



## **An Assessment of the Effect of Farmer-Herder Conflicts on Food Security in Adamawa State, Nigeria**

**<sup>1</sup>Ruth Mele Joshua.,<sup>2</sup> Lawal Abdullahi Oladimeji & <sup>3</sup>Ummulkhairat Adamu Gombe**

<sup>1</sup>Department of Public Administration, Faculty of Arts and Social Sciences, Gombe State University

<sup>2</sup>Department of Public Administration, Faculty of Arts and Social Sciences, Gombe State University

<sup>3</sup>Department of Business and Management, Gombe State Polytechnic, Bajoga

Corresponding Author: [ruthjoshuam@gsu.edu.ng](mailto:ruthjoshuam@gsu.edu.ng)

### **Abstract**

Farmers and herders' communities in Adamawa state and Nigeria at large have historically lived in a peaceful relationship that developed through mutual support. However, tensions have grown over the past decade with reports of violent clashes becoming frequent. Therefore, this paper assessed the effect of farmer-herder conflicts on food security in Adamawa state. Using a qualitative approach to explain the incessant nature of the conflicts. The Eco-violence theory by Homer Dixon (1999) was adopted as a theoretical frame for the study. The paper revealed that, the farmer-herder conflict led to loss of expected yield, loss of livestock normally leading to loss of livelihood as well as loss of human lives and properties. Therefore, the paper recommends that, Adamawa state should stimulate accelerated investment on biotechnological methods, agricultural research and technological advancement to guarantee sufficient food needs. Hence, achieving a balance between food production and environmental sustainability as well as work towards instituting community policing, strengthen the traditional conflict resolution mechanism and employ robust early warning systems mechanisms in the management and resolution of the lingering conflicts.

Keywords: Farmer-Herder Conflicts, Food availability, Food Accessibility, Food Utilization and Food Stability

## **Introduction**

Food security is a fundamental pillar of a nation's development, with far reaching implications for global, national, regional, and individual wellbeing. It sustains livelihoods for billions of people worldwide and is integral to economic stability and progress. Nevertheless, less than 10 years to end hunger, food insecurity and all forms of malnutrition, the world is not on track to achieve Sustainable Development Goal two of zero hunger by 2030. This setback is as a result of climate variability, and conflicts, these threats continued to affect food production and subsequently availability of food. Although there are others factors that affect agricultural activities especially in sub-Saharan Africa conflicts remain one of the devastating factors.

The Global Food Security Index (GFSI) (2022) indicated that global food environment is deteriorating and has declined amid skyrocketing food prices and hunger on an unprecedented scale. This decline of overall food security scores comes as the world

is experiencing an unprecedented global shocks, these shocks are placing pressure on food security with the United Nations World food Programme seeing the highest number of people in crises, already 811 million people face hunger, experts say that shocks such as pandemics, conflicts and extreme weather conditions are responsible for this decline, which affects a global food system of 600 million food producers and 8 billion consumers. Furthermore, the index showed that all regions performed above global average of 62.2 percent except sub-Saharan Africa which scored 47.0% (Global Food Security Index, 2022).

In the same vein, the food security situation in Nigeria has been critical in recent times, with 24.9 million people critically food insecure in 2024. According to Cadre Harmonise (2024) a government led and United Nations supported food and nutrition analysis that is carried out twice a year, an estimated 31.8 million Nigerians are likely to be food insecure between June and August 2024. The food situation has over the years been impacted by violent conflicts, including insurgency, armed banditry and perennial farmer-herder conflict.

Adamawa state has often experienced violent clashes between herders and farmers, as a result of competing claims to land, water and other natural resources. In absence of mutually agreed upon solutions, disputes over crop damage, livestock theft and water pollution have increasingly turned violent, often leading to displacement (Joshua et al, 2024).

The incidences of farmer-herder conflicts have remained a recurring decimal among other forms of social conflicts and general insecurity in the country since the return of democratic governance. The spate of such violent conflicts, has however reached an alarming rate in the last six years. Such conflicts recorded across the northern and southern parts of the country have led to the deaths of several people and destruction of economic valuables. To the extent that, Amnesty International in its 2018 report titled Harvest of Death three years of bloody clashes between farmers and herders stated that, at least 540 people killed between January 2016 and October 2018 alone.

Joshua et al (2024) also reported that, between 2017 and 2018 farmer- herder conflicts have led to the death of 178 lives, 125 were injured, 61,256 bags of assorted crops were destroyed as well as 11,207 animals were killed. The value of animals and crops was put at 1,308,462,008.00 in Demsa, Girie, Lamurde and Numan local government areas of Adamawa state.

Looking at the food security situation in Adamawa state, the World Food Programme reported in 2021 that, in Adamawa, Borno and Yobe states, conflicts is

affecting the lives and livelihoods of millions of people. 4.4 million people are facing acute hunger and 320,000 children are suffering acute malnutrition. Borno and Yobe state have been facing critical acute food insecurity (Integrated Phase Classification, IPC phase 3) while Adamawa state is facing stressed acute food insecurity (IPC Phase 2).

Recently, Cadre Harmonise (2024) revealed that, out of the 21 local government areas of Adamawa state seventeen are facing stressed food insecurity (Phase 2) while four are facing critical food insecurity phase classification (Phase 3). In the light of the foregoing, this study intends to explore the incessant farmer-herder conflicts and its effect on food security in Adamawa state, Nigeria.

## **Objective of the Study**

The objective of this paper is to explore the Farmer-Herder conflicts and its effect on food security in Adamawa State, Nigeria.

## **Methodology**

The paper is qualitative in nature. Secondary sources of data are used to explain the issues relating to farmer-herder conflicts and its effect on food security in Adamawa state.

## **Literature Review**

### **Concept of Herder**

The word is synonymous with wordings such as herdsmen, livestock farmers, breeders, ranchers and herds-persons. Sanni (2016) sees a herder in Nigeria as any individual who owns a large collection of livestock such as sheep, cows, goats, horses, donkeys, Carmel and lots of others. There are three categories of herders in Adamawa state, those permanently resident, those who are semi-resident by reason of having homes and families there but spent long stretches of time away in herding and the migrants' herders who transverse the community with no ties to it, (Government White Paper on the Report of Technical Committee on the Security Situation in Numan Federation, Adamawa State, 2020).

### **Farmers**

Farmers are those who engage in agriculture, which involves raising living organisms for food or raw materials. They are known for raising either field crops, orchards, vineyards, poultry, other livestock or combination of any. According to Abbass (2012), a farmer might own the farmed land or might work as a laborer on land owned by others, but in advanced economies, a farmer is usually a farm owner, while employees of the farm are known as farm workers, or farmhands.

## **Farmer-Herder Conflict**

**H**erdsmen-farmers or herder-farmer conflicts are conflicts between peasant/subsistence cultivators and nomadic/transhumant livestock keepers. Oladele and Oladele (2011) defined farmers-herdsmen conflict as a competition between two agricultural land users, comprising farmers and herdsmen, which often times turn into serious obvious and hidden hostilities and social friction.

**T**his definition views farmers-herdsmen conflict as a struggle over scarce resources, such as land and water. It underlines the importance of resources in farmers-herdsmen conflict. Audu (2013) in his submission posited that farmers-herdsmen conflicts are a struggle between crop farming and pastoral groups for land or other resources that are critical for the sustainability and/or development of pastoral and agricultural production systems, such as watering areas, wet lands and fertile lands which can assume violent or non-violent dimensions. This view outlines the importance of land and water resources to the development of pastoral and agricultural production, as well as emphasizing the influence of resource scarcity in farmers-herdsmen conflict. Other scholars who support this view include Udoh and Chilaka (2012) who believe that resource scarcity is the primary cause of farmers-herdsmen conflict.

**K**ing (2013) on the other hand defines farmers-herdsmen conflicts as conflicts involving farming communities and pastoralist occasioned by the struggle for land resources and socio-cultural dominance in a given environment. He postulates that management and resolution of farmers-herdsmen conflict could be enhanced through an in-depth understanding of the socio-cultural behavioural patterns of herdsmen and farmers. This definition highlights the importance of socio-cultural perspective as vital to understanding farmers-herdsmen conflict. King's view is supported by scholars such as Moritz (2012) who believed that farmers-herdsmen conflicts are influenced by socio-cultural factors such as religion, livelihood practices and other cultural practices. Conflicts between herders and farmers have received clarification from different scholars. Bello (2013) maintained that the competition between these two agricultural land user-groups, however, has often times turned into serious hostilities and social friction. Writing on conflicts between herders-farmers Karim, Sumberg and Seddon (1999) distinguish between conflicts of interest, competition, and violent conflict.

**C**onflicts of interest to them refer to the fundamental relationship between actors who permanently or temporarily co-habit an area, have different objectives and interests, and use similar local resources such as land, vegetation and water. Conflicts of interest over the ownership and use of resources may therefore exist between any resource users (farmers and farmers, herders and herders, herders and farmers), and may be intra-household, inter-

personal, intragroup, inter-group or in some cases between local users and outside interests such as corporations and the state.

### **Causes of farmers- Herders Conflict**

Causes of farmers-herdsmen conflicts still remain majorly, due to competition over land use. This is in corroboration with the findings of Nformi et al, (2014); Abdulsalam et al, (2015) who noted that land related matter is the major cause of farmers-herdsmen conflicts. Merietus & Olarewaju (2009) were even more factual in reporting the case of Benue State on the causal potential of land to conflict in the state. They posit that, land matter accounted for the highest percent (42.9%) of conflict followed by political (32.08%) and chieftaincy matters (28.3%). Shettima & Tar (2008) aver that the landlessness of the pastoralist, giving their system of pastorals, causes the competition between them and the farmers. Corroborating the preponderance of land related conflicts among other types of conflicts, Conroy (2014) added that social, political and economic dimensions of land related conflicts are also very important for proper analysis of land related conflicts.

Clara (2017) blames land scarcity, competition and conflicts on colonial land partitioning between the north and the south. This is because, to him, it accentuated ethnic differences in the country and restricted the movement of group beyond some geographical areas.

Another causative factor worthy of mention is reprisal attack. This is a situation where by a group of people carry out an attack as a retaliation of an attack earlier meted on it by the other group. The question or the major concern here is whether such reprisal attacks are always in equal proportion to the one earlier meted out to them. It is also important to note that even in such situation, taking laws into one's hand is not the best but to report such issue to appropriate security agency. Abbass (2012); Okoli & Atelhe (2014) have tried to establish a nexus between climate change and ecological conflict. The earliest form of this work is that of Homer-Dixon where he propounded the theory of eco-violence (the conflict causal capability ensues from environmental degradation).

He posits that environmental scarcity, population growth and resource access act singularly or in various mix to create scarcity of water, land and other resources. When this happens, the disadvantaged group moves to another location where they cause more pressure on the available resources in such area. Consequently, their presence is frowned at and conflict ensues. On the contrary, Conroy (2014) is of the opinion that there is no concrete relationship between climate change and violent conflict. He argues that, even a search into Nigeria Watch database reveals that there is zero result for relation between climate change and conflict. Expansion in farm production caused by encroachment of pastureland by farmers is also responsible for farmers herdsman conflicts.

According to Ismaila & Bibi (2015), Adeleke (2018) and Akorede (2018), this is because the initial situation was that every land not cultivated is a potential pastureland but with the expansion in agriculture, it has narrowed down the available pastureland available thereby compelling the pastoralists to encroach into farmlands that were not supposed to be theirs. Where these basic needs of livelihoods of the pastoralists are not met either because of expanding land cultivation or desert encroachment, the pastoralists tend to move to some other places where they can have access to pastures (Clara, 2017).

However, where they constitute more pressure to the available land resource, their presence is not always welcome. This has been found to result into conflict with the settled people of the community. Another reason for the incessant farmers – herdsman conflicts in the northern parts of Nigeria as given by Conroy (2014) is the views of ethnic groups on land possession. He opines that, the Fulani's view land as a common resource which cannot be personalized while the sedentary communities usually see land as their exclusive preserve which no other community should encroach into. According to Conroy (2014), migration-related issue, is the cause of conflict. He posits that this is manifest in four different ways: burden on the scarce economic and natural resources would promote native-migrant competition; migration will upset ethnic balance. It will generate tension; it could cause conflict following existing fault lines. Population explosion has been discovered, by many scholars, as one of the major causes of farmers-herdsman conflicts in Nigeria.

**Table 1.1: Farmer-Herder Conflicts in Adamawa State**

Date	Title	Community	L.G	Death	Remarks
20/11/2017	45 die in Adamawa Farmer's-Herdsman clash.	Safare and Kodonti	Numan	45	
21/01/2018	Six die in farmers-herdsman clash.	Kikon	Numan	6	
03/05/2018	400 herdsman attack Adamawa villages, 15 locals killed.	Bolki, Bang,Nzunuso, Boki and Gon	Numan	15	
09/05/2018	8 killed in a fresh herdsman attack in Adamawa.	Nega	Numan	8	
27/06/2018	Herdsman kill two, injured 26 in Adamawa.	Bare	Numan	2	
29/08/2018	Herdsman behead PDP chairman, flee with head.	Bare	Numan	1	

13/09/2018	Pastor, 50 others die in fresh Adamawa attack, dozens held captive.	Bare	Numan		
13/09/2018	Herdsmen overrun three Adamawa villages.	Gon, Nzumusu, Bolki	Numan	51	
19/01/2019	Suspected herdsmen burn down catholic seminary houses in Adamawa.	Nyanga, Bukuto, Bare	Numan		
01/03/2019	Woman macheted by herdsmen in Adamawa.	Bare	Numan	1	
02/05/2019	Fulani herdsmen kill six in Adamawa.	Girie	Girie	6	
22/09/2019	Suspected herdsmen killed two residents, shot soldier, one attacker killed.	Shaforo and Kudumti	Numan	3	
23/11/2019	Suspected herdsmen attacked Adamawa village and killed many.	Shus-Kallais	Hong	20	
12/05/2020	Suspected herdsmen killed two persons in Adamawa.	Gwon and Bolki	Numan	2	
17/10/2020	Suspected herdsmen killed one farmer, injure another in Adamawa state.	Bang	Numan	1	
02/11/2021	Suspected herdsmen killed 7, injure several others in Adamawa states.	Nega	Numan		

**Source:** Extracted from Nigeria Security Tracker (2021), Amnesty International, Harvest of Death, a Three-year Deadly Clash (2018)

### Concept of Food Security

This definition is again refined in the State of Food Insecurity 2001 is seen as is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2002). This new emphasis on consumption, the demand side and the issues of access by vulnerable people to food, is most closely identified with the seminal study by Amartya Sen (Sen, 1981). Eschewing the use of the concept of food security, he focuses on the entitlements of individuals and households. Food security has been defined as a situation when all the people, at all times, have physical and economic access to sufficient, safe and nutritious food needed to maintain a healthy and active life (WB & FAO, 2010). According to Kruger et al. (2008), household food security encompasses three dimensions availability, accessibility, and utilization.

Essentially, in order to attain food security a country must fulfil three basic aims such as: ensure adequacy of food supplies in terms of quantity, quality and variety of food; optimize stability in the flow of supplies; and secure sustainable access to available supplies by all who need them. Adequate food availability at the national, regional and household levels, obtained through markets and other channels, is the cornerstone of nutritional well-being. At the household level, food security implies physical and economic access to foods that are adequate in terms of quantity, nutritional quality, safety and cultural acceptability to meet each person's needs. Household food security depends on an adequate income and assets, including land and other productive resources owned. Food security is ultimately associated with access to nutritionally adequate food at household level, for instance the ability of households or individuals to acquire nutritionally adequate diet at all times.

### Phases of Food Security

The Integrated Food Security Phase Classification (IFSPC) is a globally accepted five-phase scale for communicating the severity of acute food insecurity. The tool is used to classify severity of food insecurity based on a range of livelihood needs. This is a standardized framework for situation analysis expressed in a scale that integrates food security, nutrition and livelihood related information into a clear statement of food security status. IFSPC classifies areas with acute food insecurity into five phases (minimal, stressed, crisis, emergency, famine) and each of these phases/levels has different implications for response objectives. Table 1 highlighted general distinctions between the phases of food security according to the Integrated Food Security Phase Classification (IPC). Each of these phases is associated with Key Reference Outcomes with absolute and relative thresholds.

The reference outcomes provide an objective means for distinguishing phases and technically support a phase classification, thus enabling comparability and accountability in analysis. Famine (IPC Phase 5) is defined as the situation in which three conditions are met: at least 20% of an area's population faces an extreme lack of food, at least 30% of children are acutely malnourished, and the crude death rate exceeds 2/10,000/day.

**Table 1.2: Phases of Food Security according to IPC Phase Classification**

Phases	General Description
<b>Phase 1</b> Minimal	Usually adequate and stable food access with moderate to low risk of sliding into Phase 3, 4, or 5.
<b>Phase 2</b> Stressed	Borderline adequate food access with recurrent high risk (due to probable hazard events and high vulnerability) of sliding into Phase 3, 4, or 5.
<b>Phase 3</b> Crises	Highly stressed and critical lack of food access with high and above usual malnutrition and accelerated depletion of livelihood assets that, if continued, will slide the population into Phase 4 or 5 and / or likely result in chronic poverty

<b>Phase 4</b> Emergency	Severe lack of food access with excess mortality, very high and increasing malnutrition, and irreversible livelihood asset stripping
<b>Phase 5</b> Famine	Extreme social upheaval with complete lack of food access and / or other basic needs where mass starvation, death, and displacement are evident

**Source:** Joshua, (2025)

Nonetheless, available evidence, and the fact that many of the worst affected areas were unreachable, indicates that an Emergency (IPC Phase 4) is occurring. It is also possible that a Famine (IPC Phase 5) is on-going in the worst affected areas. Unique to the IPC is the explicit inclusion of Acute Food and Livelihood Crisis (Phase 3) as a food security and humanitarian phase. The food security community has long acknowledged the importance of understanding livelihood dynamics and the links to food security (DFID 2001, WFP 2005).

### **Empirical Review on the Effect of Farmer-Herder Conflicts on Food Security**

Five studies in relation to the effect of farmer-herder conflicts on food security in Adamawa and Nigeria at large are reviewed in this section. Inuwa & Gwade (2022) examined the causes and effects of farmers-herders conflict in Hong and Gombi local government areas of Adamawa state, Nigeria. The sample size for the study consisted of 120 farmers and herdsmen respondents recruited from the two LGAs. Chi-square test and descriptive statistics were used to analyze the data generated from the respondents. Findings from this study explained that the major causes of farmers-herders conflict across Hong and Gombi LGAs in Adamawa State include; destruction of farm produce and/or farmlands, harassment of herdsmen by host youths, stray cattle, sexual harassment of women by herdsmen and indiscriminate bush burning.

The study reveals that, the effects of farmers-herders conflicts include; destruction of lives and properties beyond the farmlands, distrust between farmers and herdsmen as they perceive each party to be an enemy; hence, finding it difficult to co-habit in the same communities, the displacement of locals thereby rendering them internally displaced, acquisition of arms/weapons, disruption of farming activities, increased sexual harassment and rape and disruption of economic activities.

The study recommends that ranching method of cattle farming, establishment of local policing and vigilante groups, involvement of both parties in dispute resolution mechanisms for peaceful co-existence, reorientation of the locals on the essence of peaceful co-existence and tolerance irrespective of background and religion differences and fair treatment without fear or favour in decision making processes by the law enforcement agents. This study clearly explained the threat of farmer- herder conflict on food security

in the understudied area, although it failed to show the extent of the effect on food availability, accessibility, utilization and stability.

In another study conducted by John, (2022) on the effect of farmer-herder conflicts on women in Demsa Local Government Area of Adamawa state. The study was descriptive in nature and employed purposive sampling technique to select 29 key informant interviews (KII) among whom were also selected the 25 persons that were part of the focus group sessions held. The study revealed the various effect of the conflict on women in Demsa local government included; the killing of women, rape their livelihood are destroyed (crops, animals and other items), they experience posttraumatic stress disorder (PTSDs), they were socially displaced and separated from their children, husbands and other relations and economic activities such as farming and trading were destroyed. The study recommends that a multi-dimensional approach should be employed by the government and its agencies to tackle the conflict such as engage in developmental programmes to alleviate poverty and illiteracy among the populace. It can be deduced that; this study focused more attention on the effect of the conflict on the livelihood of women in Demsa Local Government of Adamawa state.

Furthermore, Salihu, (2019) focused on the effectiveness of Government Strategies in Resolving Farmers-Herdsmen Conflict in Adamawa State. The objectives of his study are: (1) to investigate the extent of farmers-herdsmen conflict in Adamawa State, Nigeria; (2) to examine consequences of farmer-herdsmen conflict in the study area; and (3) to assess the effectiveness of Government strategies in resolving farmers-herdsmen conflict in Adamawa State. Methodologically, secondary data sources have been relied upon. The study also adopted descriptive research and impact assessment methods in order to describe the extent and consequences of conflict between farmers and herders, as well to assess the effectiveness of Government strategies in resolving farmers-herdsmen conflict in Adamawa State.

The parameter for assessing the effectiveness of the conflict resolution strategies is the decline/increase in the rate of farmers- herdsmen clash and the rate of casualty accompanying the clash. The study findings indicated that the government is up and doing with effort to tackle the problem of farmers-herdsmen conflict in Adamawa State by introducing such measures as security and legal actions, creation of grazing reserves, development programs, cattle colonies and national livestock transformation plan, organized dialogue and negotiations, and comprehensive livestock development plan.

However, these measures did not yield the desired outcome-ending or drastically reducing farmers-herdsmen conflict. Hence, the study recommended that to overcome the menace of farmers-herdsmen conflict in Adamawa State, there should be systematic effort for identifying the root causes of the problem because to cure a cancer, we have to

understand the root cause of the cancer. More importantly, effective leadership is necessary for any agency or policy to work effectively.

Similarly, Bulus, & Wizer (2020), investigated the impacts of crop farmers' and cattle herders' conflict on community development in Adamawa State, Nigeria. Three Local Government Areas in the state were purposively selected from the 3 senatorial zones in the state. This was followed by the selection of 21 crop farmers and 21 cattle herders from each of the 3 LGAs through purposive and random sampling techniques to obtain a sample size of 126 respondents. Data were gathered with the aid of structured questionnaires and structured interview schedules. Focus Group Discussion (FGD) was also conducted with separate groups of cattle herders and crop farmers. Results from the findings shows that majority of the crop farmers and cattle herders are male, the perceived causes of the conflicts include encroachment of grazing reserve by farmers, the encroachment of stock route by farmers, grazing of crops by the herders and non-accessibility to water points by the two groups.

The study further revealed major impacts of these conflicts to include loss of human lives and reduced household income, reduced access to agricultural land and destruction of infrastructural facilities. The conflict resolution strategies adopted includes but not limited to reactivation of existing grazing reserves, sensitization of conflicting parties by community leaders and amendment of laws on grazing reserves. The study recommended formal education for both farmers and herders, sensitization of the crop farmers and cattle herders by the government and community leaders on the need for both groups to coexist and implementation of the existing laws on grazing reserves and land use policies by the government.

In another study by Edward, (2022) on assessment of the effect of farmer-herder conflicts on food security in Plateau state, the eco-violence theory was used as a theoretical framework for analysis and qualitative research design was used to assess the consequences of the farmer-herder conflicts on food availability, accessibility, utilization and stability in Plateau state. The study revealed that, the conflict has consequences on food production and security which resulted in food shortage, increase in prices which limits peoples access to food, the destruction of farm produce, livestock, infrastructures necessary for production and ultimately famine.

The study also found out that, as result of the farmer-herder conflicts people were displaced from their communities which reduced agricultural labour force and decreased herders' production of diary product, therefore recommend that government establish grazing reserves and ranches for livestock.

Looking at the works done by various scholars in line with the farmers and herdsmen conflict in Adamawa and Nigeria at large. We see that most of the scholarly work cited the various possible causes of the conflict some of which include the destruction of crops, contamination of streams by cattle, zero grazing of land, disregard for local traditional authorities, female harassment, harassment of nomads by host communities' youths, indiscriminate bush burning, defecation of cattle on roads, cattle theft, and straying of cattle into farmlands among others. Also, these scholars cited the effects of this conflict and some of such effects include loss of human and animal lives, destruction of crops and properties, displacement of persons and animals, distrust between herdsmen and farmers, rising low food productivity, food instability and low food utilization.

## **Theoretical Framework**

### **The Eco-violence Theory**

The study adopts the theory of eco-violence as its theoretical framework. The theory of eco-violence is an emerging theoretical construct seeking to explain the relationship between environmental factors and violent conflicts. Developed by Homer Dixon (1999), the theory holds that, decrease in the quality and quantity of renewable resources, population growth, and resource access act singly or in various combinations to increase the scarcity, for certain population groups, of cropland, water, forests, and fish. This can reduce economic productivity, both for the local groups experiencing the scarcity and for the larger regional and national economies. The affected people may migrate or be expelled to new lands. Migrating groups often trigger ethnic conflicts when they move to new areas, while decreases in wealth can cause deprivation conflicts (Homer Dixon, 1999).

The assumptions of the theory are stated below;

- i. A decrease in the supplies of physically controllable ecological resources, like clean water and fertile land, has the capacity to incite conflicts.
- ii. The movement of large populations due to environmental tensions can lead to conflicts that lead to the creation of antagonistic group identities, especially clashes between diverse ethnic groups.
- iii. Conflicts of deprivation (civil disturbances and insurgencies) are caused by increasing economic deprivations and the disruption of strategic social institutions which are effects of harsh environmental shortage.

The fundamental theoretical assumption of the theory is that resource scarcity is the product of an insufficient supply, too much demand or an unequal distribution of a resource as a result of environmental hazards that forces some sector of a society into a condition of deprivation and violence.

The impact of the farmer-herder conflicts is directly on agriculture, the theory helps us to explain the link between environmental resources scarcity and conflict. This situation has worsened considerably over the years as a result of government inability to tackle climate adaptation and mitigation which puts more pressure on the populace who suffer more as a result of environmental resources scarcity. It is within this context that the link between environmental resources scarcity and the effect of herder-farmer conflicts on food security in Adamawa state and Nigeria at large can be understood.

## Conclusion/ Recommendations

The competition over land and water is exacerbated as a result of the depletion of natural resources caused by climate change and eventually sparks the conflict. Nevertheless, other causes of the conflict include; destruction of crops, killing and stealing of cattle. The economic effects of farmer-herder conflicts have resulted to lack of availability food because it has led to poor food production as most farmers and herders alike were displace. Accessibility of food is determined by the ability of a household to afford food; the conflicts have led to loss of human lives and reduced household income, which also caused poor utilization of food thereby resulting to instability, which has negatively affected household food security.

Therefore, the study recommends that, Adamawa state should stimulate accelerated investment on biotechnological methods, agricultural research and technological advancement to guarantee sufficient food needs. Hence, achieving a balance between food production and environmental sustainability and Adamawa state government should work towards instituting community policing, strengthen the traditional conflict resolution mechanism as well as employ robust early warning systems mechanisms in the management and resolution of the lingering conflicts.

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