



Research Paper

## Climate Change and Security Nexus: A Survey to Assess the Drivers of Conflict between Farmers and Herders in Southern Taraba-Nigeria

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**ABSTRACT:** One of the most problematic security challenges in Nigeria aside the menace of Boko Haram is the protracted resource-based conflict among farmers and herders. This conflict has always left a trail of destruction of food crops, livestock, properties, and human lives. This study explored the nexus between climate change and the farmer-herdsmen crisis with a view of highlighting the drivers of the conflict in Nigeria. The study adopted environmental scarcity and eco-survivalism theories of conflict. It collated survey data from both farmers and herders and descriptively analyzed it to further understand the dynamics and drivers of the farmer-herders crisis. The study found out that 88.8% of respondents believe that the weather and climate patterns have changed significantly thereby affecting the availability of both fertile land and grazing land. In addition, 83.7% of herders agree that lack of grazing land has forced them to migrate southward from the north in search of greener pastures and this results in confrontation from farmers which eventually results in conflicts. Another 60.4% of respondents attribute the reasons for confrontation to competition over greener land for either farming or grazing. Climate change will continue to impact on renewable resources like water and fertile land which will significantly intensify competition over scarce resource thereby exacerbating the tension between parties. The study suggests an adaptation and mitigation approach including the design of policies aimed at preventing further environmental degradation while encouraging a bottom-up approach to fostering solutions to the farmer-herder crises.

**KEYWORDS:** climate change, conflicts, farmers – herders, pastoralism, resource competition

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### I. INTRODUCTION

The environment in its natural state comprises of the conditions under which plants, animals and humans must live and reproduce. The environment has however attracted much attention recently, especially due to the over exploitation of resources and other anthropogenic activities which tends to destroy the environment and force plants, animals, and other inhabitants to go into extinction. Recently, the rise in global population necessitated a drastic increase in food production and this results in exploitation of the natural environment [1, 2]. The rapid growth in population results in an increase in food production which also results in the struggle over farming and grazing land [3]. For instance, the core northern states (where the herders predominantly reside) has experienced a severe variation in both temperature and precipitation [4, 5]. This increases the likelihood of loss in vegetation cover and supply of water for farm animals, thereby forcing the herders towards the north central to southern parts of the country for greener grazing lands. The migration of herders is likely to cause conflicts as herders cannot control the large flocks of animals they move with.

Consequently, the depletion of arable and fertile land for crop production largely due to rapid urbanization and adverse impact of climate change contributes to the struggle between the two parties – leading to violent confrontation, conflicts, deaths, displacement, and loss of properties including livestock worth millions of Naira [6]. Several studies attributes this to the pull and push factors that induce migration both locally and internationally. The push factors are those conditions that force the migrants (herders or farmers) to involuntarily move from their areas due to natural disasters, environmental degradation, political intolerance,

persecution, race and discrimination, poor economic activities, famine, extreme climate events and conflicts [7]. While the pull factors are those factors within the destination which are often favorable (for example, availability of fertile land for farming and grazing); these factors usually attract individual or groups of migrants who believe that these places are better and more promising than their current places of residence [7]. In addition, the proliferation of small arms and light weapons in the north east and north west, is contributing to the persistent violent clash. Given that communities including farmers and herders can easily have access to weapons, minor disagreement can now degenerate into a serious conflict.

The study is aimed at investigating the drivers and dynamics of the farmer-herder crises within southern Taraba axis. It assesses this by investigating the perception of both farmers and herders on the likely cause and persistence of the conflict within Southern Taraba State in North East Nigeria.

### ***The Nexus between Climate Change and Human Security***

Despite a considerable body of literature from numerous scholars, climate change and security remain one of the most controversial issues in recent security discourse [8, 9, 10, 11, 12]. For example, the farmer-herders conflict in Nigeria is becoming an issue in the recent security problems facing the north east, north west, north central, and southern region of the country. A major study into the cause and dynamics of the long existing conflict reveals that land related issues, especially over grazing fields accounts for the major cause of conflict [8, 11, 13]. Furthermore, the unprecedented impacts of climate change coupled with the variation in precipitation and temperature will likely impact vegetation and water resources thereby aggravating the already existing tensions between both farmers and herders. Variations in weather and climate are already being experienced within northern Nigeria [8, 5], and this can likely lead to migration of both parties towards greener vegetation. The consequences of this will be the likelihood of confrontation between the predominantly cattle herders in the north and the predominantly crop farmers in the middle belt and southern regions.

Most scholars looking into the dynamics and causes of climate change induce-conflicts, have looked at it from diverse views, ranging from micro level analysis- focusing on individual psychosocial behavior [14], to intra-state conflicts [9], and macro level analysis of intra-state conflicts [15]. According to Akinyemi and Olaniyan, [14], there apparently seem to be a dividing line in the debate relating to the cause and dynamics of the nexus between climate change and farmer-herders conflict. They pointed out that the discourse tends to be divided into two narratives, namely, security-driven i.e. context-based, policy-oriented; understanding of the climate change-conflict nexus, on one hand and the pedagogy-oriented analysis which is aimed at building a universal explanatory theory on climate change-conflict linkage on the other hand [16]. These antagonistic urgencies have evolved into three stand points, namely, rebuttal, affirmation and complex causal association which underlies recent calls for contextualized analysis of the connection [17]. There is a need to understand the relation between human security and climate change, and how this relationship plays out in the contexts of the farmer-herder crises.

Insecurity can take diverse form from economic insecurity, food insecurity, health insecurity, environmental insecurity, personal insecurity, community insecurity, water insecurity and political insecurity [18, 19]. These forms of insecurity can further overlap and grow exponentially in severity and affect people's lives which then results in a human insecurity. The concept of human security has been debated in length for the past two decades. However, this study adopts the concept of human security defined by the United Nations Trust Fund for Human Security as "the safety from chronic threats such as hunger, disease and repression and the protection of persons from sudden and hurtful disruption in the pattern of daily life-whether in jobs, homes or in communities". The United Nations Trust Fund for Human Security was developed from a three pillar comprising of "freedom from fear, freedom from want and freedom to live in dignity" [19]. Climate change has induced environmental insecurity, water insecurity, food insecurity and economic insecurity. The overlap of these has likely resulted in human insecurity which further indicates the link between climate change and human insecurity.

### ***Historical Overview of Farmer-Herders Crises***

The West African Savannah-Sahel region can be viewed as synonymous with environmental disasters such as desertification, drying wetlands, flood and expanding tracts of unproductive land [7, 20, 21]. This trend has continued for decades and the inhabitants of the region merely await the seemingly inevitable catastrophes – unable to take action to divert or manage the course of events [11]. More so, alongside environmental disasters are post-colonial wars and conflicts. These wars and conflicts have always been centered around identity issues: manifesting in cases of ethnic, cultural, and internal oppression of people who are perceived to be 'different' [22]. Furthermore, with climate change and competition over resources, these inevitable events will continue with devastating consequences on the environment, human development, and security. This can be seen in many African countries such as Rwanda, South Africa, Nigeria, Kenya, Niger, Mali, Senegal, and Sudan. Farmer Vs

herders' conflict in Nigeria is an example of such identity and resource induced crisis that is ongoing and has attracted due attention from scholars, security agencies and policy makers.

The farmer – herders' conflict has remained an ongoing phenomenon due to the interplay between several factors like climate change induced scarcity, political and economical and this is likely to continue in the foreseeable future. A British linguist and development anthropologist have attributed the cause of such conflicts in the case of Nigeria to several political, socio-economic, and environmental factors [22, 23, 24]. Importantly amongst these factors include the competition for scarce resources such as grazing land, power disparity between farmers and herders, the destruction of cattle track systems and the proliferation of weapons within a milieu of widespread insecurity in several parts of the country, especially the northern region [22, 25]. Several studies have tried to connect these conflicts to issues around land ownership, grazing rights, climate change, settlement and migration, de-territorialization, and resource competition [16, 21, 23, 24, 26, 27, 28]. While these causes are likely to be true, Maingwa [22] argues that the main cause of farmer–herders' conflict is likely due to conflicting notions of indigeneity or indigenous belonging to a real or imagined ancestral homeland.

However, while indigeneity can be a cause of conflict, we believe that the farmers – herders' conflict is a combination of several factors. According to Eke [28], the Nigerian farmer – herders' conflict is driven by three interfacing forces, namely – economic, structural, and sociocultural. Eke [28] believes that environmental changes can lead to land scarcity, which creates economic uncertainty for both groups and competition between them. Secondly is the issue of indigene-ship which limits access of herders (typically settlers) to access land thereby creating a feeling of deprivation. Finally, the identity differences interfaced with scarcity and structurally imposed inequality, leading to confrontation and counteraction. While we support this notion, we also argue that climate change is more likely to multiply the impact already being experienced. It is no news that flora and fauna, water and land are severely impacted by climate change, and since both parties depend solely on these systems, any changes in these systems will eventually lead to uncertainties that can trigger migration and subsequently identity and confrontation.

### ***Conflict Triggers and Enablers***

The conflict between farmers and herders have been in existence for an exceptionally long time. However, the frequency or rate at which these clashes occur have been alarming. Recent studies [3, 21, 23, 24, 27, 28, 29] shows that they are quite several factors that enables or trigger these conflicts and must be addressed to reduce the likelihood of occurrence of such conflicts in the future. These enablers include the following:

- *Climate change* – the variation in climate and weather patterns is a contributing factor to the persistent clash between farmers and herders. The desert encroachment and loss of vegetation cover in the northern regions have continued to affect the livelihood of herders as they push further southward in search of grazing land for their animals [23]. This global phenomenon is currently affecting both parties with attendant consequences – including the farmers – herders' conflict [3]. For example, the rapid encroachment of the Sahara Desert in the far northern states, particularly Sokoto, Katsina, Kebbi, Zamfara, Kano, Jigawa, Yobe and Borno, have become devastating for both farmers and herders [26]. More so, low, and unprecedented rainfall is contributing to the disproportionate experience by herders, with most of them making decisions to migrate. The receding waters of the Lake Chad in Sub-Saharan Africa (SSA) due to climate variations is another typical example of how climate change is inducing migration and causing conflict over limiting resources [5, 12, 30, 31]. The need for riparian countries to rescue the lake is paramount in preventing mass migration, drought, and a devastating territorial conflict between the countries.
- *Resource competition and depleting space for farming* – growth in population, urbanization and demographic shifts in the present-day world is increasing the tendency of farmers to move further into the forest for farming activities [1, 27]. For example, the Nigerian population as at independence stood around 35 million people, however, 60 years later it increased exponentially to over 180 million people with an expected increase in the near future. An increase in population of this magnitude will mean a geometric increase in food production and consumption thereby resulting in the quest for farming space. This will result in not only deforestation but also, the likelihood of crossing grazing pathways which herders follow seasonally thereby increasing the likelihood of conflicts between both parties.
- *The Political Will* – the increase in conflicts between both parties clearly indicates the lack of political will on the part of the government to address the situation. Political leaders in government have failed to enact legislations backed by actions in putting an end to the lingering crises [20]. Although there are acts, legislations and laws guiding the use of natural resources (such as land), and more recently, the failed introduction of the grazing bill, they have not been able to tackle the persistent conflict especially the farmers – herdsman crises in Nigeria.
- *The movement of light weapons* – the spread of light weapons in the northeast and north western states due to the insurgency (boko haram) and banditry [4] is likely to worsen the long lingering conflicts between

farmers and herders. The likelihood of farmers and herders accessing weapons to protect themselves have resulted in conflicts from any slight disagreement or confrontation.

There have been reports on the cause of the conflict to follow the Korostelina's model of conflict dynamics. The model asserts that conflicts follow the 4C's which encompasses comparison, competition, confrontation, and counteraction [28]. Comparison is a situation where one or both groups have a self-feeling of deprivation (most likely due to identity or indigene); Competition over scares resources such as water and land for both farming and grazing; Confrontation when one group organises to violently engage the other group in pursuance of the groups interest and, Counteraction which leads to the willingness and eagerness to defend one's group in situation of confrontation [13, 28]. The history of conflicts between farmers and herders in Nigeria can be said to follow the Korostelina's 4-Cs conflict model and to address the issue requires a deliberate approach towards each of the components of the 4-Cs.

### ***Impact of Climate Change and Farmer-Herders Conflict on Human and Food Security***

There has always been a trail of destruction whenever conflict occur between farmers and herders. Impacts ranges from loss of lives, loss of farm produce, loss of livestock, displacement of affected persons, loss of properties and the destruction of the ecosystem [11, 25, 32]. These impacts have spread across several states (Taraba, Benue, Plateau, Nasarawa, Kaduna, Kwara, Enugu, and parts of the Southwest and Southeast states). These losses have a direct impact on agriculture and socio-economic development of the affected areas, and since these areas are predominantly agrarian areas, the crises impacted on food production and increased hunger and other crime. This will likely impact on the regions ability to achieve its mandate on the sustainable development goals (SDGs) especially goals on poverty, hunger, inequality, climate action, peace, and justice. Conflicts can exacerbate hunger, poverty, and hinder socio-economic development [1, 33, 34]. The farmer-herder's conflict has also left a toll on displaced persons that are further exposed to health-related issues such as malnutrition, malaria, cholera, typhoid, and high rate of child mortality. It impacts on education and forces children to the streets which eventually can lead to high rate of crimes and other negative vices in the community.

The relative importance of climate change and food security differs from region to region depending on the spatial and temporal factors. For instance, Gregory et al [10] argued that, in Southern Africa, climate is among the drivers of food insecurity because it acts both as an underlying as well as an ongoing issue with a short-lived shock. The lack of ability to adapt or cope with the shock will mean that the coping measures that might be available in other regions are unavailable or inappropriate within the South African region. The impact of climate induced conflicts can be numerous and cuts across several aspects of development like economic, health, environmental, agriculture, social and political development.

### ***Theoretical Orientation***

The study adopted environmental scarcity and eco-survivalism theories of conflict as its theoretical orientation in effort to unfold the Nexus between Climate Change and ecologically induced conflict in Northern Nigeria. The theory was championed by Homer Dixon [35], according to the scholar, large populations in many developing countries are highly dependent on four key environmental resources that are fundamental to their survival and livelihood: cropland, freshwater, forests, and fish. The scarcity or shrinking of these resources as a result of degradation, population growth, climate change, overuse, and resource access led to competition over the scarce ecological resources among groups which in most circumstances triggers violent conflicts. Climate variability and change according to Buhaug, [36], may influence the dynamics of interaction (violent contentions) between social actors. Such an effect will occur in conjunction and sometimes interaction with other prevalent conflict drivers. For example, the potential of drought depends on local land use, access to freshwater, and grazing fields.

This also forces some groups to condition of deprivation, competition and possibly violence as seen in Northern Nigeria. Adogi, [37] asserts that as the population is increasing, there will be as well increase in demands for land, water, forest products and grazing land within the inhabited territories. These groups are forced to find a new way to cope with different types of conflict at once because of the competition over marginal resources. Tuner [38] also stated that violent conflicts between herders-farmers in pastoral regions of the West African Shelves was due to the struggle over resources and a major resource of social conflict and environmental degradation in the regions. This is clearly stated by Abbass [8] "Our herd is our life, because to every nomad, life is worthless without his cattle, what do you expect from us when our source of existence is threatened? The encroachment of grazing fields by farmers is a call to war".

The theory of ecological survivalism also holds that the militant posture of the herdsmen and farmers must be understood in relation to survival [39]. Both farmers and herders all claiming legitimacy to the use of land. Applying the theory to Northern Nigeria, the epicentre of this menace, the conflict has been driven by

scarcity of cropland which led to the competition between farmers and herdsmen. The scarcity is due to shrinking ecological space, human and cattle population explosion, and resource depletion. Most of the routes herders uses for rearing and grazing fields had all been taken over by companies, fuelling stations and residential areas due to population explosion, this also forced farmers to seek for land in far areas as such affects the routes herders uses for their activities. The farmers need land for cultivation while the herdsmen need the land and water for grazing and rearing cattle. This is because, as the population keep increasing, there will be an increase in demands for land, water, and food.

The theory was criticized over its over reliance on scarcity of natural resources as the sole cause of farmers-herders crisis in Northern Nigeria. Homer Dixton stated that environmental scarcity is never a sole or sufficient causal factor of violence between groups. Factors such as political, economic, religious, ethnic differences and other factors can generate violence within groups.

## **II. MATERIALS AND METHODS**

The nature of this study is both quantitative and exploratory. It used survey questionnaires to collect data on the perceptions of both farmers and herders on the likely cause and drivers of the conflict between both parties. The study adopted purposeful sampling of participants and a snowballing approach to identify farmers and herders who have particularly been impacted. A random sampling of participants was adopted, and the sample size was calculated using the table of sample survey developed by [40]. The Table was based on desired accuracy with confidence level of 95% and variance of population of  $P= 50\%$ . The table recommends for a designed sample size of 100 participants, requires a minimum of 79 participants. The study proposed a sample size of 150 participants and although the table suggests a minimum of 108, only 98 (65.3%) participants agreed to participate in the study. The key questions asked centered about the participants awareness on changes in weather and climate, migration and the reasons, availability of arable lands for farming and grazing, and the relationships between both parties. The study focused on respondents within the southern axis of Taraba comprising of Wukari, Ibbi, Donga, Mutum biyu and Takum areas. Taraba state is one of the six north eastern states alongside Adamawa, Bauchi, Borno, Gombe and Yobe. Taraba state has been impacted by the incessant farmer-herders conflict which makes it a suitable choice for the study. The result obtained was subjected to a descriptive statistical analysis to test the research hypothesis and infer climate change as a major player in the farmer and herdsmen conflict in Nigeria, and that there has not been a healthy relationship between both groups due to competition over scares resources (water and land).

## **III. RESULTS AND DISCUSSION**

The survey data collected were descriptively analyzed and tabulated for discussion. A total of 67.3% of the respondents were farmers while 32.7% were herders (Table:1). In addition, 75.5% of the total combined respondents were male while 24.5% were female. Age distribution were uniformly distributed as 12.2% (18-25), 28.6% (26-35), 32.7% (36-45), and 26.6% (46 and above).

**Table 1:** Percentage of farmers and herders in the study

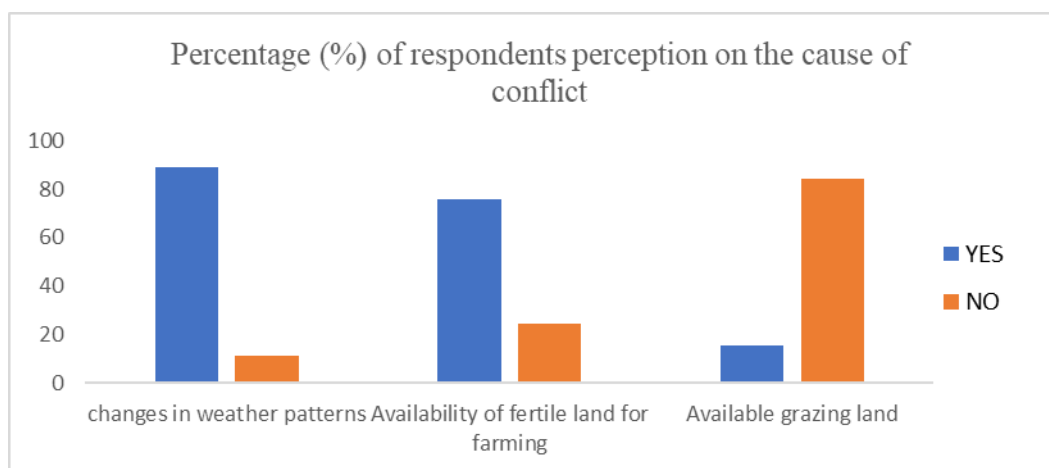
<b>Occupation</b>	<b>No. of respondents</b>	<b>Percentage of respondents (%)</b>
Farmers	66	67.3
Herders	32	32.7
<b>Total</b>	<b>98</b>	<b>100</b>

### ***Possible cause of conflict***

There is a nexus between climate change and ecological conflicts globally and Adano et al. [9] reported this and affirms that competition over renewable resources will continue to trigger conflicts especially in areas where the population depends solely on such resources for their livelihood. This implies that any changes that affects such resources will eventually result in confrontation and conflicts [17, 30]. From the results analyzed descriptively (Fig 1), 88.8% of the respondents believe that, the changes in weather and climate patterns contributes to the cause of the conflict. This response was expected as Dike and Dike, [2], Ofuoku and Isife, [21], Mahr, [23], Akov, [26], Kumssa and Jones, [34], Fisher, [41], all affirmed that changes in climate and weather patterns have increased competition over resources (water and arable land), thereby influencing the cause of conflict between farmers and herdsmen. Consequently, 75.8% of farmers believed that the changes in weather pattern have significantly affected the availability of fertile land for farming while 84.4% of herdsmen complained that grazing lands have been lost due to low rainfall, environmental degradation, and village expansions. Livelihood in Africa are mostly dependent on resources that are causally linked to the climate. Agriculture for instance is the major source of livelihood in most rural areas of developing countries and according to Gregory et al. [10], Ide, [17], Audu, [30], Fisher, [41], factors such as climate change asserts pressure on water resources and food production which can likely lead to conflicts, health challenges and other

environmental problems. The availability of fertile land and grazing land can be seen from the study to pose a threat to the co-existence between farmers and herders as both parties compete over the scarce resource.

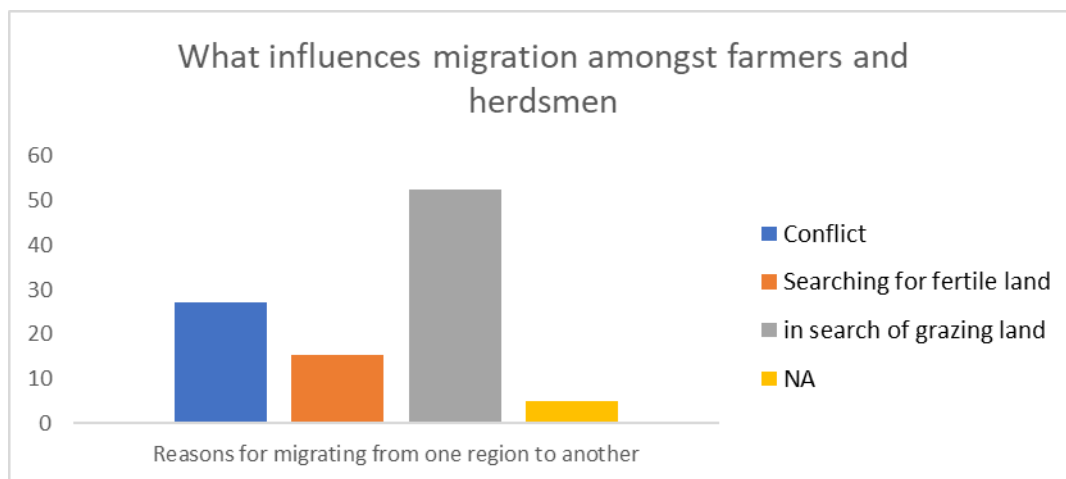
This further affirms our argument that there exists a strong relationship between climate change and ecologically induced conflicts that is being experienced in northern Nigeria and other SSA countries. These conflicts will deter the positive steps taken towards attaining the sustainable development goals (SDGs) in Nigeria if both reactive and proactive measures are not implemented to bring an end to the lingering farmer-herders crisis. Although efforts have been made through the establishment of the grazing bill to end the crisis, it has not yielded any positive result so far. In fact, there have been resistance by several communities and government in adopting this bill. The failure of this bill is as a result of the adoption of a top-down approach to resolving the conflict. Issues regarding local security should have adopted the bottom-up approach where both parties are involved in the decision-making process.



**Figure 1:** Participants Response to the possible causes of conflict

#### ***Migration and Possible Causes Amongst Farmers and Herdsmen***

Nomads have been known for migration for centuries now. And although they have been known to migrate for several reasons, environmental degradation, desertification, loss of wetlands, drought and extreme climate variability are now amongst the major reasons for their migration. These are climate related, and studies have shown that climate change can induce ecological scarcity which is likely to force mass migration [2, 3, 17, 30]. For example, the change in forest vegetation in SSA is the highest among the World: with an annual net loss estimated at 5.3 million hectares (0.8% of the original area) [7]. Any loss of vegetation with this magnitude can trigger migration especially those who rely on the vegetation for livelihood. Climate change has been known to exacerbate migration especially amongst rural dwellers. With erratic rainfall, drought and loss of vegetation cover, rural dwellers are forced to abandon their settlements and migrate to areas with better opportunities [33, 34]. These migrants are often farmers, but in most cases, herders with their cattle and families. The survey findings support this as can be seen (Fig 2) below. Most of the herders (52.5%) attribute their reasons to migrate to be in search of grazing land for their cattle. This infers that climate change impacts on migration and migration forces both farmers and herders to areas where they must co-exist with each other. This co-existence is one of the causes of conflicts as there will be confrontation, claims of indigeneity and culture which also plays a key role in exacerbating conflicts [42, 43, 44]. Irregular and unpredictable weather patterns within the Sub-Saharan region have resulted in drought and flood especially the 1967 - 1973, 1981 - 1983, 1986 - 1987, 1991 - 1992 and 1993 - 1994 droughts [7, 10]. The 1991/92 drought alone led to 54% decrease in crop production which led to over 17 million people at risk of hunger and starvation [7]. These incidences can be seen as a migration influencer and migration has influenced conflicts especially between the Fulani pastoralist and farmers. Fulani pastoralist (herders) from the study (Fig 2) reveal that they often migrate in search of grazing land which again supports the argument (from several studies; Adano et al. [2, 7, 9, 17, 30, 34, 44] that the scarcity of resources due to environmental degradation triggers migration and migration can lead to conflict.



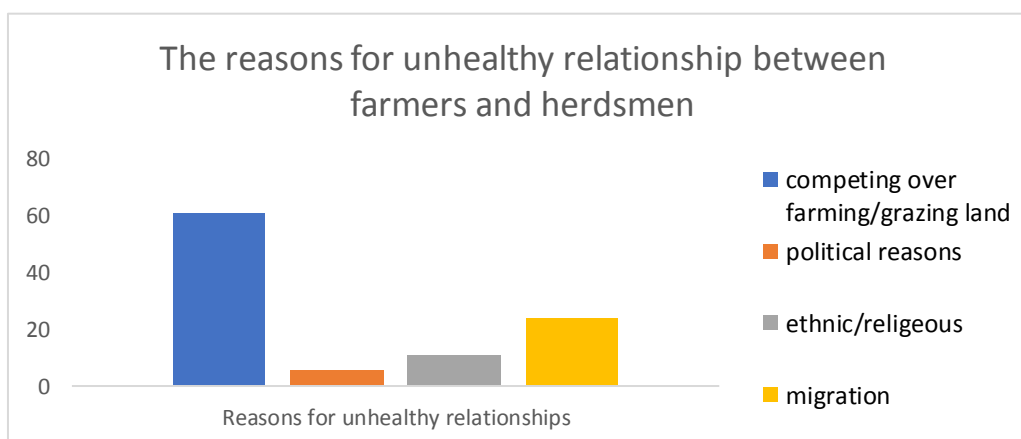
**Figure 2:** Participants Response to what influences migration amongst farmers and herdsmen

**Healthy Relationship between farmers and herdsmen**

The survey results indicate that 69.4% (table 2) of the respondents believe the relationship between both parties is unhealthy with everyone involved being alert in case of an attack. This unhealthy relationship is due to previous crisis which both parties feel they have been affected the most and waiting on opportunities to retaliate. However, our study shows that the root cause of dwindling relationship between farmers and herdsmen is due to competition over arable fertile land and grazing land. About 60.4% (Fig 3) of the respondents affirm this and insist that the scarcity of fertile land for both groups have led to confrontation which eventually result in conflicts. In addition, 23.5% of farmers insist that herders that migrate and seek to settle within their communities deliberately drive their cattle to feed on crops yet to be harvested. This of course will leave the farmers seeking for opportunities to retaliate and avenge what they propose to have lost. Again, the study results shows that both lack of fertile and grazing land and migration (83.9%) is a major player in bringing the two groups closer and with the unhealthy relationship that exist, it is highly likely that any slight confrontation will eventually end in a conflict.

**Table 2:** Healthy competition between farmers and herders

Response	No. of responses	Percentage of respondents (%)
Yes	30	30.6
No	68	69.4
<b>Total</b>	<b>98</b>	<b>100</b>



**Figure 3:** Participants Response to the Reasons for Unhealthy Relationship between farmers and herdsmen

Climate change will fuel conflicts in regions of scarce resources by inducing competition over renewable resources such as water and arable land. Climate impacts will continue to affect the biophysical environment both spatially and temporally, affecting all nations, communities and people including future generations. There has always been a dynamic interplay between environmental change and human systems, whereby people are forced to adapt to the changes occurring in their environment [7, 10]. However, the current unprecedented environmental changes that local people have to deal with has become a water, food, health, and

human security threat. The farmer-herders conflict if not tackled will make food production less productive and less profitable, which will lead to mass migration into urban areas. The resultant of this is climate migration and the consequences of climate induced migration is overpopulation which in-turn exert pressure on natural resources, water supply and infrastructural systems. This creates challenges that is being seen and experienced today as poor development and conflict in almost every region in Nigeria and other SSA countries.

#### IV. CONCLUSION

The farmer-herder conflict has become persistent in the past decade. And although there have been efforts through the establishment of the grazing bill to aid in addressing the situation, there have not been improvement in the situation. In fact, there have been resistance from other parts of the country in adopting the grazing reserve bill. Consequently, desertification and other environmental degradation including climate change have forced the herdsman to move southward in search of grazing land and pastures for their livestock. These southward migrations always put herders at risk of attacks by farmers and the communities whose crops the cattle invade and destroy during the cause of their movement. The result of this has always been an increase in attacks and subsequent retaliation which evolves in a conflict with loss of lives, livestock, and properties. There is therefore the need for a concerted effort at the community level, state, national and international level in addressing this human security issue. The enablers of such conflict such as climate change needs to be addressed and the government will have to bring together both parties to discuss each other's best interest and find a middle ground that serves the interest of the farmers, herders, and the nation at large.

#### V. RECOMMENDATIONS

To aid in providing solutions to reduce the frequency of conflict between farmers and herders', we articulate the following recommendations:

1. The government should design and monitor the implementation of policies aimed at preventing further environmental degradation such as protecting natural resources like forest, land, and water resources.
2. Promote modern farming and grazing (cattle ranching) techniques/measures to boost productivity and enhance sustainable development.
3. Invest in adaptation and mitigation measures to help both farmers and herders adapt and build resilience to climate change.
4. Encourage a bottom-up approach designed to bring both parties to the table to discuss requirements and expectations from both groups especially the reasons behind the unhealthy relationship that exist between them.
5. The existing grazing reserve bill should be re-examined by all stakeholders, governors, leaders of respective groups (farmers and herders) to understand the plight and reasons behind the resistance by some stakeholders. In addition, the grazing reserve bill should not be an enforced decision rather, it should be voluntarily by communities and states to create a healthy relationship between both groups.

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