in Northern Nigeria basically depended on agriculture, but due to climate change, there has been a noticeable decrease in crop yield, as well as a high rate of animal mortality (Olagunju et al.; Kamta et al. 2021). Hence triggering the north-to-south migration. According to Adebayo, Boko-haram and climate change are responsible for the north-south migration in Nigeria, which in turn account for the reported conflicts in Nigeria(Adebayo et al. 2016). Figure 11 below demonstrates the connectivity of climate change to disasters and eventually migrations. But Ahmed-Gamgum argued that; freedom of movement is guaranteed under the Nigerian constitution, therefore the migration of the herders shouldn't be viewed differently (Ahmed-Gamgum 2018).

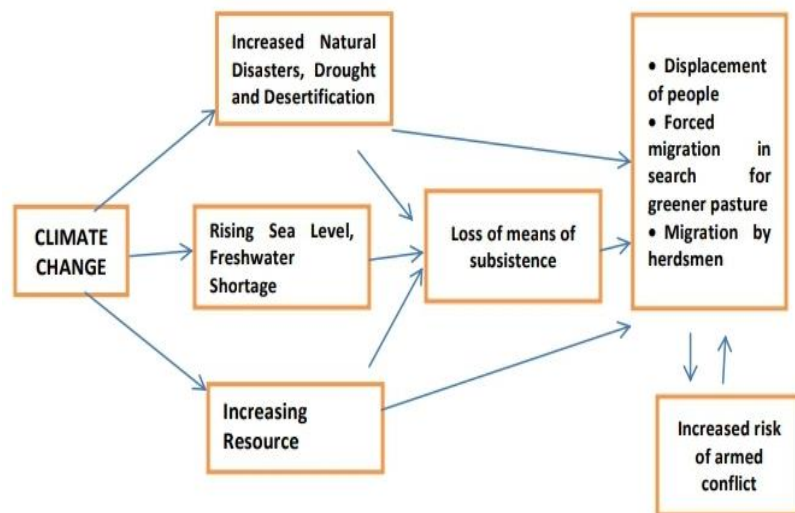


Figure 10: The nexus between climate change, migration, and conflicts. Source: (Olagunju et al.).

### 2.5 Insecurity in Nigeria

The Global Terrorism Index(GTI)2020 ranked Nigeria as the third most terrorised country in the world, only behind Afganistan and Iraq (Index 2020). In the last decade, Nigeria has been engulfed in many insecurity problems; such as **Boko Haram** in the North-East of the country, a group that made global headlines in 2014 by adopting 276 girls in Chibok, and later 150 girls in 2017 from Dapchi, and the beheading of aid workers among other atrocities (Sulaiman 2018; Oluwaniyi 2021; Sambo and Sule 2021; Wild 2021).



Figure 11: Global terrorism index 2020, showing Nigeria's third position.

Source: (Institute of Economics and Peace, 2021)



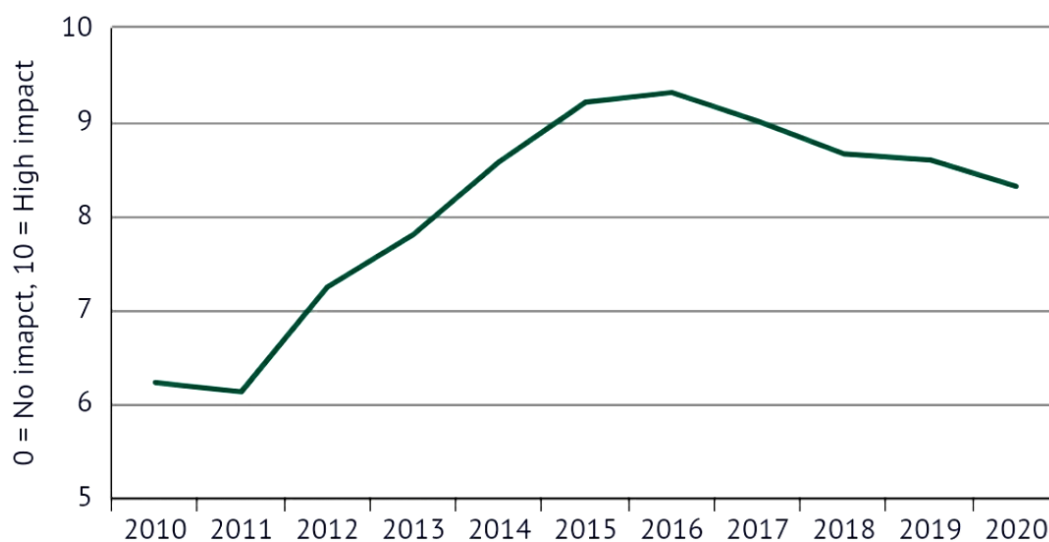
## Investigating the effect of Climate Change and Water Scarcity on the Conflict between Herders and Farmers in Nigeria: A case study of Benue state, Nigeria

Figure 11 demonstrates the bad security situation in Nigeria. According to the ranking, Nigeria is coming just below failed states like Afghanistan and Iraq, suggesting that the country is not just bad, but is gradually drifting towards a failed state.

**Table 2: Nigerian terrorism index 2010-2020. Source: Global Terrorism Index.**

DATE	VALUE	CHANGE, %
2020	8.31	-3.29%
2019	8.60	-0.73%
2018	8.66	-3.87%
2017	9.01	1.10%
2016	9.31	7.38%
2015	9.21	9.99%
2014	8.58	7.72%
2013	7.80	18.24%
2012	7.24	-1.61%
2011	6.13	
2010	6.23	

Score: 0 = no impact of terrorism, 10 = highest impact of terrorism



**Figure 12: Showing the terrorism index in Nigeria from 2010- 2020.**

**Source: Global Terrorism Index**

From Table 2 and figure 12 above, in the 2020 global terrorism index, Nigeria was 8.31 index, this is an indication that Nigeria rose from 6.23 in 2010 to 8.31, representing an annual growth rate of 3.69%, which calls for concern.

### 2.5.1 Kidnapping

The security situation in Nigeria has continued to move from bad to worst, with banditry and cattle rustling mostly in the northwest part of the country, and activities of kidnappers in almost every part of the country (Attah et al. 2021; Okoli and Abubakar 2021). According to the Nigerian Security Tracker, between 2011 and 2020 alone, over \$18 million was believed to have been paid as ransom for kidnapped victims alone (Onapojo, 2021). **Figure 13** below is a documentation of kidnapping and adoptions in Nigerian schools between 2014 -2020.

Though there is a perception that the kidnappings are orchestrated by powerful individuals, who are making a huge fortune from the ransoms that are often paid for the release of each kidnapping carried out, hence the flourishing of the crime (Davidson 2019).

Investigating the effect of Climate Change and Water Scarcity on the Conflict between Herders and Farmers in Nigeria: A case study of Benue state, Nigeria

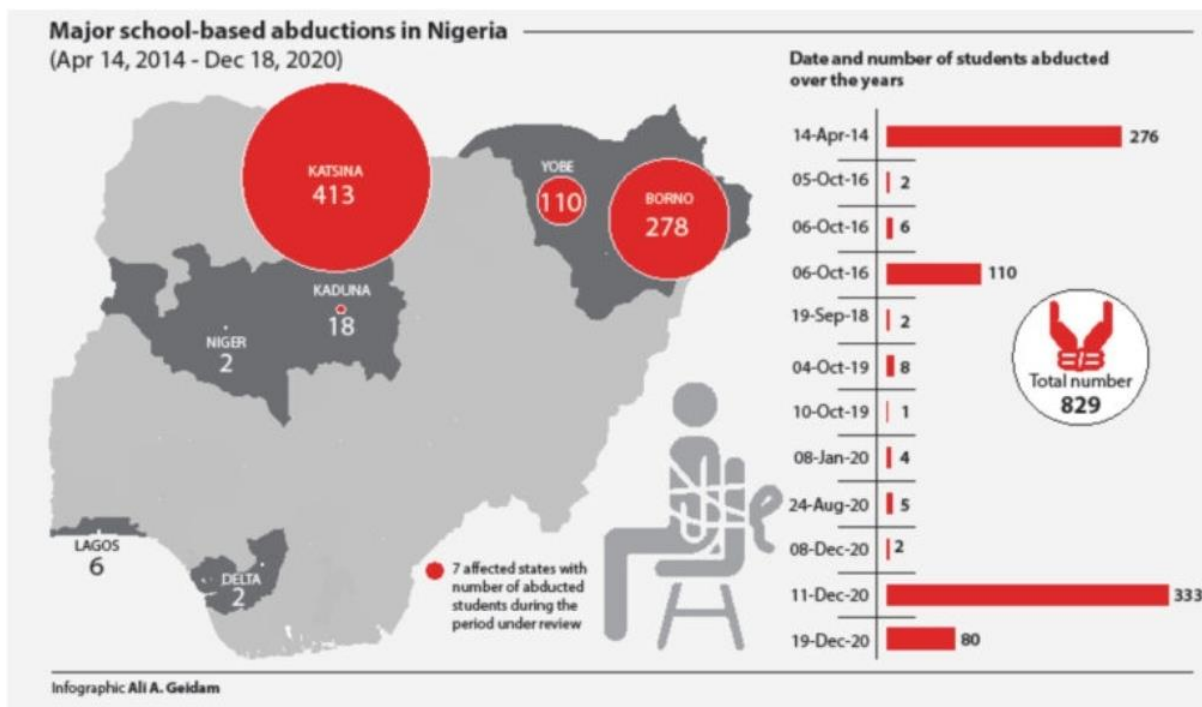


Figure 13: Chart of school children abduction in Nigeria from 2014-2020. Source: (Dailytrust,2020)

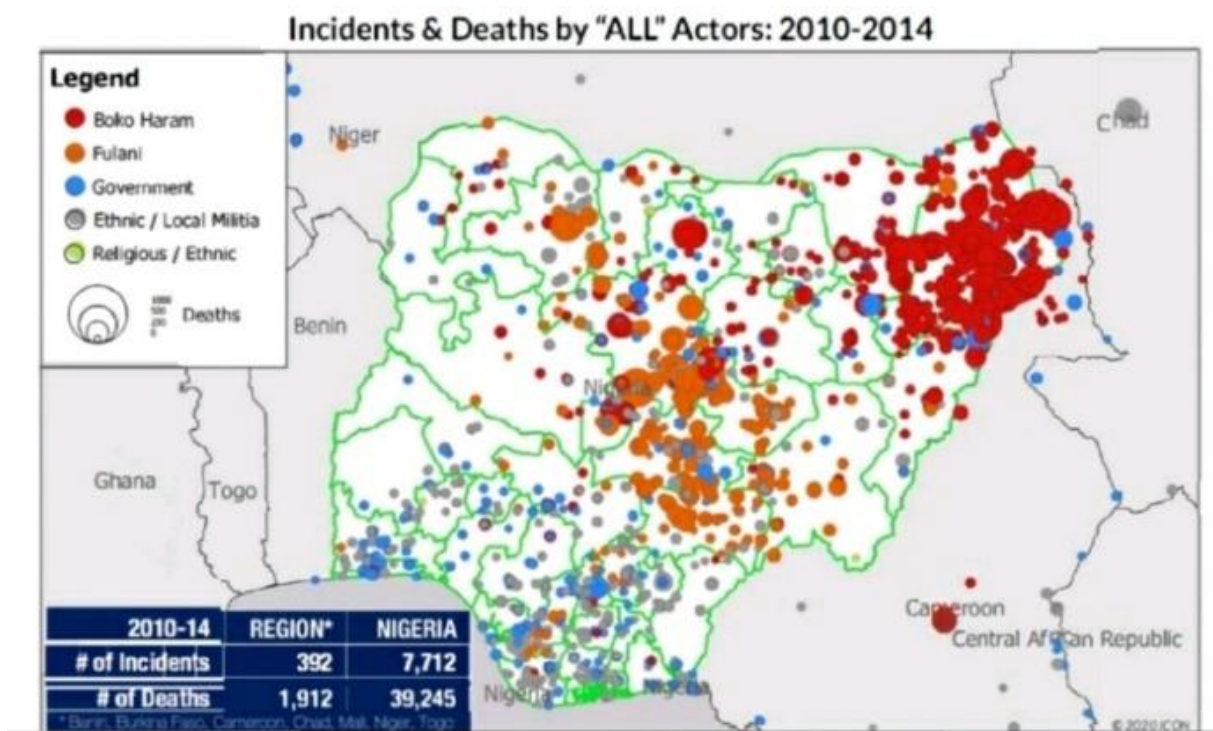


Figure 14: Indicator of incidents of attacks and deaths by all actors in Nigeria between 2010-2014. Source: (Worldwatchmonitor,2020)

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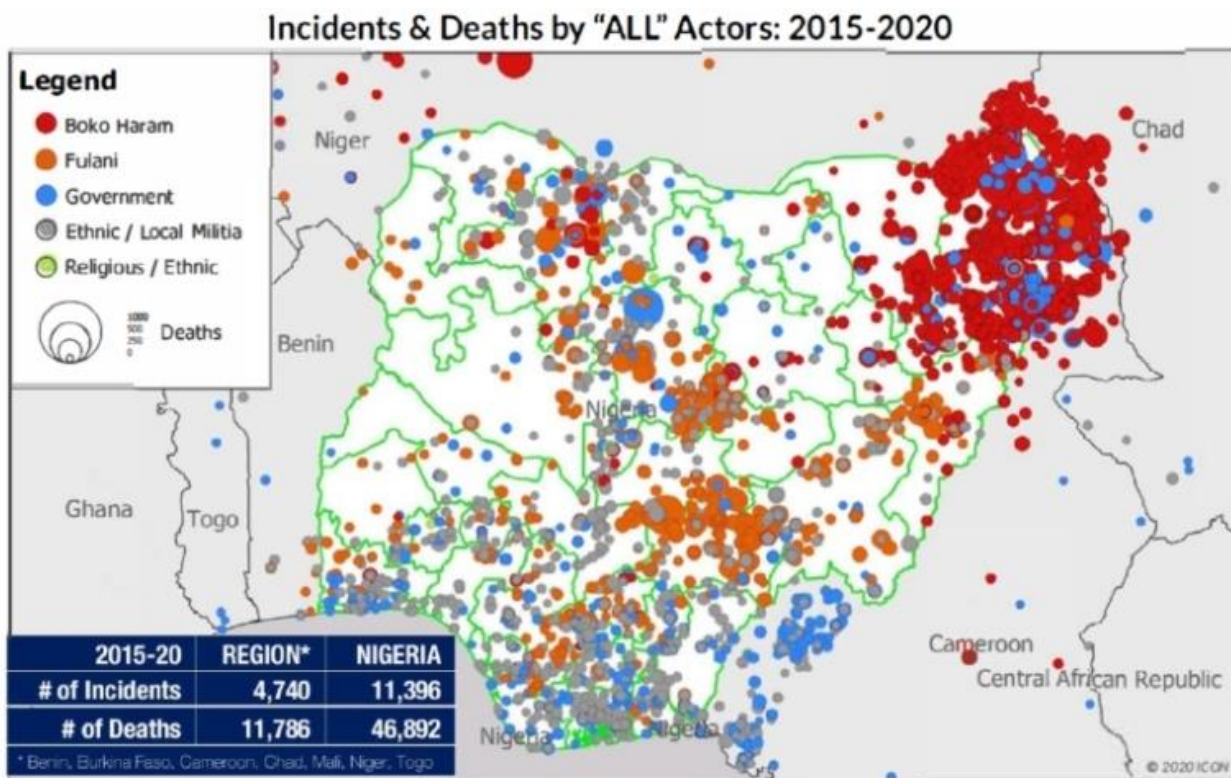


Figure 15: Incidents of attack and deaths by all actors in Nigeria, between 2015-2020. Source: (Worldwatchmonitor,2020)

2.5.2 Boko Haram

The *Jama'atu Ahlis-Sunna Lidda'Awati Wal-Jihad* also known as *Boko Haram*, which means “western education is bad or evil” first began as an Islamic fundamentalist group in the Nigerian north eastern city of Maiduguri, more than a decade ago (Onifade et al. 2013; Sulaiman 2018). However, the subsequent arrest and murder of its progenitor Muhammad Yusuf by Nigerian security agencies were what seems to have awakened the beast in the group (Onuoha 2010; Alao et al. 2012; Agbibo 2013; Salaam 2013). Figure 16 below indicates key perpetrators of violent attacks in Nigeria between 2010-2020, with *Boko-Haram* peaking its activities in 2014 and 2018. Though there are varying opinions on why the activities of the group have thrived in Nigeria for a long time, some say it is an attempt to destabilize Nigeria as the acclaimed giant of Africa by western powers. Davidson attributed it to the endemic corruption in Nigeria and the security agencies (Davidson 2019). For instance, over \$2 billion meant for arms purchase for the Nigerian Army were alleged to have been stolen by the Ex-National Security Adviser (NSA) and other Political Office Holders(POH), what came to be popularly referred to as; “*Dasukigate*” (Folarin 2021; Oriola 2021; Uzoigwe and Chukwuma-Offor 2021).

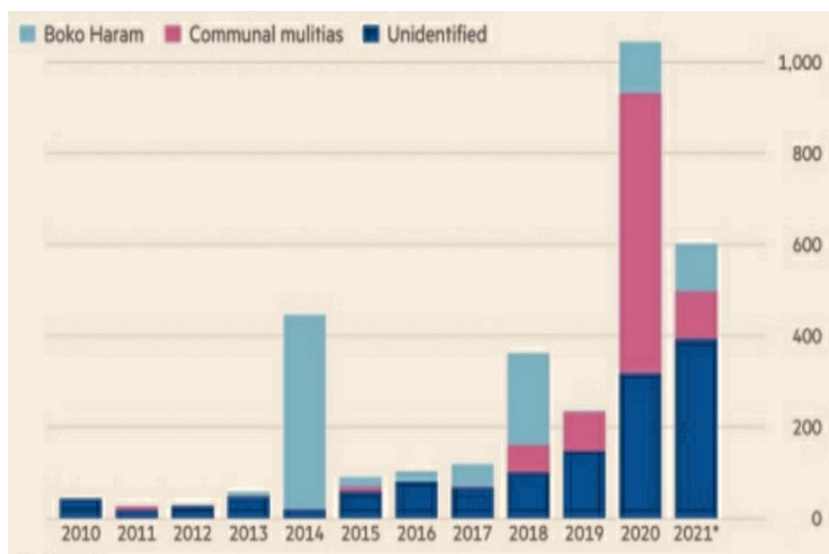


Figure 16: Chat of major perpetrators of violence in Nigeria, from 2010-2021. Source: Financial Times,2021



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### 2.5.3. The Conflict between herders and farmers

For years long, herdsman and farmers have harmonious cohabitation, and even when a disagreement arises, traditional channels of conflict resolutions were usually activated for amicable solutions (Aderinto and Achem 2019; Oghuvbu and Oghuvbu 2020). Arguing along this line, Onah and Okello are both of the opinion that; the breakdown of dialogue and conflict resolution mechanisms is the major architect of the farmers herders' conflict in Nigeria (Okello et al. 2014; Onah and Olajide 2020). In recent years, things seem to have fallen apart in the relationship between the two groups, and some experts link the development to; realities of climate change, which has aggravated desert encroachment, and scarcity of foliage for the herders to feed their animals (Aderinto and Achem, 2019; Lenshie et al., 2020; Adenle and Speranza, 2021). Also, there is the belief that the taking over of grazing routes of pastoralist for farming activities is the major cause for the aggravation of the situation (Alhassan and Dorh 2021; Hammed and Aminu, 2021; Stavi et al., 2021). According to Okoli, to herders, there is no life without a cattle, so the encroachment on the cattle routes by farmers is therefore an attempt to send the herders into extinction, hence it is viewed as an open invitation to war (Okoli and Ogayi, 2018).

**Figure 17** below is a map of Nigeria as captured by Hagazi and Yousuf, showing the old cattle grazing routes in Nigeria. Though Enor et al argue that not every state of Nigeria had a grazing reserve as far as records have shown (Enor et al. 2019). Other factors believed to be responsible for the conflict include the rustling of the herder's cattle, deliberate bush burning, harassment of herdsmen by youths of the host communities, among others (Mamuda et al. 2017; Enor et al. 2019).

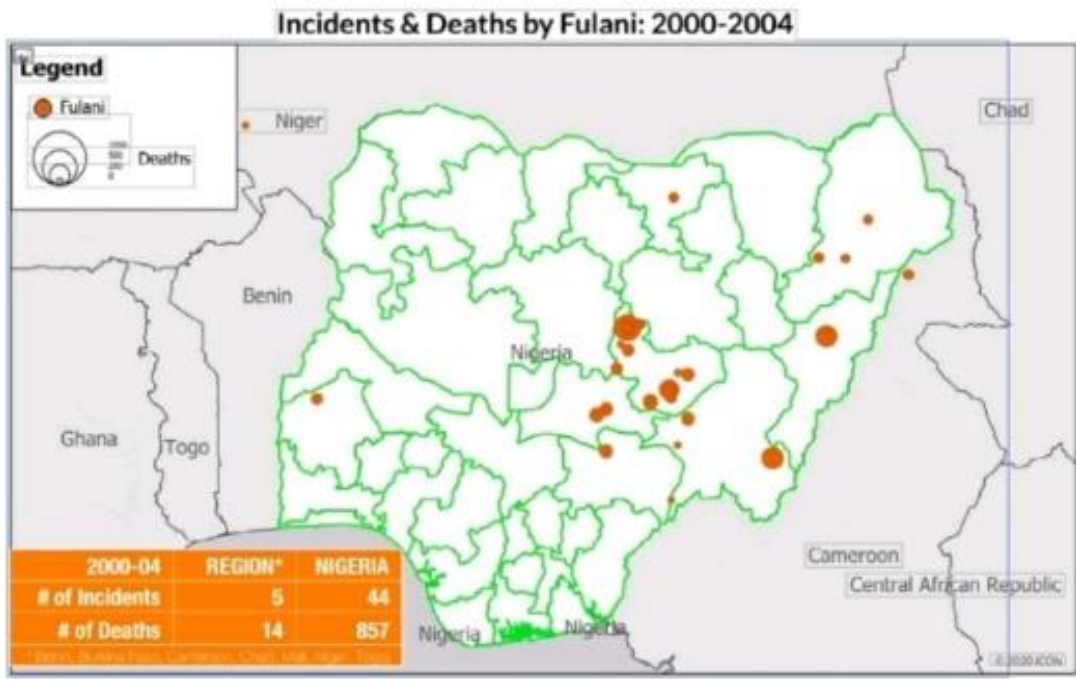


**Figure 17: Map of Nigeria showing the former livestock routes used by herders.**

**Source: (Higazi and Yousuf 2017).**

Meanwhile, some scholars argued that; the increase in population, and multiplier of in number of the herders cattle's, urbanization, and less grazing space available, such that where 10 cattle's use to graze is now being grazed by over 50 or more cattle's (Ducrotoy et al. 2018; Mbah et al. 2021; Nwozor et al. 2021). While some believe that the outdated practice of the pastoralist still moving with cattle across the country in search of foliage and water is no longer feasible in animal husbandry in the present modern world (Oli et al. 2018; Nwankwo 2021; Sani Ibrahim et al. 2021). This opinion has been strongly countered by Ahmed-Gamgum, who argued that the farmers too are still using old methods of farming, so wondered why the herders only are singled out for not adopting modern practice (Ahmed-Gamgum 2018). Be that as it may, experts are of the opinion that ranching of the animals far outweigh the former, as it enables the production of healthier animals and an antidote for ending the conflict between the herders and farmers (Ele 2020; Aboh 2021). More than 3,094 people are believed to have lost their lives as a result of the conflict in Nigeria, and over 400,000 people were displaced between 2015 and 2020 alone (Apuke and Omar 2021). This can be viewed in the graphs presented in **Figures 18-21** below, as documented by World Watch Monitor.

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**Figure 18: Attacks and deaths by Fulani militia in Nigeria from 2000-2004.**  
Source: (worldwatchmonitor,2020).



**Figure 19: Incidents of attacks and deaths by Fulani militia in Nigeria from 2005-2009.**  
Source: worldwatchmonitor,2020)



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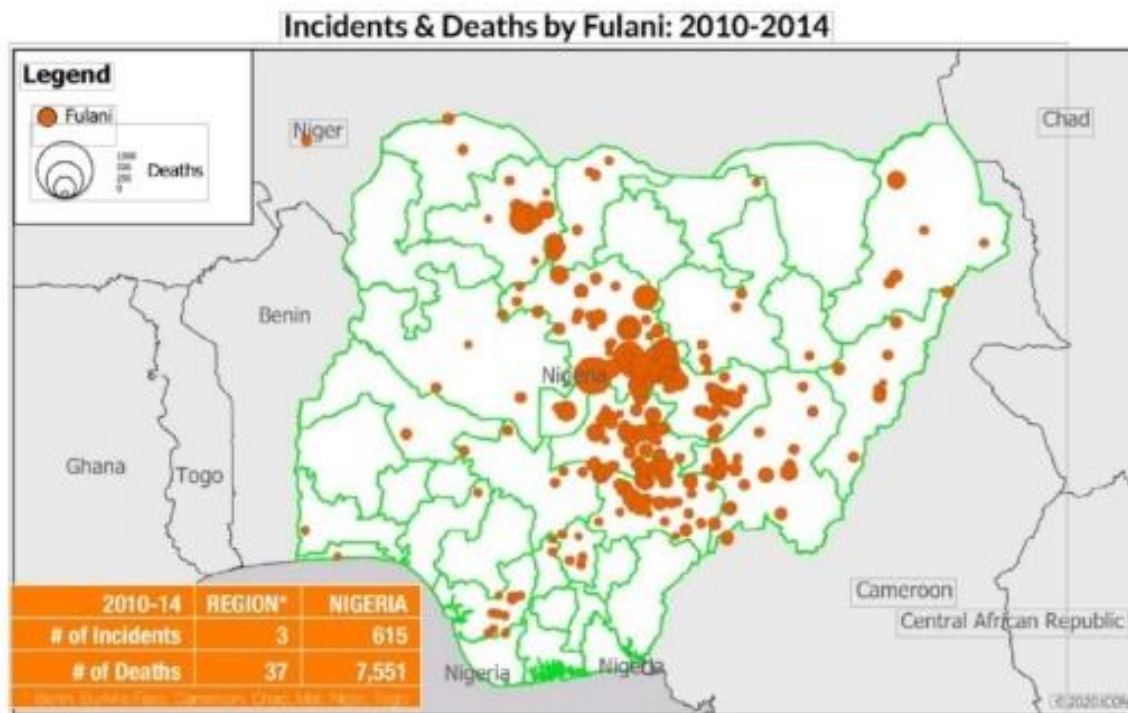


Figure 20: Incidents of attacks and deaths by Fulani militants in Nigeria from 2010-2014. Source: (worldwatchmonitor,2020).

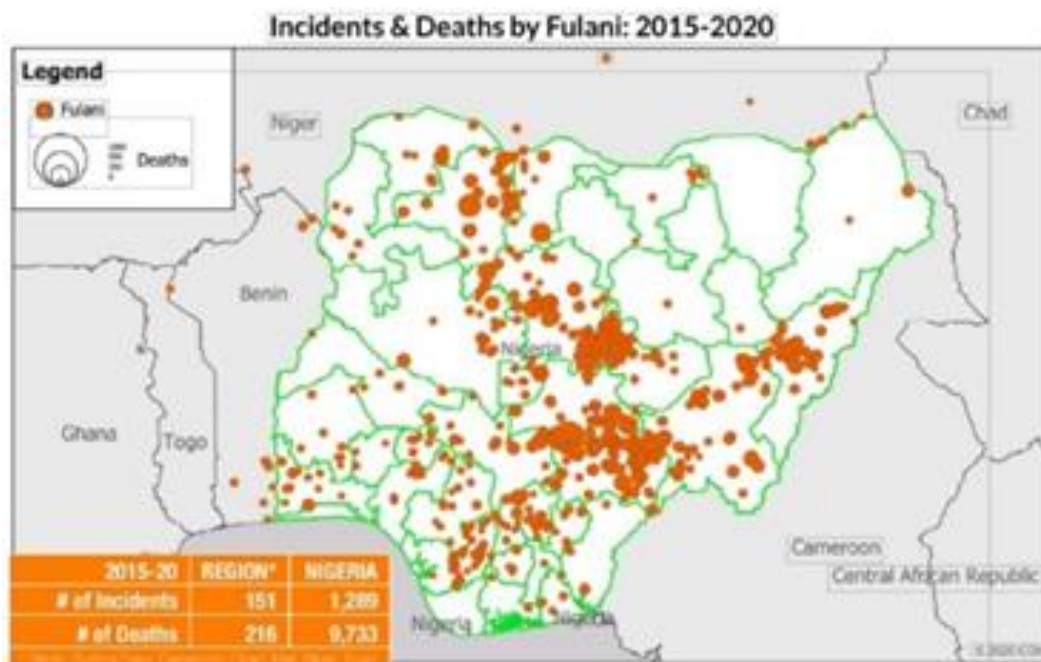


Figure 21: Incidents of attack and deaths by Fulani militants in Nigeria between 2000-2020. Source: (worldwatchmonitor,2020).

### 2.6 The Religious narrative

Worthy of diligent evaluation in the herders-farmers conflict in Nigeria is the influence of the two competing religions; Islam and Christianity (Gever 2019). The Fulanis who are the herders are believed to have originally migrated from the Arabic Peninsula into most of the Central, and West African Countries, including Nigeria (Genyi 2017). According to a report by the International Crises Group in 2017, 90% of Fulanies are predominantly Muslims (Stenning 1994; Riesman 1998); Gursoy, 2020). Over the years, the encroachment of the Sahara desert, and less greener pasture for animal husbandry, have pushed the Fulamies to migrate southwards

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in search of pasture and water for their animals (Olagunju et al.; Okoli and Atelhe 2014; Ikhuoso et al. 2020; George et al. 2021). However, this narrative has been contested by many, as they claim, the herders that are mostly responsible for violence are “foreign Fulanis”, different the weell know local herders, and mostly well armed, and sometimes without even any single cattle (Aneale 2020; Eke 2020). Hence questioning the true motive the herders.

However, this development has been viewed with skepticism by the Christian tribes who are the majority in the southern part of Nigeria, as they view it as an “attempt to Islimize” the Christian tribes of the south (Nwankwo et al. 2020; Nwankwo 2021). But this narrative has not been accepted by all, arguing that the South West region of Nigeria where the Yoruba tribe is dominant, constitute a 50/50 of Muslims/Christian ratio, yet they have not been spared by the conflict, as there have been severally attacked by rampaging herdsmen too (Ogundairo and Ijimakinwa 2020; Cline 2021; Inoykwe 2021). Also, there is no sufficient proof that this group is faithful followers of Islam or their actions are endorsed by any major Islamic group (Munson, 2021).

However the religious narrative has gained popularity due to the history of the jihad by Othman Dan-Fodio in 1804, in which the Hausa territories in Nigeria and part of Cameroun were conquered and became part of the Sokoto Caliphate, and by implication conversion of the tribes to Islam (Adamu and Ben 2017; Gever 2019; Cline 2021). Though the advent of colonial rule, combined with stiff resistance by the tribes of the Middle Belt region such as the Tiv’s, frustrated the push of the Jihad further down the southern part of Nigeria (Peace 2017; Gever 2019; Ademola 2020). This account has been largely responsible for the distrust, and suspicion by the people. For them, the herder's conflict is just a smokescreen for the jihad and an Islamization agenda.

### 2.7 Climate change and conflicts around the world

In the past, there seems to be an underestimation of the effects of climate change on security (Busby 2021). Security as a contemporary topic in the arena of climate change became more prominent in the last two decades and argued extensively in academic literature under the context of the international climate regime (ICR) (Adger 2010; Skah and Lyammouri 2020). A significant number of scholars are in consensus that; climate change either from the perspective of reality or likely prospect has a huge implication on international security (Adger 2010; Oels 2012). Furthermore, the then United Nations (UN) Secretary-General Kofi Annan added his voice, when he said; climate change should be accorded a place of concern alongside poverty and proliferation of weapons, which are often given more political attention (Adger 2010; Briggs and Weissbecker 2011). Figures 24,25, and 26 all give highlights and extent of conflicts around the world between 1989 to 2019, with the major actors, reasons, and extent continent by continent.

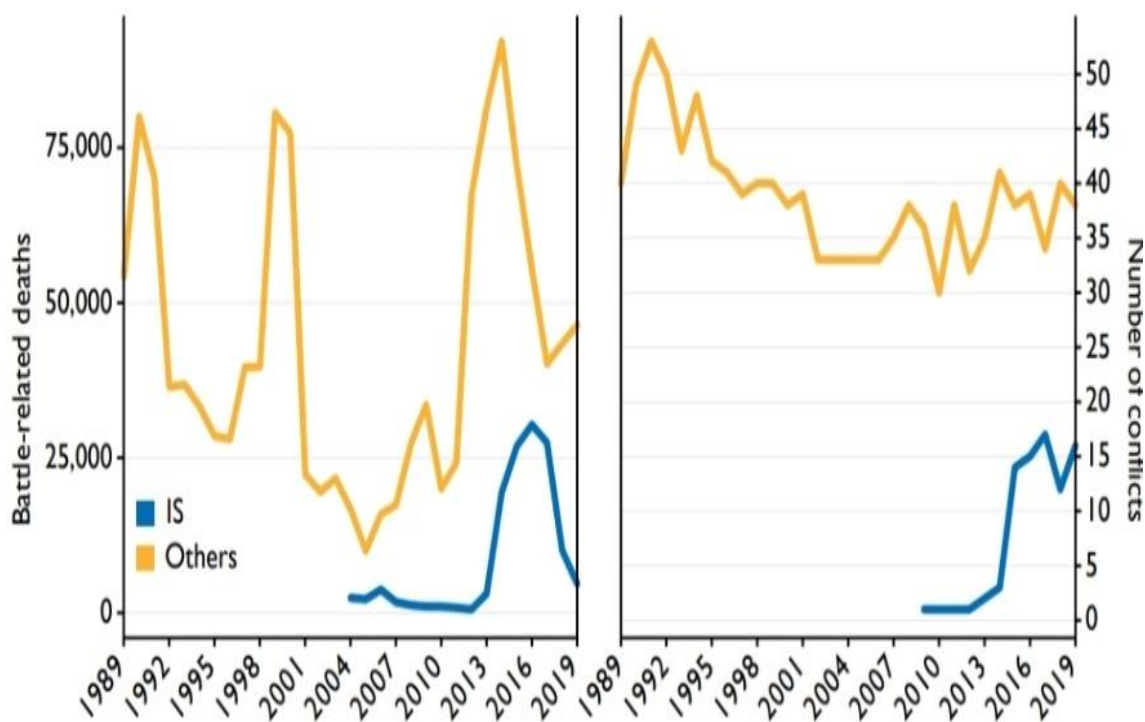
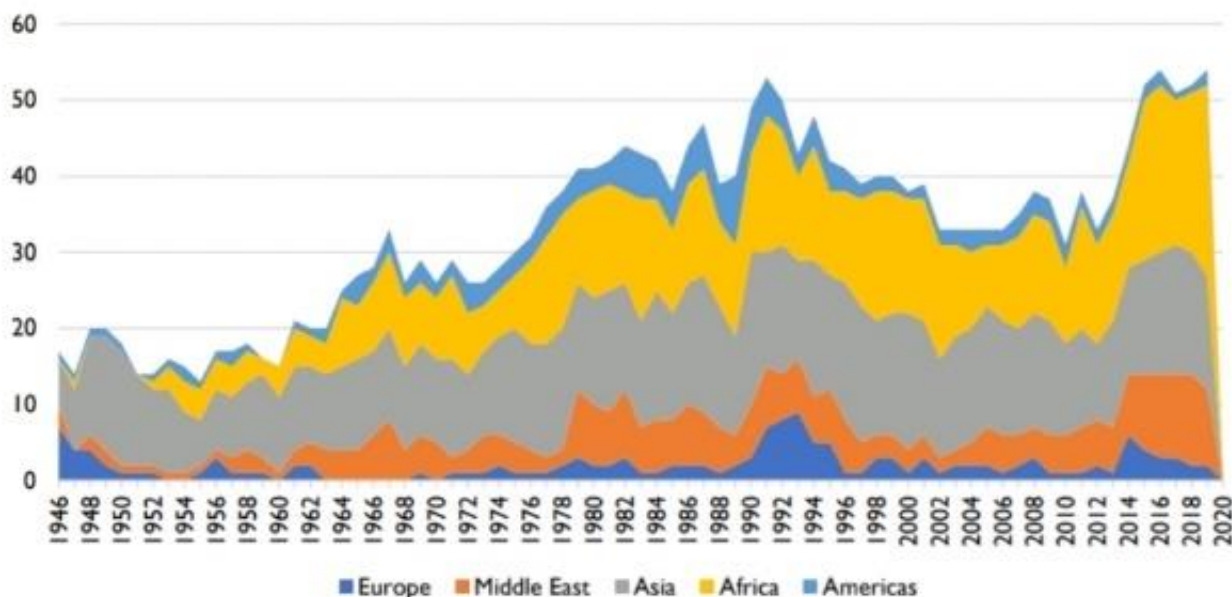


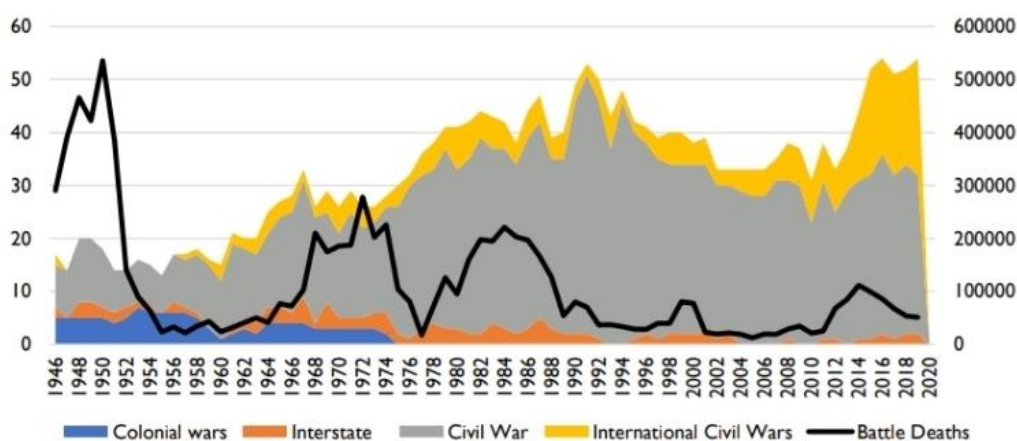
Figure 22: Battle-related deaths and number of conflicts by ISIS and other rebel groups around the world, between 1989-2019.

Source: (Palik et al. 2020)

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**Figure 23: Preference of conflict per each continent from 1946 -2020.**  
Source: (Palik et al. 2020)



**Figure 24: Records of factors/types of war from 1946-2020.**  
Source: (Palik et al. 2020)

The effects of climate change-induced conflicts are beginning to be evident world over. For instance, the Arab spring in 2011 which led to regime changes in several Arab countries such as Tunisia, Egypt, Yemen, etc was a result of drought in most of the world-leading wealth-producing countries like Canada, China, Australia, etc, and this, in turn, affected the cost of wealth and by extension bread, which is a common staple across the Arab world, and it was for this reason that Buzzizi set himself ablaze, thereby igniting an angry protest in Tunisia, which later spread to other Arab countries (Johnstone and Mazo 2011; Gleick 2014; Busby 2021; Korbi et al. 2021). Though the above narrative has not been accepted by all. Some believed that what happened was simply a ripe time for most of the Arab nations who were held down by dictators to go, and yearned for democratic governance (Becheikh 2021; Masoud 2021).

Meanwhile, in Iran, water scarcity as a result of climate change was identified as the reason behind the overthrow of Safavids, and even the revolution that establishes the Islamic Republic in 1979 (Shahi 2019). And it is the same with the Syrian conflict (Ash and Obradovich 2020; Daoudy 2020; Linke and Ruether 2021). Another clear case of climate-change-induced conflict is that of Darfur in Sudan. Due to desert encouragement and prolonged drought in northern Darfur, the Abbala of the north who are mostly camel nomads were forced to push down south, thereby clashing with the Baggara tribes who are mostly cattle nomads (De Waal 2005; Natsios 2012; Suliman 2021). However, there is dissenting opinion to the fact that climate change is responsible for most of the conflict going on around the world. For instance, De Waal holds the opinion that corruption, poverty, bad governance, ethnic rivalry among others, are more causes of conflicts rather than climate change (De Waal 2005). There is also the school of thought that



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believes, water scarcity and management can become a uniting factor as seen in the management of the Jordan river with Israel and neighbouring Arab states (Wolf 1995; Jägerskog 2003; Köprülü 2021).

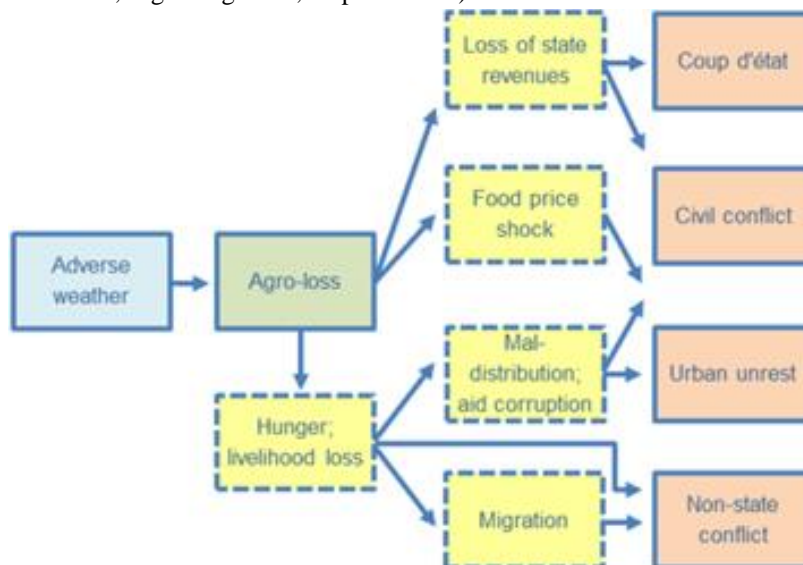


Figure 25: Diagram demonstrating the link between climate change and conflicts.

Source: (Buhaug et al. 2015)

### 2.8 Benue state: an overview

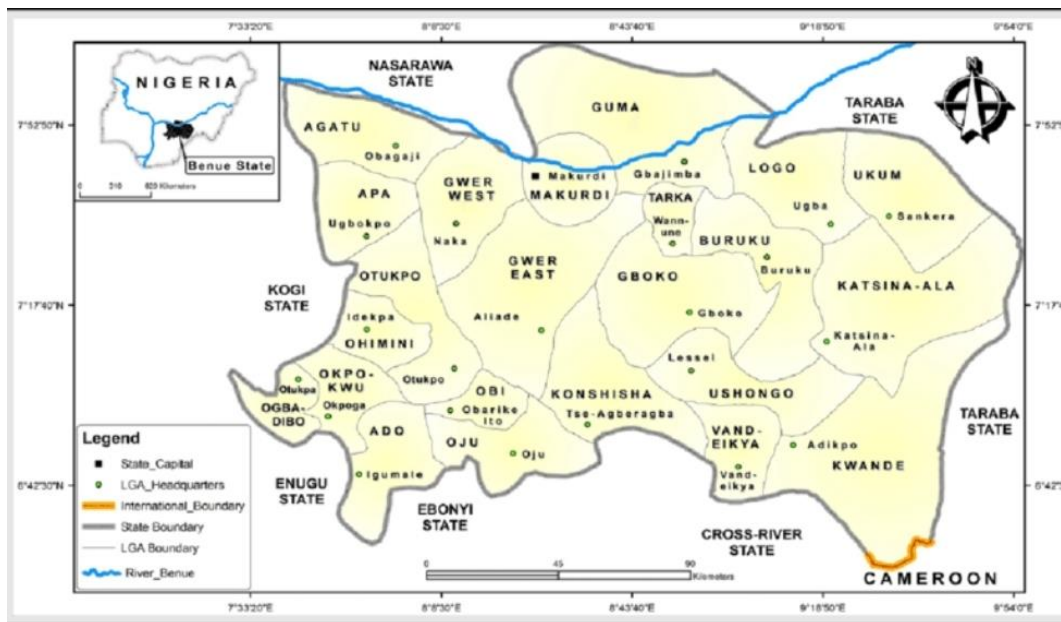
Benue state is one among the 36 states in Nigeria and was created out of the former Benue Plateau State on 3rd February 1976 (Adamu and Ben 2017). The state is famous for its fertile land and prides itself in its rich variety of agricultural produce. Because of the surplus food production capability of the state, it has been tagged “The food basket of the nation” (Gwa et al. 2015). It is bounded by Nasarawa State in the north, Taraba state and the Republic of Cameroun to the east, it is bounded by Cross River, Ebonyi, and Enugu state in the south, and Kogi State in the west (Agada and Nirupama 2015). The state comprises 23 Local Government Areas, with Tiv, Idoma, Igede, as the major tribes. Other small tribes that are found in the state include Itilo, Hausa, Jukum, Agatu, among others (Idoko et al. 2012; Adamu and Ben 2017). **Figure 26.1** below is a map of Nigeria showing Benue State mapped in red, and geographical location. and **Figure 26.2** further below is the map of Benue State showing the 23 Local Government Areas of the state.



Figure 26.1: Map of Nigeria showing Benue state, the study area.

Source: (Djomo et al. 2020)

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**Figure 26.2: Map of Benue State of Nigeria.**  
**Source: Benue State Ministry of Lands and Survey**

## 2.8.1 The Herders'-Farmers conflict in Benue State

According to the United Nation Development Programme (UNDP) and the Institute of Peace and Conflict Resolution (IPCR), the conflict between the herders and farmers in Benue state started when the herders deviated from the old cattle route from Awe, through Torkula, Ortese, and up to Doma in Nasarawa State. However, the cattle due to their large numbers strayed into people's farms thereby resulting in massive destruction of the farmer's crops (Aderinto and Achem 2019). This narrative has been opposed by the herders. They argue that nomadic living has been a way of life, as well as part of their culture, as such, restricting them from moving with their cattle freely is a gross fundamental human right and cultural annihilation (Audu 2014; Ahmed-Gamgum 2018; Odey and Ajor 2020). Also Abbass and others have cited the unwelcoming attitude of host communities, rustling of the herders cattle by youths as factors that often result in the herders to act in self-defence (Abbass 2012; Sani Ibrahim et al. 2021). According to a classification by the Global Terrorism Index (GTI) 2015, the Fulani Militia is positioned as the fourth deadliest terrorist group in the world (Sule 2020). Hence the Fulani have been concluded to be the invaders, the aggressors, and practicing their stock in trade against the Benue people (Ojo 2017). But The herders also claim that Benue state has no jurisdiction over the Benue River (Ahmed-Gamgum 2018).

## 2.8.2 The Benue State anti-open grazing law 2019

In search of a lasting solution to the prolonged issue of the herders-farmers conflict in Benue state, the Benue State Government sent an executive bill to the Benue State House of Assembly on 6<sup>th</sup> May 2017 (Gever 2019; Osuchukwu and Enemuoh 2020; Sule 2020). The bill popularly referred to as the "Open Grazing Prohibition and Ranches Establishment Law 2017" was the first of its kind in Nigeria, and as the name suggests, aimed at; ending open grazing, encouraging ranching of all animals within the state, thereby reducing the chances confrontation between the herders and farmers (Osuchukwu and Enemuoh 2020; Soomiyol and Fadairo 2020). It was passed into law by the Benue State House of Assembly on the 22<sup>nd</sup> May 2017 and the Governor of Benue State, Samuel Ortom, assented to the bill and it came into effect on the 1<sup>st</sup> November 2017 (Gever 2019). But Ahmed-Gamgum has faulted the law, on the grounds of, inadequate sensitization of the herders of the implication of the law (Ahmed-Gamgum 2018). Other argument against the law is the obstacle of enforcing the law, as the security agencies are mostly controlled by the central government (Ahmed-Gamgum 2018; Enor et al. 2019; Soomiyol and Fadairo 2020; Sule 2020; Vanger and Nwosu 2020). Hence the situation appears to be far from over, as open grazing and attacks have not abated in the state up to date.

## 2.8.3 The role of the Nigerian government and security agencies

The role of the Nigerian government since the conflict took an alarming dimension has been questioned by various stakeholders (Ibezim-Ohaeri 2021). For instance, the herders carry AK47 guns openly but are never arrested or prosecuted, but the same security agencies are merciless with any farmers who are found carrying locally made den guns for self-defence (Udeh et al. 2018; Nwozor et al. 2021). Critics have opined that the action or inaction both on the side of the Nigerian government and security is what has encouraged self-help, thereby breeding a vicious circle of attacks and counter-attacks (Nwozor et al. 2021; Okoli and Abubakar



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2021). Furthermore, the Muhamadu Buhari administration has been blamed for tactically supporting the herders who are his kinsmen, against the rest of the other tribes in Nigeria, which some have phrased as the “*Fulinization*” of Nigeria or turning Nigeria into a “*cow republic*”, where cows are valued more than human lives (Ahmed 2021; Folarin 2021). The farmers have also argued that their crops should also value just like the herder's cows (Enor et al. 2019).

### 2.8.4 Internally Displaced Persons (IDPs) Situation

As the crises continue to linger unabated, there has been expectedly a large number of internally displaced persons (IDPs), with women and children accounting for one-third of the refugee's population, scattered in various refugee camps in; Agan/Abagena, Abeda, Anyiin, Tse Gbinde, Daudu, Gbajimba, and Ugba (Osuchukwu and Enemuoh 2020). Other vulnerable groups identified in high numbers among the refugees include pregnant women, people living with disabilities (PLWD), the sick, and the very old (Alao et al. 2019). All these can be seen as broken down in **Table 3** below. In all, the total number of refugees as a result of the crises according to the Benue State Emergency Agency is 117,771 (Alao et al. 2019). With this huge number of people depending on Government and Non-Governmental organizations (NGOs) for survival is not just a huge burden on the government, but also on itself constitute a huge security risk and vulnerability rape and other abuses.

**Table 3: Statistics of Internally Displaced Persons (IDPs) in Benue State because of the herders' farmers conflict as of 2018.**

IDP Camp	Nursing mothers	Women	Men	Pregnant	Children	(PLWD)	Aged	Total
Daudu	226	5,065	2,644	304	8,363	41	82	16,072
Tse-Gbinde	581	3,404	2,304	532	7,847	167	241	13,510
Gbajimba	131	5,020	2,558	349	5,972	68	480	13,470
Abagena/Agan	616	8,897	4,026	492	14,283	234	258	27,342
Anyiin	776	582	3,630	582	17,013	664	1,337	5,845
Abeda	165	1,034	660	104	4,719	38	96	1,034
Ugba	271	5,874	3,597	79	4,880	35	331	14,851
<b>Total</b>	<b>2,766</b>	<b>33,239</b>	<b>19,455</b>	<b>2,442</b>	<b>63,077</b>	<b>1,247</b>	<b>2,852</b>	<b>125,078</b>

Source: Benue State Emergency Management Agency (Alao et al. 2019)

Table 2 sourced from the Benue State Emergency Agency presents a gloomy image of the Internally Displaced Person (IDPs) situation because of the conflict over the years. There are seven different camps spread across the state with over 125,168. Of this number, vulnerable groups such as nursing mothers, pregnant women, and People Living with Disabilities constitute more than 65% of the population. This development portends even greater danger, if not urgently addressed.

## CHAPTER THREE RESEARCH METHODOLOGY

### 3.1 Introduction

Descriptive analysis has continued to remain one of the useful tools usually deployed by the social scientist in the determination of various studies (Wolf et al. 2008) As it provides a framework for the effective analysis of a given research question. In the social sciences, the use of data is very essential in the determination of variables, which in turn help to give proper perspectives (Stevens 2012). Therefore, an empirical understanding of this research will be tackled in this chapter along with the other literature earlier dealt with in this work, while not forgetting to mention its limitations.

### 3.2 Research paradigm

In the social sciences, three research paradigms are notable. They include positivism, interpretivism, and philosophical, but seemingly, philosophy is prevalent (Kothari 2004; Collis and Hussey 2013). Positivism makes use of secondary data, applying validity and reliability principles to arrive at reliable outcomes. On the other hand, interpretivism mainly relies on primary data for outcomes. Photophysical assumptions integrate both positivism and interpretivism. In the effectively achieving the objectives of this research, ten years of secondary data as gathering by the Daily Trust newspaper, one of the leading newspaper publications in Nigeria shall be relied upon to prove the number of attacks by the head's men in Benue state, number of deaths, number of injuries

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and number of people displaced. Wherein, this research will use the positivism paradigm based on its credibility of attaining authentic, accurate, and reliable outcomes.

### **3.3 Research Approach**

In general, research is usually approved from four perspectives, which include the inductive, deductive, abductive, and retrodictive approaches. The deductive approach explores existing theories, by postulating empirical hypotheses for scientific research (Collis and Hussey 2013). This approach aptly suites quantitative research, test the efficacy of existing theories. Meanwhile, the inductive approach includes the conceptualization of the framework through data collection with the hope of coming up with a theory. This is consistent with the established positivism paradigm; this research however will deplore the deductive approach as the most suitable approach for this research. Wherein, this research will be able to explore the impact of climate change on the conflict between the herders and farmers in Nigeria and Benue state.

### **3.4 Method of data collection**

Available literature already explored about the conflict by other scholars were relied upon. Efforts to get a well-documented database of a sequence of the conflict, as well as other effects of the conflict, such as economic loss, number of deaths, and number of displaced were rather very difficult to come by. However, The Daily Post Newspaper which is one of the leading newspaper publication in Nigeria through the coverage of the conflict since its worst escalation has been able to gather data over the years on the conflict which will be relied on for the research (Sule 2020). Other data used for the study includes data from the working document on “Fulani terror militia: 2017-2020”, and another from the Benue state government. All shall be relied upon, covering a ten-year period, 2010-2020. This period is deliberately considered, as it marks the earliest/low years of the conflict, to the worst/turning point of the conflict. The data gathered within this period helps in the deep understanding of a very clear picture of the weight and dept of the conflict.

### **3.5 Method of Data Analysis**

For this research to arrive at the full derivatives of the impact of the herders’ farmers conflict in Nigeria, the descriptive approach is adopted for the analysis of the data, which has been collected mainly from secondary sources. The method is preferred because of the possibility of observing happenings in a completely natural and unchanging natural environment, less time-consuming, as well as the ability to effectively analyse non-quantitative issues and topics (Lawless and Heymann 2010; Sloman 2010). Wherein, a ten-year data, from 2010-2020 is descriptively analysed in this study, noting particularly; the date of the attack, the number/frequency of attacks, the places/areas attacked, as well as the number of lives lost in each of the attacks.

### **3.6 Limitation of the Model**

Beautiful as this method of analysis is, it is not devoid of its limitations. Some of which include but are limited to; the tendency to be biased due to lack of statistical tests, also most descriptive studies cannot be repeatable, because of their observational nature. The method also poses the possibility of error, and subjectivity (Mishra et al. 2019).

## **CHAPTER FOUR RESULT AND DISCUSSION**

### **4.1 Introduction**

This chapter encompasses the empirical section, it will not just be analysing, but also laying bare the descriptive statistics and analysis matrix in other to buttress the facts already discussed. This is integrated to enrich the discussion and this research in general.

### **4.2 Descriptive statistics**

Descriptive analysis as the name suggests “describes” events with a given data in perspective (Neyeloff et al. 2012). It is usually Xray past/historical happenings to understand failure or success. It also helps to the understanding of how past events might help shape future outcomes (Birmingham and Wilkinson 2003). For one to have a clear understanding of the data used in this research, it is imperative to note that the data was arrived at from a collection of combined existing data hitherto collected by the Benue State Government, through the Office of State Coordinator on Sustainable Development Goals (SDGs), from 2010-2012, the Daily Post Nigeria newspaper 2013-2017, and the working document on the Fulani Militia attack 2018-2020. In total, the data collected 2010-2020, marking the near time to the beginning of the conflict, to 2020, which is the highest point of the degeneration of the conflict.

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**Table 4: Number of people killed by herders in Benue State in 2013**

S/No	Date of attack	Communities	No of deaths
1	February	Agatu, Inoli, Ologba, Olegeje, Olegogboche Olegede, Adana, Inminy Adugbe	Undocumented number of deaths
2	23 <sup>rd</sup> April	Mbasenge	10 lives lost
3	7 <sup>th</sup> May	Agatu	47 lives lost
4	14 <sup>th</sup> May	Agatu	40 lives lost
5	5 <sup>th</sup> July	Nzorov	20 lives lost
6	31 <sup>st</sup> July	Agatu	2 lives lost
7	7 <sup>th</sup> November	Ikpele and Okpopolo	7 lives lost
8	9 <sup>th</sup> November	Agatu	36 lives lost
9	20 <sup>th</sup> November	Guma	22 lives lost
<b>Total</b>	<b>9</b>	<b>18</b>	<b>184 lives lost</b>

Source: Daily Post Nigeria, 2013 (Chinyere et al.)

A look at **Table four** above indicates that between February to November 2013, a total number of 18 communities were attacked in Benue State, with 184 lives lost by attacks, orchestrated by the herders.

**Table 5: Number of people killed by herders in Benue State in 2014**

S/No	Date of attack	Communities	No of deaths
1	10 <sup>th</sup> January	Agatu	12 lives lost
2	20 <sup>th</sup> January	Adeke	3 lives lost
3	20 <sup>th</sup> -21 <sup>st</sup> February	Gwer West	35 lives lost
4	24 <sup>th</sup> February	Tiv	8 lives lost
5	6 <sup>th</sup> March	Kwande	30 lives lost
6	12 <sup>th</sup> March	Suswan	22 lives lost
7	12 <sup>th</sup> March	Ukpiani	28 lives lost
8	23 <sup>rd</sup> March	Gbajimba	25 lives lost
9	25 <sup>th</sup> March	Agenu	7 lives lost
10	29 <sup>th</sup> March	Agatu	19 lives lost
11	29 <sup>th</sup> March	Shangev	15 lives lost.
12	30 <sup>th</sup> March	Agatu	19 lives lost.
13	10 <sup>th</sup> April	Ukemberagya/Tswarev	6 lives lost.
14	15 <sup>th</sup> April	Obagaji	12 lives lost.
15	10 <sup>th</sup> September	Ogbadibo	Many undocumented lives lost
<b>Total</b>	<b>15</b>	<b>15</b>	<b>233 lives lost</b>

Source: Daily Post Nigeria, 2014 (Chinyere et al.)

From table five above, the statistics indicate that 16 communities were attacked by the herders in Benue State, with 233 lives lost because of the attacks.

**Table 6: Number of people killed by herders in Benue in 2015.**

S/No	Date of attack	Communities	No of deaths
1	27 <sup>th</sup> January	Abugbe, Okoklo, Ogwule, Ocholoyan	17 lives lost
2	27 <sup>th</sup> January	Logo	9 lives lost
3	15 <sup>th</sup> March	Egba	90 lives lost
4	27 <sup>th</sup> April	Mbadwem and Guma	28 lives lost
5	11 <sup>th</sup> May	Ikyoawen	5 lives lost

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6	24 <sup>th</sup> May	Ukura and Gafa	100 lives lost
8	7 <sup>th</sup> July	Imande- Bebeshi	1 live lost
10	5 <sup>th</sup> November	Buruku	25 lives lost
<b>Total</b>	<b>8</b>	<b>13</b>	<b>272 lives lost</b>

Source: Daily Post Nigeria, 2015 (Chinyere et al.).

From table six above, between January and December 2015, a total number of 14 communities were attacked in Benue state, and 272 lives were lost.

**Table 7: Number of people killed by herders in Benue State in 2016**

S/No	Date of attack	Communities	No of deaths
1	20 <sup>th</sup> January	Adeke	3 lives lost
2	8 <sup>th</sup> February	Tor-Anyiin and Torm-Ataan	10 lives lost
3	20 <sup>th</sup> - 21 <sup>st</sup> February	Agatu	500 lives lost
4	29 <sup>th</sup> February	Edugbeho	11 lives lost
5	5 <sup>th</sup> March	Agatu	Houses burnt
6	9 <sup>th</sup> March	Ngorukkgan	8 lives lost
7	10 <sup>th</sup> March	Obagaji	2lives lost
8	11 <sup>th</sup> March	-----	No life lost
9	13 <sup>th</sup> March	Tarkaa	6 lives lost
10	23 <sup>rd</sup> March	Gbajimba	25 lives lost
11	25 <sup>th</sup> March	Agenu	7 lives lost.
12	29 <sup>th</sup> March	Agatu	19 lives lost.
13	29 <sup>th</sup> March	Shengev	15 lives lost.
14	30 <sup>th</sup> March	Agatu	19 lives lost.
15	10 <sup>th</sup> April	Ukemberegya/Tswarev	6 lives lost.
16	15 <sup>th</sup> April	Obagaji	12 lives lost.
17	10 <sup>th</sup> September	Ogbadibo	Unspecified lives lost
<b>Total</b>	<b>17</b>	<b>18</b>	<b>654 lives lost</b>

Source: Daily Post Nigeria,2016 (Chinyere et al.)

Deducing from Table 7 above, it has been observed that 2016 was one of the worst periods, since the conflict first began, recording one of the highest attacks and number of lives lost. Between January and September 2016, a total of 19 communities were attacked by the herders in Benue State, with a total number of 654 lives lost.

**Table 8: Number of people killed in Benue State by herders in 2017.**

S/No	Date of attack	Communities	No of deaths
1	24 <sup>th</sup> January	Ipiga	15 lives lost
2	2 <sup>nd</sup> March	Mbahimin	10 lives lost
3	11 <sup>th</sup> March	Mkgovur	Many lives lost
4	8 <sup>th</sup> March	Tse-Akaa	3 lives lost
5	13 <sup>th</sup> May	Logo	13 lives lost
<b>Total</b>	<b>5</b>	<b>5</b>	<b>41 lives lost</b>

Source: Daily Post Nigeria, 2017 (Chinyere et al.)

From table eight above, it has been observed that 2017 recorded the lowest event of attacks. The statistic indicates that between January and May 2017, a total number of 5 communities were attacked, with 41 lives lost.



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**Table 9: Number of people killed by herders in Benue State in 2018**

S/No	Date of attack	Communities	No of deaths
1	2 <sup>nd</sup> January	Gaambe-Tiev, Ayilamo, and Turan	50 lives lost
2	16 <sup>th</sup> January	Guma	6 lives lost
3	26 <sup>th</sup> January	Ukum	2 lives lost
4	29 <sup>th</sup> January	Guma	1 life lost
5	5 <sup>th</sup> February	Ortom Farms	2 lives lost
6	10 <sup>th</sup> February	-----	2 lives lost.
7	12 <sup>th</sup> February	Guma	2 lives lost
8	5 <sup>th</sup> March	Okpokwu	24 lives lost
9	13 <sup>th</sup> March	Guma	2 lives lost
10	13 <sup>th</sup> March	Guma	5 lives lost
11	24 <sup>th</sup> March	Makurdi	5 lives lost.
12	4 <sup>th</sup> April	Gwer West	10 lives lost.
13	5 <sup>th</sup> April	Gwer West	30 lives lost.
14	8 <sup>th</sup> May	Tse-Akaa	3 lives lost.
15	13 <sup>th</sup> May	Logo	13 lives lost
<b>Total</b>	<b>15</b>	<b>17</b>	<b>157 lives lost</b>

Source: Daily Post Nigeria, 2018 (Chinyere et al.)

Table nine above shows that between January and May 2018, a total number of 16 attacks by the herders were recorded, with a total number of 157 lives lost.

**Table 10: Number of people killed by herders in Benue State in 2019**

S/No	Month	No of attacks	No of deaths
1	January	2	14 lives lost
2	February	6	68 lives lost
3	March	19	105 lives lost
4	April	14	80 lives lost
5	May	53	165 lives lost
6	June	8	14 lives lost
7	July	16	10 lives lost
8	August	14	17 lives lost
9	September	12	32 lives lost
10	October	11	12 lives lost.
11	November	4	5 lives lost.
12	December	7	2 lives lost
<b>Total</b>		<b>166</b>	<b>524 lives lost</b>

Source: BAZAN, J. L. (2020). "Fulani militias' terror: 2017-2020". Working Paper.

Table ten above indicates that 2019 was the year with the most recorded attacks since the conflicts first started. Between January to December 2019, a total number of 166 attacks by the herders occurred, with 524 lives lost.

**Table 11: Number of people killed by herders in Benue State in 2020**

S/No	Month	No of attacks	No of deaths
1	January	67	89
2	February	16	33
3	March	23	102
4	April	33	107
5	May	2	4
<b>Total</b>		<b>141</b>	<b>90</b>

Source: BAZAN, J. L. (2020). "Fulani militias' terror: 2017-2020". Working Paper.

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From table eleven above, indicates that from January May 2020, a total number of 166 attacks by the herders occurred in Benue State, with 90 lives.

### 4.3 Summary of data

**Table 12: Summary of attacked communities, and lives lost from 2013-2020**

Year	No of attacks	No of attacked communities	No of lives lost
2013	9	18	184
2014	15	15	233
2015	8	13	272
2016	17	18	654
2017	5	5	41
2018	15	17	157
2019	166	----	524
2020	141	----	90
8 years	376	86	2,155

**Source: Compiled by the author from the data used in this research.**

From the data analysis tableted above, between a period of eight years 2013-2020, a total number of 376 attacks occurred, with over 2,155 lives lost. Deducing from above, the year 2016 was the worst year of the conflict, as 654 lives were lost, and 18 communities attacked. On the other flip side, the year 2017 from the data appears to have been the most improved, with less attacks, recording only 5 attacks, with 41 lives lost.

Ultimately, the summery of the data reflects a clear indication of killings, displacement, and general instability. This has a potential negative impact on the stability in food production in Benue State which is known as *“the food basket of the nation”* in Nigeria. Another dimension of this result is the implication for reprisal attacks and revenge, which has the potential of creating an unending circle of violence. As also indicated in the data, over 86 communities were attacked, and with the economic hardship faced by the farmers whose major activity farming has been disrupted, rebuilding homes, nay life afresh appears to be difficult as reflected in the number of Internally Displaced Persons (IDPs) totalling 125,078 as indicated Table: 3, even after long after the attacks. The above highlights also allude to the question of this research.

## CHAPTER 5 CONCLUSION AND RECOMMENDATION

### 5.1 Summary and conclusion

The study was initiated to establish the veracity or otherwise that climate change, water scarcity is responsible for the lingering conflict between the herders and farmers. This was even more important to dispel some of the conspiracy theories about the conflict, popular among which is that; the conflict is about religion and a jihadist agenda to further Islamise the middle belt and southern tribes of Nigeria that are mostly Christians. The study uses specifically Benue state in central Nigeria which has been the epic centre of the conflict as a case study. A time series of 2010 -2020 was considered for the study, as it coincides with the genesis of the entire conflict and zenith in recent times. This was considered to present a crystal understanding to the dept and weight of the crises, from human to economic loss.

Theoretically, the study adopted the Greed and Grievance Theory as the theoretical framework for the research. The merit in adopting the theory for the research against many others such as the; Conflict Theory, Frustration and Aggression Theory among others was predicated on its analytical and perfect suitability into the dynamics of the herders-farmers conflict in Nigeria. Furthermore, the theory has been the most erudite in the explanation and study of internal conflicts and civil wars in the social sciences. Relevant literature on the subject matter was reviewed diligently reviewed to collaborate facts and add credibility to the research.

Deducing from the study, the study conceded to the fact that; climate change has indeed created a water stress situation globally with Nigeria having its fair share. The study further attests to the fact that climate change stress factor has increase desert encroachment and water scarcity most especially in northern Nigeria. The fact was clearly demonstrated in the existentially treat of Lake Chad which used to support the livelihood of more than 30 million Nigerians and other neighbouring country around the Lake Chad basin, such as Cameroon, Chad, and Niger, but has been reduced from 25,000 mk<sup>2</sup> in 1963 and has lost more than 1/3<sup>rd</sup> of its content to just about 1,5000 mk<sup>2</sup> by 2013. Such water stress situation and lack of pasture have been identified by the study as the

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main reason for the push of the herders towards the middle belt and southern part of Nigeria, wherein triggering a recurrent decimal of conflict between the herders and farmers in Nigeria.

For the religious narrative of the conflict, outside the fact that the Fulani's who constitute the herder's population are Muslims and the farmers are predominantly farmers, there has been no other strong link to conclude that religion is the motive for the conflict. More so, the literature review shows that in some part of Southern Nigeria, especially the Yoruba speaking area, which has a 50/50 Christian/Muslim population has not been spared out of the attacks. Wherein, the study concludes that it is a mere coincidence. However, the study finds worrisome the indifference or lack of proactive steps by the Nigerian government and relevant security agencies in effectively dealing with the perpetrators of the violence, hence the suspicion and flourishing of the conspiracy theories.

### **5.2 Limitation of the study**

Due to time constraints and the COVID-19 global pandemic at the time of the research, the desire to carry out primary data directly from the area covered in the research was unrealizable. Sensitive as the research is, the study relied only on secondary data to corroborate and buttress facts for the research. Meanwhile, the data for the years 2010, 2011, and 2013 which were the early years of the conflict could not be gotten to inculcate into the research, which is highly regrettable.

### **5.3 Contribution to the study**

Scholarly, this research has been able to contribute to the existing literature in the field of climate change and global insecurity. It has been able to further bring to the fore a better understanding of the dynamics of the herders- farmers conflict in Nigeria. The study has been able to empirically demonstrate that climate change and not religion is responsible for the herders-farmers conflict in Nigeria. Another interesting contribution of the study is that; the reclamation of Lake Chad may be a better way of solving the insurgency problem in Nigeria, rather than the military approach that has been used over the years without success.

### **5.4 Suggestion for further study/research**

The study suggests further research into the efficacy of using water /reclamation of Lake Chad, rather than military approach to solving the insecurity situation in Nigeria, especially Boko Haram, as against the current military approach that has not been able to ameliorate the situation over the years. Also, further research should be considered into the area of investigating the role of foreign militia herders and external forces in destabilizing the security of Nigeria for external reasons.

### **5.5 Recommendations**

The study recommends the banning of open grazing in every part of Nigeria, as it is primitive, archaic, and not in tune with modern methods of animal rearing in the world. Ranching of cattle should be practiced as done in other developed countries. Government should be able to support those who are willing to start up cattle ranching with low-interest loans to start, as it is capital intensive to start, and most people farmers may not be able to start for lack of funds. The security agencies should be more proactive and not appear to be taking a side in the conflict. Also, offenders should be arrested and prosecuted promptly to serve as a deterrent for other perpetrators of violence. The Nigerian government should collaborate with other countries of the Lake Chad basin in executing the proposed reclamation project that has been in the pipeline for years, by transferring water from the Congo River to Lake Chad. This when done will not resuscitate farming, fishing, and other economic activities, but will greatly serve as a solution to the insurgency situation in the country. Meanwhile, the Nigerian government must as a matter of urgency begin to take concrete steps aimed at effectively tackling the threat of desertification.

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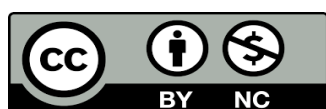
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