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How climate change induced land conflicts and food insecurity in Africa

A case of herdsman-farmers crisis in Nigeria

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ABSTRACT

Context and Background:

In Nigeria, due to the herdsman-farmers crisis occasioned by climate change and land conflicts, food production has been hampered. The study explores the intricate relationship between climate change, land disputes, and food insecurity in Nigeria, focusing on the escalating crisis between herdsman and farmers. Against the backdrop of increasing violence and multiplying land conflicts, exacerbated by climate-induced challenges such as floods, droughts, desertification, soil degradation, and water scarcity, this research delves into the profound impact of climate change on the nation's agricultural sector and land use patterns. The study emphasizes the urgent need to address these issues, recognizing climate change as a significant driver of the herdsman-farmers crisis in Nigeria.

Goal and Objectives:

The primary goal of the study is to investigate the extent to which climate change contributes to land disputes and food insecurity in Nigeria, using the herdsman-farmers crisis as a case study.

Methodology:

The research adopts a comprehensive approach, utilizing data from relevant articles, images, and news stories to analyze the complexities of the herdsman-farmers crisis in Nigeria. It employs a case study methodology to investigate the impact of climate change on land disputes and food insecurity.

Results:

The findings underscore the critical role of climate change in exacerbating land conflicts and food insecurity in Nigeria. The study highlights the adverse effects of climate change, such as rising temperatures, changing rainfall patterns, and extreme weather events, on agricultural practices and resource competition. The research proposes workable strategies for resolving land conflicts, emphasizing the enhancement of climate resilience through sustainable land and resource management, inclusive decision-making, and strengthened governance. Furthermore, it suggests the implementation of early warning systems, fostering dialogue, cooperation, and providing alternative livelihood opportunities as crucial steps toward mitigating conflicts and promoting long-term peace and stability.

Keywords

Climate Change, Land conflicts, Food insecurity, Herdsman, Farmers, Land policies

1. INTRODUCTION

Climate change is the gradual rise in global temperatures that eventually has a negative impact on the climate system. The dynamic nature of the climatic system must always be kept in mind. It frequently takes on both artificial and natural forms. Climate change is one of the most pressing issues facing the world today (Intergovernmental Panel on Climate Change, IPCC, 2007). It is no longer a distant threat; it is an immediate and palpable reality. In Africa, where the impacts of climate change are felt acutely, the consequences extend far beyond environmental shifts. One of the most alarming repercussions is the escalation of land conflicts, leading to widespread food insecurity. According to Vanclay (2003), cited in Lebari, Onuegbu, and Adeniran (2022), the population of many agrarian countries in Africa is growing, which is accompanied by a rise in the need for living space, resource utilization, and arable land, all of which have competing and alternative uses. Land-use conflict is a result of ongoing disputes between parties over how to use resources like land and water bodies. These conflicts frequently turn violent. The effects of climate change, which include crop failures, erosion-related loss of soil nutrients, and drying up of rivers and other water bodies, have made this problem worse in recent years (Raleigh, 2021). Conflicts over the use of resources are not uncommon and possibly not unnatural because conflict itself is not always harmful but may be necessary for the growth, change, and development of human organizations. Conflicts, however, turn unhealthy and villainous when they are perceived to have escalated to violence, resulting in damaging confrontations, a decline in productivity, and an excessively downward trend in economic growth.

According to Nyong and Fikis (2005), cited in Egbule and Dikenwosi (2014), there has been a general decline in the amount of food produced per person in Sub-Saharan Africa as a result of conflicts driven by competition between herdsmen and farmers of arable crops over the use of resources, with Nigeria being particularly affected due to these conflicts being frequent in many regions of the country. Conflict between settled farmers and between crop farmers and herdsmen, fishers, crop farmers, etc. is a prevalent issue among rural land users. However, land-use disputes between crop farmers and nomadic herdsmen are the most common in Northern Nigeria (Idowu, 2016). Security and agriculture (food security) are just two areas of daily life that have been demonstrated to be threatened by this change in the global environment. As a result, it appears that the Nigerian climate crisis has exposed farmers and herders to frequent conflicts. Because indigenous farmers grow the majority of the local food while herders raise the majority of the meat animals (particularly beef), any conflict between these two puts the country's food security at risk. In fact, the biggest security concern is the threat it poses to food security as a result of the infamous conflict between native farmers and herders (notably of the Fulani nation), who move around looking for pasture for their herds. Because of the consequences that climatic changes have on their territory, this problem tends to get worse, which obviously threatens the supply and accessibility of food. Numerous people have died as a result of these battles between indigenous farmers and nomadic herders; the majority of them were farmers, and this has had an immediate impact on agricultural production and the Nigerian economy. As a result, the disputes between farmers and herdsmen have been ongoing for a while and have gotten worse recently.

The country's food security has suffered as a result of the fact that farmer-herder relations have been more marked by violent confrontations than by cooperative efforts. In light of this context, the study's objectives were to investigate the influence of climate change on the escalating farmers-herders conflict in Nigeria and to investigate the consequences of those effects on land and food security in Nigeria.

2. CONCEPTS CLARIFICATION

Some concepts are pivotal in this article. Hence, to make this article more comprehensive and comprehensible, some basic concepts are briefly clarified below:

2.1 Climate Change

Climate change is seen differently by scholars and international organizations. Simply put, climate change is the variation or degree of variability in the atmospheric condition(s) of a place or an area at any given time. Article 1 of the United Nations Framework Convention on Climate Change defines climate change as a change of climate atmosphere, is attributed directly or indirectly to human activity that alters the composition of the global Etuk, in addition to natural climate variability observed over comparable time periods. The Intergovernmental Panel on Climate Change (IPCC, 2007) defines climate change as statistically significant alterations that last for a long time, generally decades or longer.

2.2 Herdsmen-Farmers Crisis

The definition of a farmer may extend beyond crop production, but for the purposes of this study, the term refers to anyone who cultivates land for the purpose of growing food. As correctly noted, "most of those people are indigenous members of the community where they reside" (Aliyu, Ikedinma, & Akinwande, 2018: 119). Farmers make up the majority of the rural population in Nigeria, and as a result, they are present in almost all of the rural communities there. On the other hand, sheep, cattle, goats, and other domestic animals are all raised by herdsmen. These herdsmen, also known as herders, pastoralists, and cattle breeders, frequently lead lives that can be considered "unusual" in comparison to other people's way of life. They are a largely group of nomads who parade through streets and towns with their cattle and are mostly Muslims of the Fulani extraction. In fact, their way of life is nomadic, and they maintain their culture and traditions in the way they do their farming. They frequently travel from one location to another while carrying sticks and machetes. Nonetheless, new investigations have revealed that some of them are spotted with low-tech or high-tech weapons (Idowu, 2016). According to Aliyu, Ikedinma and Akinwande (2018), the farmer-herdsmen crisis is simply the verbal or physical violence that arises between farmers and herders as a result of their competition for the limited but available land.

2.3 Land Conflict

Land conflict refers to disputes, disagreements, or conflicts that arise over the ownership, use, or control of land. They may encompass various aspects of land, including its boundaries, ownership rights, utilization, and the allocation of resources associated with it. These conflicts can occur for a

variety of reasons and involve different parties, including individuals, communities, organizations, or governments.

2.4 Food Insecurity

Food insecurity refers to a situation in which people lack consistent access to enough safe, nutritious, and culturally appropriate food to meet their dietary needs for an active and healthy life. It is a complex and multifaceted issue that can manifest at various levels, from individual households to entire communities or even entire nations. It can lead to malnutrition, impaired physical and cognitive development, and increased susceptibility to diseases. Food insecurity represents a lack of access to enough food and can be either chronic or temporary. In chronic food insecurity, which arises from a lack of resources to produce or acquire food, the diet is persistently inadequate. According to Amartya, cited in Egbule (2023), food insecurity or scarcity is no longer seen simply as a failure of agriculture to produce sufficient food at the national level but instead as a failure of livelihoods to guarantee access to sufficient food at the household level.

2.5 Food Security

Simply put, food security refers to having access to basic, nutritious food. The World Food Summit (1996) defined food security as all people, at all times, having physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life. The Food Summit's position around the globe can be seen from both a national and local perspective. Tersoo and Ogochukwu (2014) state categorically that food security at the individual level implies the intake of food and the absorption of nutrients sufficient to meet differential individual needs for activity, health, growth, and development. This viewpoint differs from the prior one in that it places more emphasis on a household's access to food than it does on its availability or nutritional content. According to FAO (2021), the four main components of food security are food availability, food accessibility, food utilization, and food stability.

3. THE HERDSMEN-FARMERS CRISIS: AN OVERVIEW

Although it is a problem that dates back to the pre-colonial period, the frequency of farmers/herdsmen conflicts appears to be on the increase in recent times. There also seem to be no clear consensus among scholars to show a clear time-series evidence and the factor(s) responsible for this rise in violent conflicts between the farmers and the herdsmen (Adigun, 2019). Recently, several claims have been made as to the factors that have given rise to the seeming rising incidence of violent attacks between the herders and the farmers in Nigeria with serious national security implications. The herdsmen-farmers crisis has deep historical roots, but recent shifts in climate patterns have amplified the competition for dwindling natural resources, particularly arable land and water.

Nigeria, as Africa's most populous country, exemplifies the complex interplay between climate change, land conflicts, and food security. The herdsmen-farmers crisis, which has gained notoriety in

recent years, epitomizes this nexus. This conflict primarily involves nomadic herdsman, predominantly of the Fulani ethnic group, and settled farmers, often of various ethnic backgrounds. The root of the crisis lies in the competition for dwindling arable land and water resources. In Nigeria, the herdsman-farmers conflict is still a significant problem. Many people have been forcibly evicted from their homes, thousands have been injured or killed, and millions of dollars' worth of property has been destroyed. However, the Nigerian federal government appears unconcerned and unwilling to take any decisive action against those responsible for this heinous crime. Instead, they are asking for state-owned land parcels to serve as a permanent feeding place for the ravaging herders.

Herders in Nigeria who had moved seasonally from the north to the south now frequently move, primarily in search of greener pastures for their herds. Conflicts, which have recently claimed lives and destroyed property, have come to symbolize this movement. These herds are purportedly guided into farms during their activity in order to consume local farmers' crops rather than the expected grasses, which has resulted to frequent conflicts between farmers and herders. The peace, order, and peaceful cohabitation of both social groups have suffered as a result of these farmer-herder clashes (Olaniyan & Okeke-Uzodike, 2015). Furthermore, they contend that both the high rate of herders' migration in Nigeria and the attendant conflicts that define these migrations can be linked to climate change. The mention of "herdsman" and their nomadic lifestyle have grown to be more linked with violence. There is an extraordinary battle between herders and farmers to preserve and enhance their culture and means of subsistence as a result of climate change diminishing the amount of land, without taking into account the surroundings and the impact of this ambition for advancement (Bello, 2013). Most of Nigeria's herders have Fulani ethnic origin, and they frequently perceive any harm to their herds or herding activities as a threat to their identity, way of life, culture, and legacy. The herders are prepared to do anything, even murdering and dying, in order to protect their cultural legacy. They established the Miyetti-Allah Cattle Breeders Association of Nigeria (MACBAN) to ensure the security of their cultural heritage from the threat of extinction and to aid in the integration of herders wherever they settle across the territory of the Nigerian state in an effort to survive the difficult times associated with their activities and heritage.

Herders find their way through different regions of the Nigerian state; they have occasionally even threatened local administrations and states that don't seem to have worked well with the herders. The Global Terrorism Index (Institute for Economics and Peace, 2016) placed Nigeria's herdsman among the top terrorist organizations due to the rising frequency of farmer-herder conflict and the recurrent mortality from these violent conflicts. The Fulani herdsman see to the propagation of their Islamic religion whether peacefully or violently. They see the middle belt region as a conquered territory by Usman dan Fodio. Stopping them from behaving anyhow they want on the soil of middle belt region is a call for war. This is why the introduction of anti grazing law by the Ortom administration in Benue State was seen as an opposition to Islam, which signaled the commercialization and mass destruction of lives and property by the herdsman. Herdsman had the courage to destroy the lives and property of their host communities in order to demonstrate their "superiority" because their journey from the north to the central belt regions was uncontested. Tragically, herdsman's actions have spiraled out of control since the start of Buhari's administration of the fourth republic.

Table 2: Some Cases of Violent Herdsmen-Farmers Clashes in Nigeria from 2018 to 2023

S/ N	Nature of Incidence	Date	Place
1	Herdsmen attacked seven villages in Nimbo in Uzo-Uwani LGA, killed about 40 persons and destroyed several properties	April, 2018	Enugu State
2	Herdsmen attacked Ugondo, Turan and Gabo-Nenzev in Logo LGA and killed about 59 persons	June, 2018	Benue State
3	Violent clashes erupted in Lau LGA, Over 10 people were killed and 300 people displaced in a clash between farmers and herdsmen	July 2019	Taraba State
4	Herders and farmers clashed in Nchatancha, killed 67	October 2019	Enugu State
5	Conflict in Uwheru community led to casualties killed about 10 persons and destroyed several properties	February 2020	Delta State
6	The Wukari and Ibi areas of Taraba State witnessed clashes between herdsmen and farmers in 2020. These incidents led to the displacement of communities and a heavy toll on human lives.	April 2020	Taraba State
7	Violent clashes at communities of Ago Sanusi and Oluwalogbon, leading to casualties and destruction of property.	June 2020,	Ondo State
8	Clashes occurred in Yewa North Local Government Area of, leading to fatalities and displacement of residents.	January 2021	Ogun State
9	There were reports of violent clashes in parts of Enugu State, including the Nsukka area, which resulted in loss of lives and property.	April 2021,	
10	A seminarian brutally murdered and another kidnapped in Nigeria	January 2022	Kaduna State
11	23 Locals Killed in Fresh Attacks on Two Benue Communities	March 2022	Benue State
12	Violent incidents occurred in the Numan and Demsa areas, causing loss of lives and displacement of residents.	June 2022,	Adamawa State
13	From 15 to 16 May 2023 over one hundred people were killed in an attack by Fulani herders against	May 2023	<u>Plateau State</u>

	villagers in <u>Mangu</u>		
14	Kogi State experienced violent clashes between herdsmen and farmers in parts of the state, leading to loss of lives and property.	February 2023,	Kogi State
15	Herdsmen-farmers clash in Danmusa LGA resulted in deaths	June 2023	Kastina State

Sources: Lebari (2018); Aliyu, Ikedinma & Akinwande (2018) cited in Lebari, Onuegbu and Adeniran (2022), Punch Newspaper (2023), Wikipedia, the free encyclopedia (2023).

4. HERDSMEN-FARMERS CONFLICTS IN NIGERIA: IMPLICATION FOR AGRICULTURAL PRODUCTIVITY AND FOOD SECURITY

The importance of the climate to the natural environment cannot be disputed. Farmers-herders conflicts have far-reaching implications for agricultural productivity and food security. Although there has always been a need for herders to migrate to other parts of Nigeria in search of better pastures for their herds, climate change tends to have made this need even more pressing in light of the implications it has for the relationships between farmers and herders in Nigeria. Since the media has been flooded with deaths and fights resulting from these conflicts, this frequent movement has been more linked to violent conflicts than collaboration. The agricultural sector has been significantly but differently impacted by the ongoing violent conflicts between farmers and herders, according to Okoli and Addo (2018). This is especially true in areas where farming is more prevalent than just subsistence. This situation is detrimental to the country's food security since it leads to food shortages, high food prices, and restricted access to food. This is because the crisis has caused crops and herds to be pillaged and has deterred investment in the industry.

As climate change worsens, herders move from one area to another, resulting in violent conflicts. Several farmers have left their farms because they are afraid to go back, which lowers productivity. As a result, outputs and income are withheld from the indigenous farmers and, occasionally, the herders (Kazzah, 2018; Idowu, 2016). In addition, Kazzah (2018) contends that farmers frequently retaliate in some way when herds ruin their crops and farms during grazing, which results in the slaughter of numerous cows. The fact that both the crops being produced are intended for food and the herds intended for meat are being targeted makes this situation undesirable since it increases the likelihood that food will be scarce and, even when it is available, will be extremely expensive. Addressing these issues requires not only humanitarian assistance but also long-term investments in rebuilding agricultural systems and strengthening community resilience. For better comprehension, the implications of farmer-herder conflicts on agricultural productivity and food security in Nigeria are summarized below:

4.1 Decreased Output and Food Price Volatility

Due to the multifaceted way that the problem of food security is perceived, conflicts between farmers and herders brought on by climate change result in unstable prices for staple foods, which almost always move upward. As a result, peasants and other low-income Nigerians are put under financial strain (Innocent, Christian, & Onuigbo, 2017). In other words, shocks to agriculture brought on by climate change and decreased food output result in higher food costs. This has an impact on the cost and availability of food, especially for vulnerable groups that spend a large portion of their income on food.

4.2 Nutritional Deficiencies

Farmers-herders conflicts disrupt the entire agricultural value chain, leading to increased vulnerability to food insecurity, especially among already marginalized populations. It could disrupt access to diverse diets, leading to nutritional deficiencies, especially among children and pregnant women.

4.3 Severe Input Shortages

Conflicts can disrupt supply chains for fertilizers, seeds, damaged infrastructure, and equipment, leading to reduced yields and productivity. This can create a cycle of reduced agricultural investment and long-term productivity loss.

4.4 Displacement of Farmers

Conflicts often lead to large-scale internal displacement of people. Displaced farmers face challenges in finding new land, accessing resources, and adapting to different agro-ecological conditions. In cases of cross-border conflicts, displaced populations may find themselves in unfamiliar regions with different agricultural practices and climatic conditions.

4.5 Market Disruptions

Conflicts can lead to instability in local and regional markets, causing sudden spikes in food prices. This can further exacerbate food insecurity, particularly for vulnerable populations.

4.6 Reduced Investment and Commercial Activity

Ongoing conflicts tend to deter private investment in the agricultural sector, limiting economic opportunities for farmers and agribusinesses.

5. CLIMATE CHANGE AS A DRIVER OF LAND CONFLICTS AND HERDSMEN-FARMERS CRISIS

Different parts of the world experience the effects of climate change in different ways, each with its own particular effects. Social conflicts are blatant signs of climate change in Africa in general and in West Africa in particular. Whereas the conflict that results from it affects several facets of security

without regard for food or human security, Climate change has subsequently emerged as a key determinant of migration, notably among herders in Nigeria, in addition to traditional causes including economic and socio-cultural variables (Amusan, Abegunde & Akinyemi, 2017; Aderinto & Achem 2019). The herdsman-farmers crisis is not solely about resource scarcity (a problem of access to land), but also about the changing climate acting as a catalyst for conflict. The inability of communities to adapt to these changing conditions, compounded by pre-existing socio-economic and political issues, creates fertile ground for conflict. In fact, climate change has been identified as a significant factor exacerbating land conflicts between herdsman and farmers in Nigeria. This conflict, often referred to as the "herdsman-farmers crisis" or "herder-farmer conflict," has deep historical roots, but changing climate patterns have added new layers of complexity to the issue. Climate-induced environmental changes, such as desertification and water scarcity, can force both herders and farmers to migrate in search of more favorable conditions. This movement of populations can lead to clashes over territory and resources with existing communities, as well as competition for limited resources along migration routes. Here's an investigation into the role of climate change in this context:

5.1 Shrinking and Grazing Lands

Rising temperatures and prolonged droughts have led to a reduction in available grazing lands for nomadic herders. This has forced them to encroach upon farmlands, triggering conflicts with settled farmers.

5.2 Role of External Actors

Climate change and its impacts on resource availability can attract external actors seeking to exploit the situation. This includes criminal groups and militias that may take advantage of the existing tensions for their own interests, further escalating conflicts.

5.3 Displacement and migration

Climate-induced environmental stressors, such as desertification and land degradation, can displace both herders and farmers. This displacement forces them to migrate to new areas in search of arable land and pasture. This influx of migrants into areas already inhabited by other communities often leads to heightened competition and conflicts.

5.4 Weak Governance and Policy Response

Nigeria faces challenges in terms of governance and policy responses to the herder-farmer conflict. Existing land tenure systems and land use policies are often inadequate for addressing the evolving challenges posed by climate change. Poorly defined land rights contribute to disputes. In some cases, inadequate government policies and poor land management practices can exacerbate the impacts of climate change. Poorly planned irrigation projects, deforestation, and land degradation can contribute to resource scarcity and conflicts.

5.7 Ethnic and socioeconomic dynamics

Climate-induced resource scarcity exacerbates existing ethnic and socioeconomic divisions. Herders and farmers often come from different ethnic backgrounds and have distinct cultural practices, which can be further amplified by competition for dwindling resources.

6. COMMON CAUSES OF LAND CONFLICT

This study provides valuable insights into how climate change has contributed to land conflicts in Nigeria. Here are some common causes of land conflicts:

6.1 Competition for Scarce Resources

Scarce resources, exacerbated by climate change, have intensified competition between herders and farmers. Both groups rely on water resources for their livelihoods, with farmers needing water for irrigation and livestock needing water to drink. Access to water, a critical resource for both groups, has become increasingly contested. As arable land becomes scarcer due to desertification and land degradation, farmers and pastoralists are forced to compete for the limited resources available. This competition often leads to conflicts over land use and access.

6.2 Property Boundaries and Ownership Disputes

These conflicts arise when there is uncertainty or disagreement about the exact boundaries of a piece of land or who the rightful owner is. This can happen due to unclear land titles, informal land tenure systems, or changes in land use over time.

6.3 Land Tenure and Rights

Land tenure refers to the rights and arrangements by which people have access to and use land. Conflicts can arise when traditional or customary land tenure systems clash with formal legal systems.

6.4 Environmental Conservation and Land Use

Conflicts can arise between efforts to conserve natural resources and the interests of communities that rely on those resources for their livelihoods. For example, a protected area might conflict with the needs of local farmers or indigenous communities.

6.5 Indigenous and Tribal Land Rights

Indigenous communities often have distinct cultural and historical ties to land. Conflicts arise when their rights to ancestral lands are not recognized or are threatened by development projects.

6.6 Land Grabbing

In areas with weak governance structures and high levels of corruption, land conflicts can arise due to issues like land grabbing, illegal land acquisitions, and unfair land distribution. This occurs when powerful entities, such as corporations or governments, acquire large tracts of land, often at the expense of local communities. This can result in displacement, loss of livelihoods, and environmental degradation.

6.7 Inadequate Governance and Policy Responses

One critical aspect of this crisis is inadequate governance and policy responses. The Nigerian government, historically, has struggled to address the root causes of this conflict effectively. Weak land tenure systems, a lack of effective pastoralist policies, and limited climate adaptation strategies further exacerbate tensions.

7. WORKABLE STRATEGIES FOR RESOLVING LAND CONFLICTS IN NIGERIA

Resolving land conflicts in Nigeria requires a comprehensive and context-specific approach due to the diverse ethnic, cultural, and legal landscape of the country. These approaches may involve legal mechanisms, mediation, community engagement, policy reforms, and sometimes even international intervention. Here are some strategies that can be effective:

7.1 Strengthening Good Resource Management and Land Tenure Systems

Implementing robust land tenure systems can provide clarity and reduce conflicts over land use. Additionally, creating policies that balance the rights of farmers and herders is crucial.

7.2 Engaging the Community on the Need for Adaptive Strategies

Both farmers and herders need to adapt to changing climatic conditions. This requires investments in climate-resilient agriculture, water management, and sustainable pastoralism practices. Without such adaptations, conflicts are likely to persist or worsen.

7.3 Strengthening land governance and administration

Improve land registration and documentation processes to ensure clear land titles. Strengthening institutions responsible for land administration and ensuring they have adequate resources and capacity.

7.4 Community sensitization and education

Conducting awareness campaigns on land rights, tenure systems, and dispute resolution mechanisms is imperative. This will promote understanding of customary land tenure practices alongside formal legal systems.

7.5 Conflict mediation and resolution

Implementing community-based conflict resolution mechanisms can help ease tensions and build trust between herders and farmers. Establishing and supporting community-based mechanisms will provide accessible and culturally sensitive forums for resolving land disputes.

7.6 Policy and legal reforms

The government should ensure that laws recognize and protect customary land rights. Also, stakeholders should review and update land laws and policies to address gaps, inconsistencies, and outdated provisions.

7.7 Government-Community Partnerships

Engaging local communities in land use planning and decision-making processes is indispensable. This will foster collaboration between government agencies and local communities in land management and conflict resolution efforts. In fact, governments should consider establishing community land boards or committees to manage land allocation and use.

8. CONCLUSION

The study of the herdsmen-farmers crisis in Nigeria provides valuable insights into how climate change has contributed to land conflicts and food insecurity in Africa. Hence, this paper underscores the urgent need for concerted efforts to address the nexus between climate change, land conflicts, and food insecurity in Africa, using the Herdsmen-Farmers Crisis in Nigeria as a lens. The study employs a multidisciplinary approach, combining environmental science, social science, and political analysis to provide a comprehensive understanding of the complex dynamics at play. The herdsmen-farmers crisis in Nigeria serves as a poignant case study illustrating the complex relationship between climate change, land conflicts, and food security in Africa. Urgent action is needed to address the root causes and consequences of this crisis, not only in Nigeria but across the continent. The proposed policy recommendations, if implemented effectively, can serve as a blueprint for sustainable development in the face of a changing climate. It is imperative that stakeholders across various sectors work collaboratively to safeguard the livelihoods of vulnerable communities and ensure a food-secure future for the continent.

9. POLICY RECOMMENDATIONS AND THE WAY FORWARD

Addressing the complex interplay between climate change, land conflicts, and food insecurity requires a multi-dimensional approach. This should include:

1. Stakeholders in the environment sector (especially the Ministries of Environment: Federal, State, and Local) should lobby legislators to formulate viable land reform laws and effective environmental policies that will reduce or eradicate human-induced factors against the climate.

2. The government should build modern ranches with the best technologies to discourage nomadic herding. However, to achieve this, the government should involve key Northern leaders like the Sultan of Sokoto and the various emirs in the need to imbibe ranching into their culture, considering the economic and security benefits it provides.
3. Investing in climate-smart agricultural practices can enhance the resilience of farming communities to the impacts of climate change.
4. Relevant agencies should co-opt rainmakers to ascertain the possibility of them contributing to finding solutions to issues relating to climate change's effects on agriculture.
5. Implementing sustainable land management practices and effective land use planning can help mitigate conflicts arising from resource scarcity.
6. An immediate report should be filed if there are issues related to changes in the climate, particularly in remote regions.
7. Empowering communities with knowledge and resources to adapt to climate change is essential for building resilience.
8. Alternative livelihoods, such as agribusiness, vocational training, and non-farm income-generating activities, can reduce dependency on climate-sensitive sectors.

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Philip Onyekachukwu Egbule: Conceptualization, Writing the original draft.

Ewere Clinton Okonta: Reviewing, sourcing data, editing and supervision

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15. KEY TERMS AND DEFINITIONS

Climate change: It is the variation in the atmospheric condition(s) of a place or an area at any given time.

Farmer-Herdsmen Crisis: These are the verbal or physical violence that arises between farmers and herders as a result of their competition for the limited but available land

Land conflict: This refers to disputes, disagreements, or conflicts that arise over the ownership, use, or control of land.