

Climate Change, Natural Resource Competition and Communal Conflict in Nigeria's Middle Belt: Evidence from Benue, Plateau and Taraba States

Abdullahi Musa^{1*}, Shuaibu Dabo², Kabiru Muhammed³ & Zakari Sale⁴

¹Department of Political Science, Federal University of Education, Kontagora Niger State.

²Department of Geography, Federal University of Education Kontagora, Niger State.

³Economics and Development Studies, Federal University of Kashere, Gombe State.

⁴Department of Economics, Police Academy Wudil.

*Corresponding Author: Abdullahi Musa

DOI: <https://doi.org/10.5281/zenodo.22093982>

Article History	Abstract
Original Research Article	<i>Livelihood relations and conflict dynamics are changing in Nigeria's Middle Belt due to climate change and environmental degradation and rising pressure on natural resources. This study explores the role of competition over land, water and grazing resources as a factor for communal conflicts in Benue, Plateau and Taraba States, with special focus on the linkage between environmental stress and resource related conflicts. This study used qualitative documentary research design and only secondary data from peer-reviewed literature, Government policies/reports and conflict assessment etc were obtained from relevant sources. Thematic analysis was used on the documentary data, which was analyzed on four dimensions: environmental and resource pressure, competition for access to the resources, escalation of conflict, and governance and peacebuilding response. The results suggest that land and water are the key resources where farmer–herder conflicts arise and the pressure on such contested resources is exacerbated by climate variability, environmental degradation, population pressure, and land-use change. But there is no evidence for a causal link between climate change and communal violence. Instead, environmental stress tends to act as a multiplier of conflict, and institutional shortcomings, competing land-use demands, uncertain arrangements of resource access, poor dispute-resolution systems and a sense of exclusion drive whether resource conflict resolves into violence or not. The study also presents a reinforcing feedback loop between the two factors: resource competition leads to conflict, and/or displacement, loss of agriculture and disruption of livelihoods leads to higher vulnerability and higher pressure on remaining resources. The study ends by arguing for an integrated approach of linking Environmental Governance, Resource Management and Climate Adaptation and Peacebuilding in Nigeria's Middle Belt for durable peace. It calls for greater efforts in land and water governance, negotiated land and livestock mobility arrangements, community-based conflict resolution processes, conflict-sensitive climate adaptation and enhanced resource-mapping and farmer, pastoralist and other community participation in resource-governance decisions.</i> Keywords: Climate Change, Natural Resource Competition and Communal Conflict.
Received: 21-06-2026	
Accepted: 28-07-2026	
Published: 25-08-2026	
Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited. Citation: Abdullahi Musa, Shuaibu Dabo, Kabiru Muhammed, & Zakari Sale. (2026). Climate change, natural resource competition and communal conflict in Nigeria's Middle Belt: Evidence from Benue, Plateau and Taraba States. UKR Journal of Multidisciplinary Studies, 2(8), 219-228.	

Introduction

Climate change has become an important fact of the changing availability, distribution and accessibility of natural inputs to rural livelihoods (Ologbonori et al., 2025; Yakubu et al., 2025). Changes in rainfall patterns, rising temperatures, droughts, degradation of land and decreased

water availability, can have an impact on the spatial and temporal distribution of agricultural and pastoral resources in predominantly agrarian societies (Bello et al., 2025). But climate change is not necessarily a condition for violent conflict. Instead, it plays a role in amplifying existing

competition due to its interaction with population growth, livelihood dependence, changing land-use, weak institutions, insecure property rights and unequal access to resources (Benjaminsen et al., 2012; Scheffran et al., 2012; Zailani et al., 2025; Omar et al., 2025). In Nigeria, for example, conflicts between pastoral communities and farmers are increasingly linked to issues of land and water access, grazing routes, and agricultural resources, which is significant to this distinction (Abiola et al., 2025; Olusola et al., 2025).

The Middle Belt of Nigeria is a crucial context for discussing these dynamics. Benue, Plateau and Taraba States have large farming and pastoral communities and have had a history of conflict between farmers and herders. Competition isn't just about resources being physically scarce; it also involves who has legitimate access to resources, how, and which claims are recognised by formal and customary institutions. Numerous factors contribute to farmer–herder conflicts, including recent evidence from Benue showing the contamination of water sources, destruction of crops, and grazing of fallow lands and bush burning. Similarly in Taraba, the recent study shows that land-use disputes, displacement and competition over productive resources are also significant aspects of farmer–herder conflict (Musa, 2026; Ohieku et al., 2026).

Pastoral and agricultural livelihood activities rely on distinct but mutually dependent properties of access to land and water resources, and the connection between environmental change and resource competition is thus especially important. Grazing land and water points are essential for pastoralists, and land is essential for farming with water for crops and farming activities. In times of ecological stress, lack of access to these resources can lead to increased proximity of pastoral mobility and agricultural expansion (Magaji & Musa, 2024; Mukhtar et al., 2025). Adebayo et al. (2021) contend that the competition between the crop farmers and livestock producers in Nigeria has been worsened by climate change and population growth coupled with limited resources. The resulting conflict may lead to losses of crops and livestock, displacement, destruction of property and disruption of agricultural production (Ephraim et al., 2025).

The resource dimension of the conflict is clearly seen in the state of Benue. Competition for limited land and water is now growing more significant as a cause of farmer–herder conflicts due to population growth and climate variability (Ioryue 2024). Likewise, the spatial analysis of conflict events and conflict events data by Mustafa and Sa'ad (2025) finds that resource-related interactions such as access to water, cattle movement and crop destruction are important drivers of conflict in Benue. The results indicate that resource competition is one of the crucial processes that can

turn environmental and socioeconomic stresses into communal conflict.

Another example that's worth mentioning is in Plateau State. In certain communities like Mangu, Bokkos and Barkin Ladi, farmer–herder violence reoccurs in the midst of broader ethnic, political and religious conflicts. Reports of large-scale violence in Plateau have led to loss of life, destruction of homes and displacement as a result of securitisation of resource disputes and attachment of communal identities to competing resource claims. It is not meant to be taken out of context of a specific institutional and political setting of negotiating access to land and water resources for which the implication is that resource competition should not be understood as an isolated phenomenon.

The main challenge is not only that climate change is making natural resources less available, but that environmental stress is happening in a governance system that is defined by competing resource claims, conflict-management mechanisms that have weak capacity, and unequal institutional capacity. In areas where land and water resources are less secure, the other group's actions could be seen as a threat to the security of livelihoods for farmers or pastoralists. Crop damage, livestock encroachment, obstruction of migration routes, competition for water points and disputes over land ownership can then lead to widespread community violence. The findings of Benue reveal that these resource-related conflicts have socioeconomic implications such as displacement, destruction of agricultural produce and worsening of poverty (Mustafa & Sa'ad, 2025; Aluko & Magaji, 2020; Shaba et al., 2018). The same applies to Taraba, where recent evidence also suggests that conflict has affected the continuity of farming activities and displaced people and agricultural activities (Musa, 2026). The consequences are far-reaching, however, and include food security, sustainable livelihoods and local economic development (Musa et al., 2025).

This is exacerbated by a single narrative being the farmer–herder conflict. Explanations that focus solely on climate change ignore political, institutional and socioeconomic arguments, and explanations that focus solely on ethnic or religious differences underestimate the material aspects of land and water access. The more correct reading is that climate and environmental pressures exacerbate tensions in already tense governance contexts and put pressure on resources. The interpretation is also in line with the environmental-security literature, which warns of deterministic links between environmental scarcity and violence (Benjaminsen et al., 2012; Scheffran et al., 2012; Jankoli et al., 2025; Jafaru et al., 2025).

While there is a lot of literature available on farmer–herder conflict in Nigeria, there are three gaps. First, as discussed above, much of the literature on conflict focuses on ethnic, religious, security or livelihoods issues, and fewer systematic efforts have been made to understand the resource-competition mechanisms between environmental stress and communal conflict. Secondly, the existing literature tends to be based on a national or on a set of national conflicts, thereby restricting understanding of the dynamics of resource competition to the Middle Belt level. Third, comparatively limited documentary research combines environmental change, resource access, institutional governance and peacebuilding in a single analytical approach.

The objectives of this study are to fill these gaps by investigating the interaction between competition over land, water and grazing resources, environmental pressures and governance weaknesses and their impact on communal conflicts in Benue, Plateau and Taraba States. The study does not treat the issue of climate change as a direct or deterministic cause of conflict, and instead looks at institutional and socioeconomic responses and processes that can turn resource pressures into a conflict.

The purpose of the study is to investigate the process whereby climate and environmental stressors increase competition for natural resources and drive communal conflict in Nigeria's Middle Belt, using data from Benue, Plateau and Taraba States. Specifically, the purpose of the study is to review key environmental and climate stressors impacting land, water and grazing resources in the study states, examine how pastoral and farming groups compete for natural resources, discuss how competition for resources can lead to the intensification of communal conflict and critically examine the relevance of current resource-governance and peacebuilding processes to conflict prevention.

Literature Review

Conceptual Review

Natural-resource competition involves the competition that arises when multiple people or groups try to use the same scarce, competing, or unequal resources. Land and water is especially important in agricultural and pastoral systems as productive assets and spatial basis of livelihoods. Resource competition is more prone to conflict if rights to use the resources are ambiguous, resources are diminishing, institutions are poor, or the groups feel the use of the resources is not fair. Benjaminsen et al. (2012) warn that resource scarcity is not the only factor to consider when examining farmer–herder conflict; institutional arrangements, political

relations and land-tenure systems can affect whether or not conflict turns violent.

Environmental scarcity is a decrease in quantity, quality or availability of natural resources. Homer-Dixon (1999) has three types of scarcity within his environmental-security framework: scarcity through scarcity of supply, scarcity through scarcity of demand, and scarcity through structural scarcity. Environmental pressures in Nigeria can include altered rainfall patterns, drought, degradation of the land, and pressure from population growth, while structural factors can include unequal access to land and poor resource-governance institutions. This framework is supported by Nigeria's empirical evidence showing the relationship between climate variability, resource competition and farmer–herder conflicts (Adebayo et al., 2021).

Communal conflict is any violent or potentially violent conflict between clearly-defined social, ethnic, occupational, or geographically-based communities. Farmer–herder conflicts may start from relatively localized issues like damage to crops, grazing or access to water and grow into farmer–herder conflict when it is linked to identity, political mobilization and collective threat in the Middle Belt region. Resource competition therefore can be a potential trigger, and institutional and political conditions can affect the character and length of conflict.

Environmental governance is related to the institutions, laws, policies and social arrangements that govern natural resources (Ibrahim et al., 2025; Magaji et al., 2024; Adenekan et al., 2025; Abubakar et al., 2025). Good governance needs to be transparently governed, have proper access rights, be legitimately allocated, be enforced, be participatory and have dispute resolution mechanisms. Without governance to manage competing claims, environmental stress has the potential to destabilise societies (Akpan et al., 2025).

Theoretical Review

The study is grounded in Environmental Scarcity Theory, alongside with the lessons learned from Political Ecology and Resource Conflict Theory. Homer-Dixon (1999) suggests an environmental scarcity view, which suggests that environmental degradation can raise competition for scarce resources, thus potentially exacerbating social instability. But the theory doesn't necessarily mean that it leads to violence. Demographic pressures, institutional ability, social relations and political structures serve as mediators in the relationship.

Political Ecology brings a welcome balance to the scarcity-based arguments by examining the distribution of environmental resources and how power affects access. With this lens on the situation, conflict may not only be a result of scarcity, but it can also be a result of some groups having more control over resources, more power to exclude or more power to redefine access to resources. Benjaminsen et al. (2012) illustrate the need to consider political and institutional aspects as drivers of farmer–herder conflict, as opposed to just ecological scarcity.

Here we use the theoretical synthesis to be:

Environmental stress → resource pressure → competition over access → perceived insecurity/injustice → conflict escalation – with institutions, governance and political relations as moderators between each of the steps.

This approach enables the study to maintain a focus on resource competition, while avoiding environmental determinism.

Empirical Review

There is strong empirical evidence for the role of resource competition in Nigeria. The impact of climate change and increasing population numbers with decreasing resources has increased competition among farmers and herders, especially when pastoral mobility meets increased agricultural land use, according to Adebayo et al. (2021).

For Benue, Mustafa and Sa'ad (2025) investigated conflict pattern over the period of 2011–2022, and they identified the following as important conflict factors: Water contamination, Crop destruction, Grazing of fallow land, Bush burning. The study also revealed significant repercussions including displacement, losses of agricultural income and poverty. Also, Ioryue (2024) states that land and water scarcity, coupled with competition have grown to be of paramount importance in farmer–herder conflict and national security in Benue.

Taraba adds to this trend. This has led to displacement, disrupted agricultural cycles and contributed to unresolved land-use conflicts, all as a result of farmer–herder conflict, finds Musa (2026). Northern Taraba has more recent evidence of a strong connection between environmental scarcity, competition and conflict outcomes, especially for land, water and grazing pasture.

Empirical research, however, indicates that tensions over resources should not be sufficient to explain the outbreak of conflict. Instead, it becomes more significant when institutions do not control access, and the communities that compete for the resources consider the distribution of

resources unfair. This aligns with broader African trends that climate shocks can affect the temporal dynamics of conflict, both in terms of timing and intensity, but not necessarily in all contexts via agricultural and livelihood channels (Ubilava, 2023).

What is therefore important is that environmental pressure, resource competition and governance are not well integrated into a comparative analysis of the Middle Belt. This study seeks to fill this gap by looking at the three States of Benue, Plateau and Taraba states within a similar framework.

Methodology

This study is of documentary type which is a qualitative research design to analyze the dynamics of natural resource competition and communal conflict situation in Benue, Plateau and Taraba States. The study is based solely on secondary data from peer reviewed journal articles, government policies and reports, environmental and conflict assessments, publications from development agencies and other authoritative documentary sources. The documents were purposively selected on the basis of their relevance to the themes of climate change, land and water resources, pastoral mobility, farmer–herder relations, conflict, resource governance and peacebuilding. The data was analysed thematically under the following four main categories: environmental/resource pressure, competition over access, conflict escalation, and governance/peacebuilding responses. Evidence was triangulated between the academic literature, official policy documents and documented conflict patterns to look for commonalities and differences. Because the analysis is explanatory, and not causal-statistical, it does not make claims about the direct effects of climate change on communal conflict, but investigates how the combined effects of environmental stress with resource competition, weak institutions, and competing livelihood interests can raise the likelihood of conflict.

Results and Analysis

The data presented and the analytical framework.

The documentary evidence was presented in four connected strands: environmental/resources pressure, land and water competition, communal conflict and livelihoods and governance impacts. Comparisons were made and similarities and differences highlighted across the three States of Benue, Plateau and Taraba States based on the evidence. The study is a secondary analysis of secondary sources and policy documents, so that numerical estimates of the prevalence of conflict are not created artificially. Rather, the tables compile the evidence and summarize the common mechanisms of resource competition that were documented in the study area.

Table 1. Documentary Evidence on Major Resource-Competition Drivers

Resource/conflict driver	Manifestation in the Middle Belt	Conflict mechanism	Evidence from study states
Agricultural land	Expansion and intensification of cultivation; encroachment on grazing areas and routes	Competition over land-use rights and boundaries	Benue, Plateau, Taraba
Grazing land	Reduction or fragmentation of available pasture and traditional grazing spaces	Livestock movement into cultivated areas and disputes over access	Benue, Plateau, Taraba
Water resources	Competition around rivers, streams, ponds and other water points	Livestock access, contamination and competing agricultural/domestic uses	Benue, Taraba
Grazing/migration routes	Obstruction, cultivation or changing use of traditional routes	Increased contact between farmers and pastoralists	Benue, Plateau, Taraba
Crop and livestock resources	Crop destruction, livestock losses and disputes over compensation	Retaliation, property destruction and escalation of local disputes	Particularly documented in Benue
Environmental degradation	Land degradation, drought and climate variability	Increased pressure on productive land and water	Across the wider Middle Belt

Source: Author's synthesis of documentary evidence from Benue, Plateau and Taraba States.

The evidence shows that groundwater, soil and water are the fundamental resources of the land that the entities compete for. Mustafa and Sa'ad (2025) report that the most reported causes of farmer-herder conflict in Benue include cattle depredation on water bodies, destruction of crops, grazing of fallow lands and bush burning. The analysis of conflict activity in the period 2011-2022 also shows that resource-related conflicts have led to displacement, loss of farms and a rise in poverty.

Ioryue (2024) also found that competition for limited land and water resources is a key factor in farmers and herders

conflict in Benue and that population growth and climate change exacerbate competition between farming and pastoral livelihoods. The evidence thus confirms the finding that environmental stress puts pressure on the prevailing resource access arrangements, but does not per se dictate whether conflict will happen.

This is a comparative analysis of resource-competition dynamics.

The comparison between the three states shows that resource competition occurs in similar ways, but manifests in different local forms.

Table 2. Comparative Resource-Competition Dynamics across Benue, Plateau and Taraba

Analytical dimension	Benue	Plateau	Taraba
Principal resource pressure	Agricultural land, grazing areas and water	Agricultural land, grazing areas and settlement expansion	Agricultural land, grazing areas and water
Dominant interaction	Crop farming–pastoral livestock movement	Farming–pastoral competition and settlement-related disputes	Farming–pastoral competition and pastoral mobility
Major conflict triggers	Crop destruction, grazing of farmland, water contamination	Land-use disputes, competing claims and communal tensions	Land-use disputes, grazing and competition for productive resources
Major consequences	Displacement, agricultural losses, poverty	Deaths, displacement, destruction of settlements and livelihoods	Displacement, disruption of agricultural activity and livelihood losses
Key governance challenge	Regulation of land use and farmer–herder relations	Land administration, security and communal reconciliation	Land-use management, mobility and conflict resolution

Source: Author's synthesis based on the reviewed documentary evidence.

Finally, there is the most obvious evidence of the link between resource competition and agricultural disruptions in Benue. Mustafa and Sa'ad (2025) list fallow land and water being grazed and polluted as major causes of conflict. This evidence is supported by recent research that indicates that insecurity has a significant impact on the productivity of agricultural activities in the State, which can in turn create conditions that help to perpetuate insecurity.

The situation is a bit different on the Plateau. In this context, land conflicts are more entrenched in larger communal and/or identity conflicts. What follows is that conflicts over productive land can quickly turn more communal. The analytical implication is crucial: while the competition for resources might be the first contest over the material conditions of existence, social identities and political mobilization might shape its intensity and scale.

The competition over resources is strongly linked to the competition between agricultural land and pastoral mobility and access to water and grazing resources in Taraba. This is an example of why it is important to analyse resource systems in a transnational framework as pastoral mobility does not necessarily follow state boundaries.

The Principal Arena of Competition is Land.

In examination of the documentary evidence, land is the resource most frequently in conflict. The competition is not just about how much land can be acquired, it's a battle of competing definitions of "rightful" land use. Farmers typically need land for long-term cultivation and pastoralists need pastures, livestock trails and seasonal watering spots.

In the case of Benue, it shows how this competition can turn into conflict when the movement of livestock leads to damage to the crop or when cultivated land is in contact with areas where livestock graze. Mustafa and Sa'ad (2025) point out that the destruction of crops is one of the major

conflict factors, in addition to grazing of fallow land. The competition over limited land and water resources is also exacerbated by population growth and climate change pressures, as Ioryue (2024) also finds.

This discovery implies that land scarcity is not a factor alone and that access to land subject to competing claims is a factor. Even with a land supply that is physically adequate, there can be conflict if rights are ambiguous, customary rights overlap with statutory rights, or if there is a sense of exclusion on the part of certain groups.

Water is a Conflict Multiplier.

A second significant resource is a source of competition is water. It is even more important when rainfall is low or stressful conditions occur as both agriculture and pastoral activities rely on fewer reliable water sources.

Mustafa and Sa'ad (2025) in Benue state have clearly reported that contamination of water bodies by the cattle is a major source of conflicts. Analytically, this indicates that absolute water scarcity does not necessarily lead to conflict. Instead, access and use of a shared resource may be a source of conflict.

This difference can then be shown as:

Water stress → concentration of people around water points (farmers, herders) → more interaction with farmers/herders → competition for water/contamination of water point → farmer and herder outcry → escalation of conflict.

This further illustrates the thesis that environmental pressures turn into security issues in social and institutional processes.

A conceptual link between resource competition and communal conflict.

The evidence indicates a step-wise, but not linear - path of escalation of resource conflicts:

Table 3. Resource-Competition–Conflict Escalation Pathway

Stage	Process	Typical manifestation
1	Environmental pressure	Reduced/variable rainfall, land degradation, pressure on water
2	Resource pressure	Reduced access to pasture, farmland or water
3	Competition	Farmers and pastoralists seek access to overlapping resources
4	Immediate dispute	Crop damage, grazing, blocked routes, water contamination
5	Grievance formation	Perceptions of loss, exclusion or injustice
6	Retaliation/escalation	Violence, destruction of property or livestock
7	Communalisation	Local dispute becomes associated with wider ethnic/religious identities
8	Protracted insecurity	Displacement, livelihood disruption and repeated violence

Source: Author's analytical synthesis based on the reviewed literature.

This is the significance of this pathway, resource competition is not always an indicator of violence. There are several points in the process where institutional mechanisms can intervene. Some of the examples provided here illustrate how these can be addressed at the level of land-use regulation, negotiated grazing and water arrangements, compensation mechanisms and local mediation to prevent individual disputes before they become communalised or to prevent immediate disputes and reduce the risk of encroachment.

However, where these mechanisms are not effective, relatively small conflicts over limited resources can

escalate into wider violence. In the same vein, Egbewole (2025) reveals that community-based mechanisms in Benue also play an important role in conflict management between farmers and herders.

Strategies for dealing with resource competition and livelihood consequences.

The significance of the finding is that there is a conflict–resource feedback loop. Conflict can create competition for resources, and competition for resources in turn can create conflict.

Table 4. Documented Consequences of Resource-Based Conflict

Impact dimension	Documented consequence
Agriculture	Destruction of crops, abandonment of farmland and reduced agricultural activity
Livestock production	Loss of animals, disrupted mobility and reduced access to grazing resources
Water access	Reduced or contested access to water points
Population movement	Internal displacement and migration away from conflict locations
Household welfare	Loss of productive assets, income and food supplies
Food security	Reduced agricultural production and disruption of local food systems
Social relations	Erosion of trust and weakening of farmer–herder coexistence
Governance	Increased pressure on security institutions and local conflict-resolution mechanisms

Source: Author's analytical synthesis based on the reviewed literature.

Mustafa and Sa'ad (2025) document displacement of both farmers and herders, agricultural-product losses, degradation of farm products and increased poverty as consequences of conflict in Benue. Against this backdrop, recent data from Benue also suggests that insecurity in the region has had a negative impact on agricultural and livestock production, contributing to the understanding that conflict can negatively impact productive systems that rural communities rely on for their livelihoods.

The relationship can thus go in a feedback loop:

When resources are compressed, it leads to competition and conflict, which results in displacement, livelihood loss, a decrease in productive capacity, increased vulnerability and a return to resource pressure.

This feedback mechanism can help to explain how resource conflicts can become chronic rather than limited-to-a-few disputes.

Governance as a Critical Intervening Variable

The comparative evidence indicates that governance is the key intervening variable between the resource pressure and conflict. It is not the same environmental stress that always results in the same conflict outcome within communities. In

situations where access rights are well-defined, resource users can be involved in decisions and dispute-resolution processes without resorting to violence.

Whereas, if land-use regulations are vague, or poorly enforced, it becomes harder to regulate land-use competition. The findings from Benue support the need for the use of community-based mechanisms, and the wider literature points to the importance of political ecology and institutional arrangements influencing the ways in which environmental pressures manifest as conflict.

The discovery calls into question a purely climate-deterministic interpretation. Governance can shape whether climate variability creates cooperation or competition, or violence, to a large extent.

A summary of the results can be presented using the following analysis model:

Climate/environmental pressure
↓
Inadequate or uneven land, water and forage resources
↓
The competition for access and rights to use resources.
↓

Loss or damage of crops, grazing conflicts, water usage conflicts, hindrances to mobility



Complaints and feelings of unfairness/injustice



Retaliation and conflict escalation



Violence and forced migration among communities



Disruption of food and living needs of farmers.



More vulnerable and reintensified resource competition.

The conclusion is thus that climate change is not a direct driver of communal violence, but rather a driver of resource competition. Environmental pressures are transformed to violence through land-use structures, access to resources, institutional legacies, and other local dispute-resolution mechanisms and communal relationships.

A discussion of the Major Findings is included.

The results are in line with the resource-scarcity view of Homer-Dixon (1999) who suggests that environmental constraints can raise competition and social disruption. But the Nigerian evidence also shows how the scarcity of a simple explanation. It is evident from the experience in Benue that conflicts can arise even when the actual resource remains but its use and control is the subject matter of the conflict. Water pollution and destruction of crops is an issue of use not existence of resources.

The results thus conform more to a political-ecology perspective in which access, power, and institutional recognition are the drivers of the impact of environmental changes. This aligns with Benjaminsen et al. (2012), who warn against attributing farmer–herder violence to crisis situations of climate and environment.

There is also evidence to support the proactive move beyond security interventions as a way to prevent conflict. Mechanisms to control the use of land, water, access to grazing, and security of livelihoods are necessary for durable peace if underlying conflicts are over these resources. In recent Benue experiences, there is an explicit call for more robust and effective community-based mechanisms and the State's experience shows the high price of entrenched resource conflicts.

The main policy lesson is therefore that environmental governance and peacebuilding need to be connected instead of being considered as two policy areas. Conflict sensitivity should be integrated into Climate adaptation programmes, and environmental and resource-management aspects should be integrated into conflict-prevention strategies. A combination of both is more aligned with evidence than just

a response from the environment or a response from security.

Conclusion

This study focused on the environmental pressure, natural-resource competition and communal conflict in the three states of Benue, Plateau and Taraba. The evidence indicates that land, water and grazing resource competition is a major component of farmer–herder conflicts in the Middle Belt of Africa. These pressures may be exacerbated by climate variability and environmental degradation, which affect availability and location of productive resources.

But the study points out that climate change does not have to be seen as a determinant of communal violence, but rather as a potential conflict multiplier. Increased resource competition is likely to increase as: land-use rights are subject to contestation; governance institutions are weak; dispute resolution is ineffective; and there is a sense of resource allocation being unequal or illegitimate.

The overarching message is that sustainable peace in the Middle Belt needs to move beyond a predominantly reactive security-centric approach to an approach which prioritizes integrated resource governance and preventive peacebuilding. Fundamental issues of land, water and grazing rights must be addressed to mitigate recurrent violence.

Recommendations

Improve the integrated governance of land and water. There needs to be a coordinated land-use system at the federal and state levels, which takes into account the land use needs for farming, pastoralism and the environment and minimises duplication, protect and create negotiated grazing and livestock corridors. Livestock routes and water points should be planned to be eco-friendly and socially appropriate and should be created in consultation with affected communities, not imposed on them, enhance local conflict-resolution institutions. Traditional authorities, farmer organisations, pastoral associations, civil society organisations and government institutions need to be included in permanent mediation and early-warning systems, include adaptation to climate change in conflict prevention. Water infrastructure, land restoration, adaptation of pastoral livelihoods to droughts and agriculture, should be at the forefront of the focus of the climate adaptation programmes in high resource pressure areas, improve resource-access information. States need to enhance land use, water point, grazing route, migration and conflict locations mapping and monitoring to enable evidence-based resource governance, improve compensation and dispute resolution options. Effective and verifiable mechanisms for dealing with the losses of crops, livestock, and other resources need to be established to

prevent conflicts from turning violent, shift from reactive security actions to preventive governance. While security deployment is still required during violent moments, it is important to discuss the resource and institutional conditions that can sustain conflict in the longer term in the context of peacebuilding, facilitate resource governance across the border and between states. Considering the trans-boundary nature of pastoral mobility and ecological systems, Benue, Plateau and Taraba should enhance inter-state coordination processes in relation to land and water mobility and prevention of pastoral conflicts, involve the community in resource policies. Including farmers, pastoralists, women, youth, and affected communities in decision-making process can enhance the legitimacy of resource-governance interventions and their compliance and embed resource governance in the context of climate security in Nigeria. Resource competition should be explicitly mentioned as a means by which environmental stress can be a factor in communal insecurity in national climate and security policies.

References

1. Abiola, T. O., Magaji, S., Musa, I. (2025). Impact of Climate Change on Human Security Among Vulnerable Indigenous Groups in Kaduna State, Nigeria. *International Journal of Innovative Human Ecology and Nature Studies*. 13(2):80-97. doi:10.5281/zenodo.15529981
2. Abubakar, U. S., Magaji, S., and Ismail, Y. (2025). Assessing The Social and Environmental Justice of Compensation Mechanisms for Road Infrastructure Projects in Nigeria. *International Journal of Innovative Environmental Studies Research*, 13(2):101-116, doi:10.5281/zenodo.15482657
3. Adebayo, A. A., et al. (2021). Climate change and agriculture: The competition for limited resources amidst crop farmers-livestock herding conflict in Nigeria—A review. *Journal of Cleaner Production*.
4. Adenekan, J. O., Magaji, S. & Yakubu, J. (2025) Evaluating the Perceived Economic, Social, and Environmental Impacts of Key Legislative Policies on Nigerian Industries. *Global Journal of Economic and Finance Research* 02(10): 1024-1031. DOI [URL:https://doi.org/10.55677/GJEFR/05-2025-Vol02E10](https://doi.org/10.55677/GJEFR/05-2025-Vol02E10)
5. Akpan, N.E., Magaji, S., & Ismail, Y. (2025). Assessing the Multifaceted Impact of Innovative City Initiatives on Housing Affordability, Environmental Sustainability, and Social Equity in Abuja, Nigeria. *Global Journal of Economic and Finance Research*, 02(07): 552-561. DOI: 10.55677/GJEFR/10-2025-Vol02E7
6. Aluko, O. O., & Magaji, S. (2020). Stagflation and poverty incidence in West Africa sub-region: Some perspectives. *International journal of advanced research in social sciences, environmental studies, and technology*. 5(1), 38-59.
7. Bello, J. A., Magaji, S. & Ismail, Y. (2025) Sustaining Rural Livelihoods: Assessing The Impact of Agricultural Growth On SDG 8 (Decent Work) In Rural Areas of Adamawa State, Nigeria. *ISRG Journal of Agriculture and Veterinary Sciences* 2 (5), 21-30. DOI: 10.5281/zenodo.17412359
8. Benjaminsen, T. A., Alinon, K., Buhaug, H., & Buseth, J. T. (2012). Does climate change drive land-use conflicts in the Sahel? *Journal of Peace Research*, 49(1), 97–111.
9. Ephraim, R. A., Magaji, S. & Ismail, Y. (2025) Environmental Degradation and Agricultural Expansion: Implications for Sustainable Development in Nigeria. *International Journal of Spectrum Research in Environmental & Energy Studies (IJSREES)* 1(4), 62-71, <https://doi.org/10.5281/zenodo.17686953>
10. Homer-Dixon, T. F. (1999). *Environment, scarcity, and violence*. Princeton University Press.
11. Ibrahim, M., Olusola, A.T. & Magaji, S (2025). Effects of Climate Change on Environmental Security among Vulnerable Groups in Zango Kataf Local Government Area of Kaduna State. *Loka: Journal Of Environmental Sciences* 2 (2), 228-250
12. Ioryue, D. A. (2024). Farmer-herder conflict and national security in Nigeria: The Benue State in perspective. *Kashere Journal of Politics and International Relations*, 2(2), 245–259.
13. Jafaru, Y., Sule, M., Ismail, Y. & Amina, Y. A. (2025). Fragility in Focus: Exploring the Climate Change, Crime, and the Poverty–Conflict Cycle in Northwest Nigeria. *African Journal of Environment and Sustainable Development*. 3(3), 114-130. DOI: <https://doi.org/10.5281/zenodo.17214109>
14. Jankoli, U. M., Magaji, S., & Ismail, Y. (2025). Linking Economic Inequality with the Escalation of Family Conflicts in Yobe State, Nigeria. *ISRG Journal of Arts, Humanities and Social Sciences*, 3(5), 157-164. DOI: 10.5281/zenodo.17198839

15. Magaji, S., & Musa, I. (2024). Analysis of Farmers' Awareness on the Effect of Climate Change on Food Security in Nigeria. *International Journal of Humanities, Social Science and Management*. 4(3),439-454
16. Magaji, S., Ahmad, A. I., Sabiu, S. B. & Yunusa, A. A. (2024). From Deforestation to Pollution: Unravelling Environmental Challenges in Nigeria and Pakistan. *International Journal of Humanities Social Science and Management (IJHSSM)*, 4(2) pp: 805 - 814
17. Mukhtar, A., Magaji, S. & Ismail, Y. (2025) Financial and Technical Constraints in the Adoption of Sustainable Land Management Practices by Smallholder Farmers in Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS)*, 9(9), 1922-1932. DOI: <https://dx.doi.org/10.47772/IJRISS.2025.909000165>
18. Musa, I., Olanipekun, O. E., Magaji, S. (2025). Evaluating the Impact of Climate Finance on Food System Resilience in Niger State, Nigeria. *MRS Journal of Accounting and Business Management*, 2 (10), 28-36.
19. Musa, M. T. (2026). Farmer-herders conflict and food security in Taraba State, Nigeria. *Taraba International Journal of Social Sciences Research*, 2(2).
20. Mustafa, I. A., & Sa'ad, I. (2025). Analysing the causes and effects of farmer-herder conflict in Benue State, Nigeria. *Journal of Spatial Information Sciences*, 2(1), 15–25. <https://doi.org/10.5281/zenodo.14809044>
21. Ohieku, M.S., Magaji, S., & Ismail, Y. (2026). Impact of Ethno-Religious and Farmer-Herder Conflict on the Socio-Political Development of Benue and Kogi States, 2015–2025. *International Journal of Innovative Development and Policy Studies* 14(1):106-120, doi:10.5281/zenodo.18451907
22. Ologbonori, S. T., Magaji, S., & Musa, I. (2025). Assessing the Critical Needs Driving Rural Development in Nigeria: Implications for Sustainable National Development. *MRS Journal of Accounting and Business Management*, 2 (7),1-10
23. Olusola, A.T., Magaji, S. and Musa, I. (2025). Linking Climate Change to Economic Insecurity Among Vulnerable Groups in Zango Kataf Local Government Area, Kaduna State, Nigeria. *International Journal of Multidisciplinary Research and Growth Evaluation* 6 (3)
24. Omar, A.I.S., Magaji, S., & Jafaru, Y. (2025). Insecurity and Women's Livelihoods in Borno State, Nigeria: A Socioeconomic Analysis of Conflict Impacts. *Global Journal of Economic and Finance Research*. 2 (7), 643-650
25. Scheffran, J., Brzoska, M., Kominek, J., Link, P. M., & Schilling, J. (2012). Climate change and violent conflict. *Environmental Research Letters*, 7(1), 015601.
26. Shaba, N.Y., Obansa, S. A. J, Magaji, S., & Yelwa, M. (2018). Analysis of the Relationship between Income Inequality and Poverty Prevalence in Selected North Central States of Nigeria. *Journal of Economics and Public Finance* 4 (2), 130-142
27. Ubilava, D. (2023). Climate, crops, and postharvest conflict. *American Journal of Agricultural Economics*.
28. Yakubu, J., Magaji, D. A. and Magaji, S. (2025). Assessing The Socio-Economic Impact of Climate Change and Poverty in Birnin Kudu Local Government, Jigawa State, Nigeria. *African Journal of Social Sciences and Humanities Research*, 8(2), 11-31.
29. Zailani, H. S., Magaji, S., Jafaru, Y. (2025). Examining the methods in achieving effective conflict resolution and peace-building in North East Nigeria. *GAS Journal of Arts, Humanities and Social Sciences (GASJAHSS)*. 3(5), 12-18. DOI: 10.5281/zenodo.15869538