CLIMATE CHANGE AND CONFLICT IN NORTHEAST NIGERIA

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Abstract

This paper examines the influence of climate change on the conflict in Northeast Nigeria, exploring the complex interplay between environmental stressors, socio-economic impacts, and political instability. It highlights the importance of addressing the climate-conflict nexus by presenting a comprehensive approach to sustainable peace and development. Employing a literature review methodology, the research analyses climate change in the region, focusing on temperature increase, changing precipitation patterns, and desertification and how these environmental challenges exacerbate socio-economic problems such as agriculture and food security, livelihoods, and public health. The paper then identifies climate change as a catalyst for conflict, underlining factors such as resource competition, displacement, and migration. Strategies to address the climate-conflict nexus are explored, including climate change adaptation and mitigation, conflict resolution and peacebuilding, and integrated policy and planning. Ultimately, the paper stresses the need for a comprehensive approach to foster resilience, promote social cohesion, and enhance stability in Northeast Nigeria.

Keywords: *Climate change, Peacebuilding, Northeast Nigeria, Livelihoods, Sustainable resource management*.

Introduction

In recent years, the deep-seated and complex crises in Northeast Nigeria have seen a violent escalation, fueled further by the intersection of conflict and climate change. Such interlinking of environmental

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stressors and violence is not unique to this region but a global phenomenon where the impacts of climate change are intensifying existing tensions and catalysing conflicts.

Historically, Northeast Nigeria has suffered from violent conflict for over a decade, primarily due to the insurgency of the extremist group Boko Haram. This violence, along with military counteractions and inter-communal clashes, has led to widespread devastation, loss of life, and displacement (International Crisis Group, 2023). This crisis is a result of a confluence of multiple factors, including political, social, economic, and environmental issues.

Similarly, various regions worldwide have experienced climate change-induced conflicts, revealing a pattern that underscores the urgency of addressing the climate-conflict nexus.

For instance, a well-documented case in the Middle East is the Syrian Civil War. A prolonged drought, considered to be exacerbated by climate change, devastated the country's rural population, creating food insecurity and economic instability. This destabilisation, along with other political and social factors, played a crucial role in sparking the civil unrest that eventually escalated into a full-blown civil war (Kelley et al., 2015). In East Africa, recurrent droughts and flash floods, intensified by climate change, have contributed to resource scarcity, leading to fierce competition for water and pasture among pastoral communities. In countries like Kenya, Ethiopia, and Somalia, these environmental stressors have fueled communal conflicts, often escalating into deadly violence (Richardson et al., 2022).

Likewise, in South Asia, particularly in regions such as Bangladesh, climate change has been a major factor in exacerbating social, economic, and political tensions. Rising sea levels and recurrent flooding have led to large-scale displacement, fueling resource-based conflicts and heightening tensions with neighbouring countries over refugee influx (Warner & Afifi, 2014). In Latin America, the changing rain patterns and severe droughts, especially in the Central American Dry Corridor, have significantly impacted agriculture-dependent communities, leading to food insecurity and economic instability. These conditions, coupled with political and economic factors, have resulted

in internal and cross-border migration, intensifying regional social and political tensions (Brinkman & Hendrix, 2011).

An analysis of these global instances illuminates how the impacts of climate change, especially extreme weather events and resource scarcity, can exacerbate social and economic vulnerabilities, catalysing conflict and violence. In Northeast Nigeria, climate change has contributed to resource-based conflicts and aided the recruitment strategies of extremist groups. Thus, addressing these root causes, including climate change, is imperative to fostering sustainable peace and development in the region.

A. Overview of the Crisis in Northeast Nigeria

Northeast Nigeria has been mired in crisis for over a decade due to the activities of the Islamist extremist group Boko Haram. The group's insurgency, coupled with military responses and inter-communal violence, has led to the deaths of tens of thousands of people and the displacement of millions more (International Crisis Group, 2023). The situation has been further exacerbated by the convergence of multiple political, social, economic, and environmental factors.

In addition to the human cost of the crisis, the region's infrastructure and public services have been significantly disrupted, resulting in widespread food insecurity, poor access to education, and limited healthcare resources (OCHA, 2021). These factors have contributed to a cycle of poverty and vulnerability, making it increasingly difficult for affected communities to recover and build resilience to future shocks.

B. Connection Between Climate Change and Conflict

Climate change has been recognised as a major factor contributing to the crisis in Northeast Nigeria. The region is particularly vulnerable to climate change due to its heavy reliance on rain-fed agriculture, which is increasingly threatened by extreme weather events, such as droughts, floods, and heatwaves (Adger et al., 2014). Moreover, the region has experienced a significant reduction in rainfall over the past sixty years,

resulting in the shrinking of Lake Chad, a vital water source for millions of people (Adger et al., 2014).

The effects of climate change on the conflict in Northeast Nigeria can be observed through various pathways. First, resource scarcity induced by climate change can exacerbate tensions between communities, leading to competition for resources such as water, land, and grazing areas (Gleick, 2014). As the availability of these resources declines, communities may increasingly turn to violence to secure their livelihoods, further entrenching the cycle of conflict.

Second, climate change can contribute to the proliferation of extremist groups like Boko Haram by creating conditions that enable their recruitment and radicalisation efforts (Ide, 2017). In the context of Northeast Nigeria, poverty, food insecurity, and lack of education make individuals more susceptible to radical ideologies, providing a breeding ground for extremism.

Finally, climate change can undermine state capacity and governance, making it more difficult for governments to respond effectively to conflict (Brzoska, 2015). The Nigerian government has been struggling to address the crisis in the Northeast, as limited resources are stretched thin across numerous competing priorities, such as disaster management, infrastructure development, and public service provision.

The influence of climate change on the conflict in Northeast Nigeria is significant and multifaceted, exacerbating existing tensions and contributing to the complex interplay of factors that drive violence and instability in the region. Addressing the root causes of the crisis, including climate change, will be crucial in fostering sustainable peace and development in Northeast Nigeria.

Climate Change in Northeast Nigeria

Climate change is a pressing global issue with local consequences, as demonstrated by the impacts observed in Northeast Nigeria. This region has experienced significant temperature increases, changing precipitation patterns, and desertification, directly and indirectly affecting the ongoing conflict. This section will provide an overview of

these climate change-related phenomena and explore their implications for Northeast Nigeria's socio-economic and political stability.

A. Temperature increases

Over the past several decades, Northeast Nigeria has experienced a consistent rise in temperatures, with average annual increases of approximately 0.4°C since the 1960s (Odjugo, 2010). This trend aligns with the broader pattern of global warming caused by human activities, such as greenhouse gas emissions from fossil fuel consumption, deforestation, and land-use changes.

The increase in temperature has had numerous adverse effects on the region's environmental, social, and economic conditions. The rising temperatures have exacerbated water scarcity by increasing evaporation rates and reducing water availability for agriculture, human consumption, and ecosystem services (Ayanlade et al., 2022). In addition, heat stress has affected the health and productivity of humans and livestock, undermining the region's capacity for agricultural production and overall food security (Ayanlade et al., 2022).

B. Changing precipitation patterns

In addition to rising temperatures, Northeast Nigeria has experienced significant changes in precipitation patterns, characterised by increasing variability and decreased overall rainfall (Ide, 2017). Rainfall in the region has become increasingly erratic, with more frequent extreme events, such as droughts and floods, posing challenges to agricultural production and community livelihoods.

The decreasing and unpredictable rainfall has severely affected Lake Chad, a vital water source for millions of people in the region. Over the past sixty years, the lake's surface area has decreased by approximately ninety per cent, largely due to changes in precipitation patterns and increased human water usage (Ide, 2017). The shrinking of Lake Chad has heightened competition for water resources, exacerbating tensions between different user groups and contributing to the overall instability in the region (Ide, 2017).

C. Desertification

Desertification is another critical environmental issue facing Northeast Nigeria, driven by climate change and human activities. Climate change contributes to desertification through increased temperature and decreased precipitation, which alter soil moisture dynamics and promote the spread of arid conditions (Okpara et al., 2016)). Human activities, such as deforestation, overgrazing, and unsustainable agricultural practices, further exacerbate desertification by degrading the land and reducing its capacity to support vegetation and biodiversity (Okpara et al., 2016).

Desertification has profound implications for the livelihoods of millions of people in Northeast Nigeria, as the process reduces the availability of productive land for agriculture, pastoralism, and other ecosystem services. The increasing scarcity of fertile land has intensified competition between land user groups, including farmers and pastoralists, and has contributed to the region's ongoing conflict (Okpara et al., 2016).

Climate change in Northeast Nigeria, as evidenced by rising temperatures, changing precipitation patterns, and desertification, has significant implications for the region's environmental, social, and economic conditions. These climate change-induced stressors have contributed to resource scarcity and competition, thereby exacerbating the ongoing conflict and instability. Addressing the impacts of climate change in Northeast Nigeria will require integrated, multi-sectoral strategies aimed at mitigating environmental degradation, improving adaptive capacity, and fostering peace and stability.

Socio-economic Impacts of Climate Change

Climate change has wide-ranging and profound socio-economic implications, particularly in vulnerable regions like Northeast Nigeria. The effects of climate change on agriculture and food security, livelihoods, and public health are interconnected and complex, further exacerbating existing social and economic challenges. This section will discuss these socio-economic impacts and their implications for the region's long-term stability.

A. Impacts on agriculture and food security

Agriculture plays a vital role in the livelihoods and food security of the people in Northeast Nigeria. Unfortunately, the sector is heavily reliant on rain-fed agriculture, making it vulnerable to the impacts of climate change (Ide, 2017). Changing precipitation patterns, rising temperatures, and desertification have significantly impacted agricultural production, posing challenges for smallholder farmers and pastoralists.

Reduced and erratic rainfall has increased the frequency and intensity of droughts, leading to crop failure and reduced yields. Floods, another consequence of the changing precipitation patterns, can lead to the loss of crops, livestock, and infrastructure, further undermining food security. Moreover, the rising temperatures have reduced the productivity of staple crops, such as maise and sorghum, while also increasing the prevalence of pests and diseases (Ide, 2017).

These climate change-induced stressors have significant implications for food security in Northeast Nigeria. Reduced agricultural production leads to higher food prices, making it increasingly difficult for low-income households to access nutritious and diverse diets (Okpara et al., 2016). Additionally, as farmers and pastoralists struggle to maintain their livelihoods, food insecurity can lead to increased competition for resources, further contributing to the cycle of conflict and displacement in the region.

B. Impact on livelihoods

The impacts of climate change on agriculture and food security have significant consequences for livelihoods in Northeast Nigeria. As environmental conditions deteriorate and agricultural productivity declines, many people face reduced income and employment opportunities, making it increasingly difficult to escape poverty and build resilience to future shocks (Okpara et al., 2016).

Declining agricultural productivity can also lead to shifts in traditional livelihood strategies, as farmers and pastoralists are forced to search for alternative sources of income. For instance, many farmers have turned to charcoal production, contributing to deforestation and

exacerbating climate change impacts (Ide, 2017). Similarly, pastoralists often resort to migrating to urban areas or other countries in search of employment, which can create tensions with host communities and increase the risk of social conflict.

Moreover, climate change can exacerbate existing inequalities and social tensions. Marginalised groups, such as women, youth, and ethnic minorities, often bear the brunt of the negative effects of climate change due to their limited access to resources, information, and decision-making power (Adger et al., 2014). Consequently, the impacts of climate change on livelihoods can contribute to the cycle of poverty, vulnerability, and conflict in Northeast Nigeria.

C. Public Health Consequences

The impacts of climate change in Northeast Nigeria are manifold and significant, profoundly affecting various public health aspects. In Borno State, for instance, the number of malaria cases has increased, a trend likely influenced by changing climatic conditions that provide favourable environments for mosquito breeding (Ugwu & Zewotir, 2020).

Moreover, extreme weather events, such as droughts and floods, associated with climate change, can contribute to outbreaks of waterborne diseases like cholera and diarrheal diseases. A clear example is in Borno, Yobe and Adamawa State, where an outbreak of cholera in 2022 affected over seven thousand people and caused over three hundred deaths primarily due to water contamination from flooding (OCHA, 2022). Additionally, the heat stress resulting from escalating temperatures and diminished air quality can amplify respiratory and cardiovascular ailments. Yobe State, known for its soaring temperatures, has seen an increase in heat-related illnesses, especially among groups most susceptible to heat stress, such as the elderly, children, and those with pre-existing health conditions (Agada & Yakubu, 2022).

Climate change has also played a role in escalating food insecurity in the region, thereby posing serious public health threats. Inadequate access to a variety of nutritious food can result in

malnutrition, a condition that amplifies the risk of infectious diseases, hinders cognitive development and reduces overall productivity. The adverse impacts of malnutrition are pronounced in Northeast Nigeria, where the region already grapples with high rates of malnutrition and child stunting. Over a million children in the northeast are acutely malnourished (Olugbode, 2023).

Thus, the socio-economic ramifications of climate change in Northeast Nigeria are substantial and pervasive, influencing agriculture, food security, livelihoods, and public health. These intertwined consequences further intensify existing vulnerabilities and contribute to the region's enduring conflict and instability.

Climate Change as a Conflict Driver

The intricate relationship between climate change and conflict in Northeast Nigeria is becoming increasingly apparent as environmental stressors exacerbate existing tensions and contribute to new forms of violence. This section will explore three primary ways climate change acts as a conflict driver: competition for resources, displacement and migration, and vulnerability to extremist groups.

A. competition for resources

Climate change has intensified resource scarcity in Northeast Nigeria, particularly with regard to water and arable land. The rising temperatures, changing precipitation patterns, and desertification have reduced the availability and quality of these vital resources, making it increasingly difficult for communities to maintain their livelihoods (Ide, 2017).

Competition for limited resources can exacerbate existing social, ethnic, and religious tensions, particularly between farmers and pastoralists, who rely on these resources for their subsistence (Okpara et al., 2015). As climate change degrades the environment, these groups are forced to contest access to water sources and grazing land, increasing local-level conflicts and violence (Okpara et al., 2016).

The shrinking of Lake Chad, a critical water source for millions of people in the region, exemplifies the impact of resource scarcity on

conflict dynamics. As the lake's surface area has decreased, competition for water resources has intensified, contributing to tensions between different user groups and exacerbating the overall instability in the region (Ide, 2017).

B. displacement and migration

Climate change has contributed to large-scale displacement and migration in Northeast Nigeria, as individuals and communities are forced to abandon their homes in search of better environmental conditions and economic opportunities (Adger et al., 2014). This migration is often driven by climate change-induced impacts on agriculture, food security, and livelihoods as people search for alternative means of sustenance and survival.

The displacement of populations can have significant implications for the host communities, who may struggle to accommodate the influx of migrants and share limited resources (Okpara). This situation can exacerbate existing tensions and create new forms of conflict as the increased competition for resources, services, and opportunities amplifies social, ethnic, and religious divisions.

C. Vulnerability to extremist groups

Climate change can significantly heighten susceptibility to recruitment by extremist groups in Northeast Nigeria, like Boko Haram. The resultant social, economic, and environmental strains from climate change often amplify the vulnerabilities of already marginalised communities. Boko Haram, among other extremist factions, leverages these heightened vulnerabilities, offering economic benefits, a sense of belonging, and a shield against insecurity and deprivation in a region otherwise fraught with these issues (Adger et al., 2014).

In the Lake Chad Basin, for instance, climate change has led to significant shrinkage of the lake over the past few decades. This shrinkage has resulted in livelihood loss for millions who depended on the lake for fishing, farming, and livestock rearing (Okeke-Ogbuafor et al., 2023). This situation creates a pool of economically distressed

individuals who are potentially susceptible to recruitment by Boko Haram.

In terms of eroding social cohesion, climate change-related stresses such as persistent droughts and floods have disrupted traditional communal resource management practices, leading to increased inter-communal conflict. For example, in Borno State, a region already severely affected by the activities of Boko Haram, competition over dwindling water and land resources has intensified conflict between pastoralists and farmers, thereby weakening community bonds (Okeke-Ogbuafor et al., 2023).

Furthermore, climate change-induced hardship can trigger a sense of despair and hopelessness. This despair and a lack of access to necessities and opportunities may lead individuals towards the allure of extremist narratives. In Yobe State, for instance, this has been observed where the impacts of desertification and frequent droughts have left many young people without stable sources of income, making them potential recruits for extremist groups (Adger et al., 2014).

Thus, climate change operates as a catalyst for conflict in Northeast Nigeria through several interconnected channels: escalating competition for resources, triggering displacement and migration and increasing susceptibility to extremist group recruitment. Tackling this requires an integrated approach that addresses the root causes of these vulnerabilities while simultaneously building resilience and fostering social cohesion and stability in the region.

Strategies to Address Climate-Conflict Nexus in Northeast Nigeria.

Addressing the complex relationship between climate change and conflict in Northeast Nigeria requires comprehensive, integrated approaches that simultaneously tackle the environmental, social, and political drivers of instability. This section will discuss three key strategies to address the climate-conflict nexus: climate change adaptation and mitigation, conflict resolution and peacebuilding, and integrated policy and planning.

A. Climate change adaptation and mitigation

Climate change adaptation and mitigation are essential components of any strategy aimed at addressing the climate-conflict nexus. Adaptation measures help communities build resilience to the impacts of climate change, while mitigation efforts aim to reduce greenhouse gas emissions and curb global warming (Adger et al., 2014).

Adaptation strategies in Northeast Nigeria should focus on improving agricultural productivity, water management, and livelihood diversification. For example, promoting climate-smart agriculture techniques, such as agroforestry and conservation farming, can increase crop yields and enhance food security in the face of environmental stressors (Okpara et al., 2015). Improved water management through the construction of small-scale irrigation systems and rainwater harvesting infrastructure can also increase agricultural resilience to changing precipitation patterns (Ide, 2017).

In addition, livelihood diversification can help communities cope with climate change-induced economic challenges. Vocational training, microfinance, and investments in local infrastructure can facilitate access to alternative income-generating activities, reducing dependence on climate-sensitive sectors like agriculture and pastoralism (Adger et al., 2014).

Mitigation measures should focus on promoting low-carbon development and enhancing natural resource management. For example, investing in renewable energy technologies and encouraging energy-efficient practices can reduce greenhouse gas emissions and contribute to long-term sustainable development (Adger et al., 2014). Moreover, reforestation and afforestation programs can help mitigate climate change while providing economic benefits and protecting ecosystems.

B. Conflict resolution and peacebuilding

Conflict resolution and peacebuilding are critical to addressing the root causes of violence and instability in Northeast Nigeria. These efforts should foster dialogue, build trust, and promote cooperation among

different stakeholder groups, including farmers, pastoralists, government officials, and civil society organisations.

Community-based conflict resolution mechanisms can help resolve disputes over access to resources and land, preventing the escalation of violence (Opiyo et al., 2014). These mechanisms may include traditional negotiation practices and modern techniques such as participatory mapping and resource allocation. Peacebuilding initiatives should also address the underlying social, economic, and political grievances that fuel conflict through targeted interventions aimed at reducing poverty, promoting social cohesion, and enhancing governance and accountability (Raleigh, 2011).

C. Integrated policy and planning

Developing integrated policies and planning frameworks that incorporate climate change adaptation, mitigation, conflict resolution, and peacebuilding is crucial for addressing the climate-conflict nexus in Northeast Nigeria. This requires close collaboration and coordination among various government agencies, non-governmental organisations, and local communities to ensure that policies and interventions are tailored to local contexts and address the diverse needs of vulnerable populations.

Integrated planning frameworks should include comprehensive land-use plans, natural resource management strategies, and climate change action plans that consider the social, economic, and environmental dimensions of the climate-conflict nexus (Xu et al., 2016). These plans should prioritise stakeholder engagement, participatory decision-making processes, and equitable access to resources to ensure that the needs and priorities of marginalised groups are considered and addressed (Adger et al., 2014).

Addressing the climate-conflict nexus in Northeast Nigeria requires a multifaceted approach that combines climate change adaptation and mitigation, conflict resolution and peacebuilding, and integrated policy and planning. By adopting such comprehensive strategies, it is possible to build resilience, promote social cohesion, and enhance stability in the region. Implementing these measures requires

sustained commitment, coordination, and collaboration among various stakeholders, including government agencies, civil society organisations, and local communities.

Conclusion

The complex interplay between climate change and conflict in Northeast Nigeria underlines the need for a multifaceted approach that addresses environmental, social, and political factors. As climate change exacerbates issues like resource scarcity, migration, and extremist recruitment, it's crucial to tackle these challenges to disrupt the cycle of violence and instability that communities face due to environmental stressors and competition for resources.

Addressing climate change's role in conflict is essential to foster sustainable peace and development. A focus on the climate-conflict nexus allows stakeholders to understand the root causes of instability and implement targeted interventions to build resilience, promote social cohesion, and enhance governance.

A comprehensive approach to peace and development in Northeast Nigeria requires integrating climate change adaptation and mitigation efforts, conflict resolution initiatives, and integrated policy and planning frameworks. Climate change strategies should be context-specific, prioritising agricultural improvement, water management, livelihood diversification, low-carbon development, and enhanced resource management.

Conflict resolution and peacebuilding initiatives are vital to address the underlying grievances fueling conflict by fostering dialogue, trust, and cooperation among different stakeholder groups. Finally, integrated policy and planning frameworks should emphasise stakeholder engagement, participatory decision-making processes, and equitable resource access.

In summary, the climate-conflict nexus in Northeast Nigeria calls for a holistic approach that combines climate change adaptation and mitigation, conflict resolution, peacebuilding, and integrated policy planning. By fostering collaboration among various stakeholders, it's possible to promote sustainable peace and development in the region,

thus serving as a model for other areas grappling with similar challenges.

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