RESEARCH ARTICLE

ARMED CONFLICT AND FOOD SECURITY IN NIGERIA

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ABSTRACT

This study examines the impact of armed conflict on food security in Nigeria, with a particular focus on how insurgency, farmer-herder clashes, and rural banditry disrupt agricultural productivity, market access, and food distribution systems. Guided by Conflict Theory, the research explores the relationship between conflict and food insecurity, focusing on availability, accessibility, utilisation, and stability of food. The study aims to (i) examine the impact of armed conflict on food production and distribution, (ii) assess the socioeconomic consequences of food insecurity, and (iii) explore coping strategies adopted by affected communities. A review of relevant literature and empirical studies across the North-East, Middle Belt, and North-West regions highlights severe disruptions caused by conflict, including displacement, farmland inaccessibility, and weakened supply chains, all of which exacerbate hunger and malnutrition. The findings reveal that affected communities often adopt short-term coping mechanisms such as migration, food rationing, and informal community support, which offer limited resilience. In response, the study recommends that the government enhance security in agricultural zones, implement agricultural recovery and livelihood support programs, and promote community-based peace-building initiatives to strengthen long-term food system resilience. These recommendations aim to inform policy decisions that support sustainable food security and socioeconomic stability in Nigeria's conflict-affected regions.

INTRODUCTION

Food security in Nigeria has become an increasingly urgent concern, with the country now facing one of the largest food crises globally. The most recent Cadre Harmonisé report, produced by the Government of Nigeria in collaboration with the Food and Agriculture Organisation (FAO) and other partners, projects that 33.1 million Nigerians will experience acute food insecurity during the June–August 2025 lean season. This figure marks a worrying increase of seven million people compared to the same period last year, highlighting a persistent and deepening crisis (FAO, 2024; WFP, 2024). The scale of food insecurity in Nigeria is unprecedented. As of early 2025, 30.6 million people across 26 states and the Federal Capital Territory are projected to face acute food and nutrition insecurity at Crisis (CH Phase 3) or worse, with 1.8 million expected to be in Emergency (CH Phase 4) conditions during the lean season. The northwestern states of Zamfara, Sokoto, and Katsina, as well as the northeastern states of Borno and Yobe, are among the hardest hit, with millions at risk of hunger and malnutrition (Abbah *et al.*, 2024). This food insecurity crisis is not only widespread but also affects the most vulnerable groups. According to the World Food Programme, 5.4 million children and 800,000 pregnant and breastfeeding women are at risk of acute malnutrition or

wasting, with 1.8 million children facing severe acute malnutrition and in need of critical nutrition treatment (WFP, 2024). These figures underscore the severe impact of food insecurity on child and maternal health, with long-term implications for human development in Nigeria. Multiple factors are driving this escalating food insecurity. Economic hardship, marked by record-high inflation and a sharp increase in food prices, has eroded household purchasing power. The aftermath of devastating floods and the ongoing effects of climate change have further reduced agricultural productivity and disrupted food supply chains. These economic and environmental shocks have been compounded by persistent and widespread armed conflict (Olanrewaju and Balana,2023). Armed conflict remains a central factor in Nigeria's food security crisis. The country has been plagued by a complex array of violent conflicts, including the Boko Haram insurgency in the northeast, farmer-herder clashes in the Middle Belt, and the rise of banditry and rural displacement in the northwest. Each of these conflicts has distinct characteristics but shares the common outcome of disrupting agricultural livelihoods, displacing populations, and undermining food systems (ReliefWeb, 2025; FAO, 2024). The Boko Haram insurgency, now in its fifteenth year, continues to devastate the northeastern states of Borno,

Adamawa, and Yobe. The conflict has displaced millions, destroyed farmland, and made large areas inaccessible for farming or humanitarian assistance. As a result, food production has plummeted, and local markets have collapsed, leaving millions dependent on humanitarian aid (FAO, 2024; Relief Web, 2025). Farmer-herder clashes in the Middle Belt have also intensified, driven by competition over land and water resources, population pressures, and environmental degradation. These clashes often destroy crops, cause the loss of livestock, and displace entire communities. The violence disrupts planting and harvesting cycles, reduces food availability, and creates a climate of fear that discourages agricultural investment (FAO, 2024; WFP, 2024). Banditry and rural displacement have become particularly acute in the northwestern states, where armed groups attack villages, kidnap residents, and loot food supplies. These attacks have forced hundreds of thousands of people to flee their homes, abandoning their farms and livelihoods. The resulting displacement has led to the abandonment of vast areas of arable land and a sharp decline in food production (FAO, 2024; Business Day, 2025).

The effects of armed conflict are compounded by economic instability and climate shocks. Inflation has driven up the cost of staple foods, while erratic rainfall, droughts, and floods have reduced yields and increased post-harvest losses. Many households have been forced to adopt negative coping strategies, such as reducing meal frequency or selling productive assets, to survive (WFP, 2024; FAO, 2024). Despite the scale of the crisis, humanitarian access remains limited in many conflict-affected areas. Ongoing violence, bureaucratic barriers, and attacks on aid workers have made it difficult to reach those most in need. As a result, millions remain without adequate food, water, or medical care, heightening the risk of hunger, malnutrition, and disease (ReliefWeb, 2025). The government and international partners have launched multiple interventions to address food insecurity, including food distributions, nutrition programs, and support for agricultural recovery. However, these efforts are often hampered by insecurity, funding gaps, and logistical challenges. Without sustained and coordinated action, the number of food-insecure Nigerians is expected to continue rising (FAO, 2024; WFP, 2024). Nigeria's food security crisis is shaped by a combination of economic, environmental, and security challenges. The prevalence and nature of armed conflicts-Boko Haram insurgency, farmer-herder clashes, and banditry-have created a complex emergency that threatens the lives and livelihoods of millions. The urgent need for life-saving support and long-term solutions is underscored by the latest projections and the lived realities of affected communities (FAO, 2024; WFP, 2024).

STATEMENT OF THE PROBLEM

Armed conflict in Nigeria has become a persistent barrier to agricultural productivity, market access, and the stability of food supply chains. Violent conflicts, particularly in the northern regions, have resulted in reduced yields, depleted food stocks, and restricted access to farmland for both internally displaced persons (IDPs) and resident farmers. The ongoing insecurity not only discourages investment in agriculture but also leads to significant post-harvest losses, as farmers are unable to safely cultivate or harvest their crops, and are often forced to abandon their fields altogether. These disruptions are compounded by high inflation and economic

hardship, which further erode household purchasing power and make it difficult for families to access sufficient and nutritious food. The impact of armed conflict extends beyond the farm gate, severely disrupting market access and food supply chains. Attacks on traders, transporters, and market centers have led to the closure of regional markets, limiting the movement of goods and increasing transaction costs. As a result, food becomes less available and more expensive in both rural and urban areas, and supply chains are frequently interrupted or rerouted, leading to shortages and price spikes. In addition, conflicts influence farmers' crop choices and investment decisions, with many shifting away from long-term or high-value crops due to the risks associated with violence and instability. This shift reduces agricultural diversity and resilience, making local food systems even more vulnerable to future shocks. The cumulative effect of these disruptions is a dramatic increase in food insecurity across Nigeria. Recent assessments warn that over 33 million Nigerians are projected to face acute food insecurity in 2025, with conflict and violence in the northeast and northwest states identified as primary drivers of this crisis. The prevalence of armed conflict not only undermines agricultural production and market functioning but also impedes humanitarian access, leaving millions without adequate food, water, or medical care. These findings highlight the urgent need for comprehensive strategies that address both the immediate and structural impacts of conflict on Nigeria's food systems.

RESEARCH QUESTION

The following research questions were raised to address the research problem the study.

- What is the impact of armed conflict on food production and distribution?
- What are the socioeconomic consequences of food insecurity?
- What coping strategies are adopted by affected communities?

OBJECTIVES OF THE STUDY

The objectives of the study are;

- To examine the impact of armed conflict on food production and distribution.
- To assess the socioeconomic consequences of food insecurity.
- To explore coping strategies adopted by affected communities.

LITERATURE REVIEW

Conceptual Clarification

Definition of Food Security: Food security is a multifaceted concept that encompasses more than just the presence of food. According to the widely accepted definition from the 1996 World Food Summit, food security exists "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2006). This definition is echoed by the World Bank and other international

bodies, emphasizing the need for food to be not only available but also accessible, safe, and suited to the nutritional needs of individuals (World Bank, 2024).

The Four Pillars of Food Security: Food security is measured across four main dimensions: availability, accessibility, utilization, and stability. These pillars provide a comprehensive framework for understanding the complex factors that influence whether individuals and communities are food secure (FAO, 2006).

Food Availability: Availability refers to the physical presence of food in a given area, which is determined by domestic food production, food imports (including food aid), and the level of food stocks (ScienceDirect, 2025). In Nigeria, food availability is often threatened by disruptions to agricultural production caused by armed conflict, which can destroy crops, livestock, and infrastructure, leading to shortages and increased reliance on imports or humanitarian aid (FAO, 2006).

Food Accessibility: Accessibility concerns the ability of individuals and households to obtain adequate food resources. This dimension is influenced by factors such as income, food prices, market infrastructure, and social or political entitlements (World Bank, 2024). In conflict-affected regions of Nigeria, accessibility is frequently compromised as violence disrupts markets, increases transportation costs, and reduces household purchasing power, making it difficult for families to afford sufficient and nutritious food (Concern, 2025).

Food Utilisation: Utilisation refers to the proper biological use of food, requiring a diet with sufficient energy and nutrients, clean water, sanitation, and health care to achieve nutritional well-being (FAO, 2006). In Nigeria, armed conflict often leads to poor food utilization due to the destruction of health and water infrastructure, displacement, and the breakdown of social support systems, resulting in higher rates of malnutrition and disease (FSCluster, 2021).

Stability: Stability means that the other three dimensions- availability, access, and utilization- are maintained consistently over time. Populations must not risk losing access to food as a result of sudden shocks (such as conflict or natural disasters) or cyclical events (such as seasonal food insecurity) (FAO, 2006). In Nigeria, the ongoing nature of armed conflict undermines stability, causing recurrent food crises and chronic food insecurity in affected regions.

Definition of Armed Conflict: Armed conflict is generally defined as a contested incompatibility that concerns government or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in one calendar year (Uppsala Conflict Data Program, 2024). Armed conflict can be international (between states), non-international (between a government and non-state groups), or involve non-state actors fighting each other (UCDP, 2024).

Types of Armed Conflict: There are several types of armed conflict relevant to the Nigerian context. Interstate conflicts occur between two or more states, while intrastate conflicts take place within a single state, often involving government forces and non-state actors (UCDP, 2024). Nigeria's most pressing security challenges are intrastate, including

insurgencies (such as Boko Haram), communal clashes, and banditry (UCDP, 2024).

Armed Conflict and Food Security in Nigeria: Armed conflict in Nigeria has a direct and multifaceted impact on all four pillars of food security. In the northeast, the Boko Haram insurgency has destroyed farmlands, killed livestock, and displaced millions, dramatically reducing food availability and destabilizing local food systems (FAO, 2006). Conflict disrupts transportation and market access, making it difficult for food to reach those who need it, thus eroding accessibility (Concern, 2025).

THEORETICAL FRAMEWORK

The study is anchored on conflict theory. Conflict theory, rooted in the works of Karl Marx, posits that society is characterised by ongoing struggles between groups competing for limited resources, power, and status. This theoretical framework emphasises that social order is maintained by domination and power rather than consensus and conformity. In the context of food security, conflict theory suggests that inequalities in access to resources such as land, water, and capital are not accidental but are outcomes of structural imbalances and competition among groups. These structural inequalities are particularly pronounced in societies with significant disparities in wealth and resource distribution, such as Nigeria. Armed conflict in Nigeria is often driven by competition for productive resources, a core tenet of conflict theory. For instance, the persistent clashes between farmers and herders in Nigeria's Middle Belt can be traced to competition over land and water, resources that are increasingly scarce due to population growth and environmental change (Abbah *et al*., 2024). Conflict theory explains that when groups perceive their access to vital resources is threatened, social tensions escalate, often resulting in violent confrontations. This dynamic is evident in Nigeria, where resource competition has led to recurrent violence, displacement, and loss of livelihoods, further entrenching food insecurity (Abbah *et al*., 2024). The relationship between armed conflict and food security in Nigeria is reciprocal and cyclical. Conflict disrupts agricultural activities, destroys infrastructure, and displaces populations, all of which undermine food availability, accessibility, and stability (ISDC, 2018). According to conflict theory, these disruptions are not merely byproducts of violence but are manifestations of deeper systemic inequalities and struggles for control over resources. As conflict reduces food production and access, it exacerbates grievances and competition, potentially fueling further conflict-a feedback loop that perpetuates both violence and food insecurity (ISDC, 2018; Olanrewaju&Balana, 2023). Conflict theory provides a valuable lens for understanding the interplay between armed conflict and food security in Nigeria. It highlights how structural inequalities, competition for resources, and power imbalances drive both conflict and food insecurity. The theory highlights the importance of addressing underlying social and economic disparities to break the cycle of violence and hunger. In Nigeria, efforts to improve food security must therefore go beyond immediate humanitarian relief and tackle the root causes of conflict, including resource distribution, land tenure, and social exclusion (Abbah *et al*., 2024).

Global and Regional Overview of Conflict and Food Insecurity: Armed conflict continues to be one of the most

significant drivers of food insecurity worldwide, with the number and intensity of conflicts reaching unprecedented levels in recent years. Currently, nearly sixty armed conflicts are active globally, affecting approximately two billion people-about one quarter of the world's population-living in conflict-affected countries. These conflicts have become more frequent and deadly, with civilian fatalities increasing notably due to escalations in regions such as the Middle East, North Africa, and Eastern Europe (Statista, 2025; ACLED, 2025). The humanitarian consequences of these conflicts are profound. In recent years, hundreds of thousands of deaths have been attributed to armed violence, with children disproportionately affected. Thousands of children are killed or maimed annually, highlighting the devastating impact of conflict on vulnerable populations (Bunker Swiss, 2024; United Nations Office of the Special Representative for Children and Armed Conflict, as cited in ReliefWeb, 2025). These figures underscore the urgent need to address the nexus between conflict and civilian suffering. Food insecurity is intricately linked to conflict, as violence disrupts agricultural production, destroys infrastructure, and displaces millions of people. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) projects that hundreds of millions will require humanitarian assistance, with conflict and violence being primary drivers of this unprecedented need. Protracted conflicts, compounded by natural disasters and political instability, have intensified humanitarian crises in regions such as Myanmar, Gaza, Sudan, and Ukraine (YouTube OCHA, 2025).

Displacement caused by conflict exacerbates food insecurity. Over one hundred million people are forcibly displaced worldwide, with many losing access to their land and livelihoods. Displaced populations often face acute food shortages, worsened by limited humanitarian access due to physical, bureaucratic, and political barriers. For example, millions in major conflict zones remain unreachable by aid organizations, heightening their vulnerability (ReliefWeb, 2025). The war in Ukraine, which escalated dramatically in 2022, has had far-reaching effects on global food security. Ukraine, a major exporter of wheat, maize, and sunflower oil, has seen its agricultural output and exports severely disrupted by the conflict. This disruption has contributed to global food price volatility and shortages, particularly impacting countries in the Middle East and Africa that depend heavily on Ukrainian grain imports (World Economic Forum, 2025).

In Africa, regions such as the Sahel and Horn of Africa have been severely affected by the intersection of conflict and food insecurity. Countries including Sudan, Nigeria, Burkina Faso, and Ethiopia have experienced prolonged violence, resulting in mass displacement and the collapse of local food systems. In Sudan, ongoing civil war has caused tens of thousands of deaths and displaced millions, pushing large segments of the population into crisis-level hunger (Statista, 2025; ReliefWeb, 2025). Hybrid conflicts-those combining conventional warfare with irregular tactics, terrorism, and organised crime-are increasingly common and complicate humanitarian responses. These conflicts often involve regional powers and proxy actors, making resolution more difficult. The proliferation of armed groups and the erosion of norms protecting civilians have increased risks for humanitarian workers and restricted access to affected populations (ACLED, 2025). The economic consequences of conflict are also significant. Global military spending has reached record highs, diverting resources from

development and social protection efforts, thus exacerbating poverty and undermining food system resilience. The World Economic Forum's Global Risks Report identifies conflict as the greatest global threat, surpassing even climate change and pandemics in perceived risk (World Economic Forum, 2025).

The Middle East remains a hotspot for conflict-driven food insecurity, with wars in Israel, Palestine, Syria, and Yemen causing mass casualties and regional instability. These conflicts have destroyed agricultural infrastructure, disrupted trade routes, and led to widespread hunger and malnutrition. Yemen, in particular, faces a dire humanitarian crisis, with millions on the brink of famine due to years of civil war (ReliefWeb, 2025).

In Latin America and the Caribbean, food insecurity linked to violence takes a different form. Criminal conflicts involving gangs and drug trafficking in countries such as Haiti, Mexico, and Brazil generate high levels of violence and displacement. These conflicts disrupt both urban and rural economies, impeding food production and distribution, and contributing to food insecurity (Bunker Swiss, 2024). Asia also faces significant conflict-related food insecurity challenges. Myanmar's long-running civil war has led to tens of thousands of deaths and widespread displacement, devastating rural livelihoods and contributing to chronic food insecurity, especially among ethnic minorities. Similarly, Afghanistan's ongoing conflict continues to undermine food security, with millions dependent on humanitarian aid (ReliefWeb, 2025).

The interconnectedness of global conflicts means that shocks in one region can have cascading effects worldwide. Disruptions in major food-exporting countries, such as Ukraine and Russia, have driven up global food prices and worsened food insecurity in import-dependent nations. This highlights the vulnerability of the global food system to conflict-related shocks and the importance of diversified and resilient supply chains (World Economic Forum, 2025). International efforts to address conflict and food insecurity face growing challenges. Access constraints, political divisions, and attacks on humanitarian personnel hinder aid delivery and civilian protection. The erosion of norms regarding humanitarian assistance under international law further complicates response efforts, limiting the ability to reach those most in need (ACLED, 2025). Despite these challenges, there are examples of resilience and adaptation. Local communities, humanitarian organizations, and some governments have developed innovative strategies to maintain food supplies and support vulnerable populations in conflict zones. However, the scale of need often outpaces available resources, underscoring the urgency for renewed global cooperation and investment in conflict prevention and peace building (YouTube OCHA, 2025). Looking ahead, the outlook remains concerning, with the number, intensity, and complexity of conflicts expected to remain high. Preventing further escalation and addressing root causes will be critical to improving food security and reducing humanitarian suffering worldwide. The global community faces a pivotal moment in its efforts to mitigate the impacts of war on food security and human well-being (World Economic Forum, 2025).

Effects of Boko Haram on Agriculture in the North-East:
The Boko Haram insurgency in Nigeria's North-East has significantly disrupted agricultural productivity and livelihoods. Empirical studies indicate that while the amount of land cultivated may not have drastically declined, the intensity of Boko Haram attacks has severely reduced total

agricultural output and productivity. Farmers who remain in the region often face insecurity that limits their ability to farm effectively, resulting in widespread food shortages and economic hardship in affected communities. Displacement caused by Boko Haram is a critical factor undermining agricultural livelihoods. Millions of farmers have been forced to flee their homes, abandoning their farms, livestock, and agricultural infrastructure. This mass displacement has led to decreased food availability and increased food prices in local markets. The psychological trauma and fear generated by ongoing violence further discourage farming activities, exacerbating the economic and social toll of the insurgency (Adebisi, Azeez, & Oyedeji, 2024). Research focusing on maize farmers in the North-East reveals that the insurgency has led to significant declines in maize production. Many affected farmers struggle to provide for their families or afford education for their children due to the loss of income and displacement. The crisis has also contributed to increased poverty, unemployment, disease outbreaks, and malnutrition, particularly among women and children, who are most vulnerable to food insecurity (Bello, 2024). Specific crops such as pearl millet have also been negatively impacted. Studies in Yobe State show that Boko Haram's activities have significantly reduced millet yields, with farmers in conflict-affected areas producing much less than those in peaceful zones. This decline in staple crop production heightens the risk of hunger and disease outbreaks, demonstrating the broader implications of conflict on food security (Ali *et al*., 2024).

Market disruptions due to Boko Haram attacks further compound food insecurity. The closure of regional agricultural markets near conflict hotspots interrupts the flow of goods, limits farmers' access to buyers, and destabilizes food supply chains. Market closures often coincide with critical agricultural seasons, worsening food insecurity during peak production periods (OECD, 2017). Government responses to Boko Haram, such as border closures with neighboring countries, have also affected agriculture. While intended to restrict insurgent movements, these measures have crippled agricultural exports from northern states, reducing revenue and constraining food availability. The combined effects of violence and restrictive policies have led to a widespread decline in agricultural productivity and rising food prices (Adebisi *et al*., 2024). The psychological and economic impacts of Boko Haram are profound. Fear of violence, kidnappings, and abductions discourages farmers from working their land, leading to widespread farm abandonment and reduced rural employment. Food shortages resulting from these disruptions have increased dependence on humanitarian aid, which often falls short of meeting the needs of displaced populations (Bello, 2024).

Impacts of Farmer-Herder Clashes in the Middle Belt: The Middle Belt region of Nigeria has experienced recurrent clashes between farmers and herders, primarily driven by competition over land and water resources. Empirical research links these conflicts to significant reductions in agricultural output and disruptions in local food systems. The violence has led to the destruction of crops, loss of livestock, and displacement of farming households, negatively affecting food security both locally and nationally. The severity of farmer-herder violence varies across communities, with some areas experiencing more frequent and intense clashes. In many cases, entire communities have been forced to abandon farming, resulting in the loss of livelihoods and increased

reliance on food imports or humanitarian assistance. The erosion of social cohesion and trust between groups further complicates efforts to resume agricultural activities and restore peace (Adebisi *et al*., 2024).

Banditry and Rural Displacement in the North-West: In Nigeria's North-West, armed banditry has emerged as a major threat to rural livelihoods. Bandit attacks have caused widespread displacement, forcing hundreds of thousands of people to flee their villages and farms. This has led to the abandonment of large areas of arable land, loss of livestock, and the collapse of rural economies. Food shortages and rising prices have pushed many households into acute food insecurity. Women and children are particularly vulnerable to the impacts of banditry. Displacement disrupts access to education, healthcare, and social services, while loss of household assets hampers recovery efforts. The psychological trauma associated with violence and displacement further undermines community resilience and the ability to rebuild livelihoods. Banditry has also severely disrupted market activity in the North-West. Frequent attacks on traders, transporters, and market centres hinder the flow of goods, reduce market attendance, and limit food availability in both rural and urban areas. These disruptions contribute to rising food prices and reduced dietary diversity, especially among displaced populations (Adebisi *et al*., 2024).

Broader Agricultural and Food Security Implications: The combined effects of Boko Haram insurgency, farmer-herder clashes, and banditry have led to a significant decline in Nigeria's agricultural output. The country faces challenges in meeting domestic food needs, increasing dependence on imports, and placing greater pressure on humanitarian agencies to provide emergency food assistance. Research highlights the urgent need for coordinated interventions addressing both immediate security concerns and the structural drivers of conflict. Improving security, supporting displaced farmers, rebuilding agricultural infrastructure, and fostering dialogue between conflicting groups are essential to breaking the cycle of violence and food insecurity (Adebisi *et al*., 2024). Empirical findings underscore the devastating impact of armed conflict on rural livelihoods, market stability, and national food systems. These realities emphasis the importance of peace, security, and inclusive development as prerequisites for sustainable agricultural growth and food security in Nigeria.

METHODOLOGY

This study adopted a qualitative research design utilizing content analysis to explore the relationship between armed conflict and food security in Nigeria. Content analysis is appropriate for interpreting patterns and themes within textual data, particularly when dealing with complex sociopolitical phenomena like conflict and food insecurity (Elo&Kyngäs, 2008). The research relied solely on secondary data derived from academic journal articles, policy briefs, government publications, and institutional reports from reputable organizations such as the Food and Agriculture Organisation (FAO), World Food Programme (WFP), National Emergency Management Agency (NEMA), and various UN agencies. Additional sources included credible news outlets, humanitarian bulletins, and official government press releases to ensure a comprehensive understanding of both conflict

dynamics and food security trends within Nigeria. Data were systematically selected based on inclusion criteria such as relevance to Nigeria, publication between 2010 and 2024, and focus on the intersection of armed conflict and food security. The data analysis employed thematic content analysis, which involved identifying, coding, and categorizing recurring themes across the selected documents (Braun & Clarke, 2006). Key thematic categories included types of conflict, impacts on agriculture, displacement effects, humanitarian interventions, food access challenges, and community resilience strategies. This method allowed for an in-depth and structured interpretation of qualitative data, providing insights into both the direct and indirect effects of armed conflict on food systems in Nigeria. The use of multiple data sources enhanced the credibility and triangulation of findings, ensuring that the conclusions drawn were robust and grounded in diverse perspectives.

RESULTS AND DISCUSSION

Impact of armed conflict on food production and agriculture: Armed conflict has profoundly affected food production and agriculture in Nigeria, with the most severe impacts observed in the country's northern regions. The Boko Haram insurgency, which escalated around 2009, has disrupted agricultural activities by displacing millions of people, destroying farmlands, and making rural areas unsafe for farming (Adebisi *et al.*, 2016). The resulting insecurity has led to a drastic reduction in agricultural value added to Nigeria's GDP, as farmers abandon their fields and supply chains are broken. One of the most direct impacts of armed conflict on agriculture is the destruction of agricultural resources and infrastructure. Violent groups have targeted farm equipment, irrigation systems, storage facilities, and rural markets, making it difficult for farmers to plant, harvest, and sell their produce (Adebisi *et al.*, 2016; Statista Research Department, 2021). In Borno State, for example, the destruction of these vital assets has severely constrained food markets and driven up the prices of staple foods (Adebisi *et al.*, 2016; Statista Research Department, 2021). The displacement of farming populations is another critical consequence of armed conflict. As violence intensifies, farmers are forced to flee their homes, leaving behind their land and livelihoods (Olanrewaju & Balana, 2023). This mass displacement not only reduces the available agricultural labour force but also leads to the abandonment of fertile land, further diminishing food production (Olanrewaju & Balana, 2023). Armed conflict also disrupts the supply and use of essential farm inputs. Fertilisers, seeds, and pesticides become scarce or unaffordable as transportation routes are blocked and markets are destabilised (Olanrewaju&Balana, 2023; Belivek, 2018). The loss or theft of livestock is common, further undermining household food security and agricultural productivity (Belivek, 2018). The psychological impact of conflict on farmers cannot be overstated. Persistent fear of violence and loss of personal safety discourages farmers from cultivating their land, resulting in lower productivity and reduced crop yields (Sheidu & Izu, 2023). In the North Central region, for instance, grain production has fallen by an estimated 40%, with over a third of local farmers abandoning their ancestral farms (Sheidu & Izu, 2023). The effects of armed conflict extend to specific crops and livestock systems. Studies in Yobe State found that Boko Haram insurgency significantly reduced pearl millet production, with affected farmers experiencing lower output compared to those

in non-affected areas (Adebisi *et al.*, 2016; National Agricultural Extension and Research Liaison Services, 2017). Such declines in staple crop production increase the risk of hunger and disease outbreaks among vulnerable populations (Adebisi *et al.*, 2016). Food insecurity is exacerbated by conflict-induced shocks such as forced migration, fatalities, abductions, and injuries. These shocks not only disrupt food production but also deteriorate household dietary diversity and increase the severity of food insecurity (Olanrewaju & Balana, 2023). Women and children are particularly vulnerable, bearing a disproportionate share of the social and economic burdens (Olanrewaju & Balana, 2023). Market systems are also destabilised by armed conflict. The destruction of rural markets and transportation networks impedes the distribution of food, leading to shortages and price spikes (Statista Research Department, 2021; Sheidu&Izu, 2023). This market disruption limits both the availability and accessibility of food, compounding the challenges faced by already vulnerable communities. Malnutrition rates have risen sharply in conflict-affected areas, particularly in the Lake Chad region. Health facilities supported by humanitarian agencies have reported significant increases in severe acute malnutrition among children, highlighting the link between conflicts, reduced food production, and deteriorating nutritional outcomes (ICRC, 2024). Finally, the disruption of agricultural investment and planning is a long-term consequence of armed conflict. Uncertainty and insecurity deter farmers and agribusinesses from investing in improved technologies, infrastructure, or expansion, which undermines future productivity and food security (Olanrewaju & Balana, 2023). This persistent instability creates a cycle of poverty and food insecurity that is difficult to break without sustained peace and targeted interventions.

Disruption of markets, storage, and supply chains: Armed conflict, particularly the Boko Haram insurgency, has severely disrupted markets, storage, and supply chains in Nigeria, with profound implications for food security. In the northeastern states, persistent violence has forced the closure or limited operation of local markets, which are essential for both producers and consumers. During periods of heightened conflict, as few as one in three markets remained functional, severely restricting the flow of goods and driving up food prices (Van Den Hoek, 2017, as cited in Gråby, 2021). These disruptions have not only made it difficult for farmers to sell their produce but have also reduced access to affordable food for millions of people. The destruction and looting of storage facilities have compounded the problem, as farmers are left without secure places to store their harvests. This has led to increased post-harvest losses, especially for perishable goods, and has further reduced the availability of food in local markets (Zahra &Kusumaningrum, 2020). The absence of adequate storage options forces farmers to sell their produce quickly at lower prices or risk losing it entirely, undermining their livelihoods and the stability of local food supplies. Supply chains have been particularly vulnerable to armed conflict, as attacks on transportation routes and infrastructure have made it dangerous or impossible to move goods from rural production areas to urban centres. In Borno State, for example, major roads leading to and from Maiduguri have been repeatedly targeted, isolating the region and limiting the inflow of food and other essential commodities (FEWS NET, 2021, as cited in Gråby, 2021). These disruptions have not only affected the movement of food but have also hindered the delivery of humanitarian aid, exacerbating food insecurity

among internally displaced persons and other vulnerable groups (ReliefWeb, 2015). The impact of conflict on markets and supply chains is further intensified by deliberate strategies employed by both insurgents and government forces. Boko Haram has used food as a weapon of war, seizing control of food stocks, taxing local populations, and intentionally disrupting market activities to weaken communities and assert control (Aluko *et al.*, 2016). In response, government security measures, such as market closures and restrictions on the movement of goods, have sometimes unintentionally deepened food insecurity by further limiting access to food and disrupting normal economic activity (Gråby, 2021). The collapse of market and supply chain systems has also led to significant price volatility and inflation of staple foods. As supply becomes erratic and uncertain, prices for basic commodities such as grains, legumes, and vegetables have soared, putting them out of reach for many households (Zahra &Kusumaningrum, 2020). This has forced families to adopt negative coping strategies, such as reducing meal frequency or relying on less nutritious foods, with long-term consequences for health and well-being. Disrupted markets and supply chains have also undermined the resilience of rural communities. Many farmers, unable to access markets or secure fair prices for their produce, have abandoned agricultural activities altogether, contributing to a cycle of poverty, dependency on food aid, and further economic decline (ICIDR, 2024). The resulting rural-urban migration places additional strain on urban food systems and social services, further complicating efforts to address food insecurity. The interplay between armed conflict and the disruption of markets, storage, and supply chains has created a complex and persistent food security crisis in Nigeria. The deliberate targeting of food systems by insurgents, combined with the unintended consequences of security measures, has eroded the foundations of local economies and left millions at risk of hunger and malnutrition (Gråby, 2021; ReliefWeb, 2015).

Displacement and access to farmland: Armed conflict in Nigeria, particularly in the northeast, has caused widespread displacement of farming communities, severely disrupting access to farmland and threatening food security. The Boko Haram insurgency, ongoing for over a decade, has forced millions to flee their homes, abandoning their agricultural livelihoods and fertile land. This displacement has left both internally displaced persons (IDPs) and host communities struggling to meet their food needs, as the loss of farmland access directly reduces food production and increases vulnerability to hunger (Olanrewaju & Balana, 2023). The displacement crisis is most acute in Borno, Adamawa, and Yobe states, where the majority of Nigeria's IDPs reside. Many displaced families were previously engaged in subsistence or small-scale commercial farming, but insecurity and violence have made it impossible for them to safely cultivate their land. Attacks on villages, destruction of crops, and ongoing fears of violence have led to widespread abandonment of agricultural activities and a sharp decline in local food production (Adebisi *et al.*, 2016). For displaced populations living in urban centres or IDP camps, such as those in Maiduguri, the lack of access to farmland remains a persistent barrier to self-sufficiency. Thousands reside in overcrowded camps or informal settlements where opportunities for farming are virtually nonexistent. This forces many to rely heavily on humanitarian aid, which is often insufficient to meet basic nutritional needs, particularly as the crisis continues to strain resources (Relief

Web, 2015). Even when displaced families attempt to return to their original communities, access to farmland is often fraught with challenges. Many returnees find their land occupied, destroyed, or contaminated with unexploded ordnance, rendering cultivation dangerous or impossible. Additionally, the breakdown of local governance and land tenure systems during years of conflict has led to disputes over land ownership, further complicating efforts to resume farming. Persistent insecurity in rural areas also deters people from venturing far from their homes or resettlement sites (Sheidu&Izu, 2023). The impact of displacement on farmland access is worsened by the loss of productive assets and agricultural inputs. Humanitarian assessments indicate that most displaced households have lost livestock, tools, seeds, and other essential farming resources. Without these assets, even those who regain access to land face significant obstacles in reestablishing livelihoods and restoring food production to pre-conflict levels (Olanrewaju & Balana, 2023). Resource scarcity and environmental pressures further compound the problem. As displaced populations settle in new areas, competition for limited land and water resources can lead to tensions with host communities, sometimes escalating into additional conflict. In northwestern Nigeria, longstanding disputes between herders and farmers have intensified amid displacement, further restricting access to arable land and undermining food security for all parties involved (Amnesty International, 2018). The combined effects of displacement, insecurity, and restricted farmland access have led to a dramatic increase in food insecurity across conflict-affected regions. Humanitarian organisations estimate that millions in northeast Nigeria face acute hunger, with children and other vulnerable groups at greatest risk. The ongoing inability of displaced families to return to farming perpetuates dependence on aid and undermines the long-term recovery and resilience of rural communities (FEWS NET, 2021).

Nutrition and health implications: Armed conflict in Nigeria, particularly in the North-East, has had far-reaching effects on food security and public health. The destruction of agricultural infrastructure, displacement of populations, and disruption of trade routes have critically undermined food availability, accessibility, and affordability. These cascading effects directly translate to heightened levels of malnutrition and deteriorating health outcomes (Chuks&Inyikalum, 2024).
Nutrition is among the first casualties in conflict zones. Prolonged insecurity in Nigeria has made farming risky and unviable for many, leading to food scarcity. The correlation between conflict-induced food insecurity and undernutrition has been well-documented in Nigeria's Borno and Yobe states, where food aid remains insufficient (Ugbor *et al.*, 2024). Malnourished populations, especially children and pregnant women, face increased mortality and morbidity rates due to weakened immunity. Health implications go beyond malnutrition. Conflict zones often experience breakdowns in public health infrastructure, affecting disease surveillance, vaccination programs, and maternal care. As health services deteriorate, populations are more susceptible to infectious diseases like cholera, malaria, and measles, compounding malnutrition's effects (Wika, 2024). These challenges are especially pronounced in Internally Displaced Persons (IDP) camps, where overcrowding and poor sanitation exacerbate health risks. Access to clean water and sanitation is significantly limited in conflict-affected regions, contributing to waterborne diseases and further weakening nutritional status. According to Chuks and Inyikalum (2024), the lack of

coordinated interventions worsens health outcomes, especially for vulnerable demographics like children under five. Water scarcity also reduces agricultural productivity, indirectly affecting nutrition. Food security has both physical and economic dimensions, and conflict impacts both. Insecurity leads to inflated food prices due to disrupted transport and trade networks, limiting people's economic access to food. In urban areas like Maiduguri, food prices soared by over 50% between 2015 and 2021, directly impacting dietary diversity (Ugbor et al., 2024). Poor diets, in turn, result in micronutrient deficiencies, stunting, and wasting among children. Psychosocial stress from displacement and violence further complicates health and nutrition. Armed conflict leads to mental health disorders such as anxiety and depression, which can affect appetite, care practices, and food utilization. Women, the primary caregivers, often bear the brunt of conflict-related trauma, impairing their ability to provide proper child nutrition (Wika, 2024). Mental health support remains absent in many humanitarian interventions.

The erosion of traditional food systems due to armed conflict displaces long-standing agricultural and dietary practices. Many communities reliant on subsistence farming have lost their food sovereignty, becoming dependent on humanitarian aid. Such aid may lack cultural appropriateness or nutritional adequacy, creating long-term dependencies and disrupting local food markets (Ugbor et al., 2024). Nutrition education and health literacy have also declined in conflict-affected regions. Schools, often hubs for nutrition programs like school feeding schemes, have been destroyed or abandoned. The absence of these platforms reduces awareness of basic hygiene, nutrition, and health practices, worsening the vulnerability of children to illness and malnutrition (Chuks&Inyikalum, 2024).

Furthermore, conflict intensifies gender disparities in food access and health outcomes. Women often eat last and least in many households, and in times of scarcity, this norm becomes deadly. Disruption of maternal healthcare services means that pregnant and lactating women face elevated risks of anaemia, miscarriage, and postnatal complications—all directly tied to inadequate nutrition (Wika, 2024). In communities directly impacted by conflict, the availability and diversity of staple foods like rice and beans have significantly decreased, as farmers are unable to access their fields or markets due to insecurity. This reduction in both the quantity and quality of food has led to increased rates of under nutrition and poor health outcomes among residents (Agofure, 2016). Respondents in affected areas report that the insurgency has made it difficult to obtain enough carbohydrate- and protein-rich foods, contributing to a rise in underweight individuals and a drop in the proportion of people with normal body mass index (BMI) compared to less-affected regions (Agofure, 2016). The health implications of this nutritional crisis are profound. The prevalence of diseases such as diarrhea, respiratory infections, and other illnesses has risen sharply, as malnutrition weakens immune systems and increases susceptibility to infection (Maina&Agofure, 2021). The disruption of health services and infrastructure by armed conflict further compounds these challenges, leaving many without access to essential medical care, vaccinations, and nutritional support (Maina&Agofure, 2021). Children are particularly vulnerable to the nutrition and health impacts of armed conflict. Studies reveal a high prevalence of acute malnutrition among children in conflict-affected areas, with

rates of global acute malnutrition (GAM) in some localities reaching "Extreme Critical" levels, well above emergency thresholds (FEWS NET, 2016). Chronic under nutrition in early childhood is associated with stunted growth, cognitive deficits, and increased risk of morbidity and mortality (FEWS NET, 2016). The psychological stress of displacement and food insecurity also has indirect effects on nutrition and health. Families forced to flee violence often endure long journeys with little food or water, resulting in exhaustion and further deterioration of nutritional status, especially among children and pregnant women (ReliefWeb, 2015). The trauma of conflict, coupled with poor living conditions in camps or host communities, can exacerbate mental health problems and undermine overall well-being. The impact of conflict on dietary diversity is another critical concern. As food availability declines, households often resort to monotonous diets lacking in essential micronutrients such as iron, vitamin A, and zinc, increasing the risk of anemia, night blindness, and other deficiency diseases (KFF, 2015). The loss of livestock and kitchen gardens, which are important sources of animal protein and vegetables, further limits dietary options and nutritional intake (KFF, 2015). Women, especially those who are pregnant or breastfeeding, face heightened risks due to increased nutritional demands and limited access to maternal health services. Conflict-related disruptions in antenatal care, safe delivery, and postnatal support contribute to poor maternal and infant outcomes, including low birth weight and increased rates of infant mortality (WFP, 2017). Malnourished mothers are more likely to give birth to malnourished infants, perpetuating a cycle of poor health (WFP, 2017). The economic impact of conflict, including loss of livelihoods and rising food prices, has further reduced household purchasing power and access to nutritious foods. Many families are forced to adopt negative coping strategies such as skipping meals, reducing portion sizes, or prioritizing food for younger children at the expense of adults, all of which contribute to worsening nutritional outcomes (LA Times, 2016). International humanitarian organizations have scaled up food and nutrition assistance in response to the crisis, but ongoing insecurity and restricted access continue to limit the reach and effectiveness of these interventions. Despite increased aid, millions remain at risk of acute hunger and malnutrition, with long-term implications for the health and development of affected populations (WFP, 2017).

Coping mechanisms and resilience strategies of affected communities

Religious and Social Coping Mechanisms: Communities affected by armed conflict in Nigeria often turn to religious and social networks for psychological support and resilience. Religious gatherings, prayer, and faith-based community activities provide emotional relief and a sense of hope, helping individuals and families cope with trauma and uncertainty. These networks also facilitate the sharing of information, resources, and mutual aid, strengthening community bonds and collective capacity to withstand hardship (CSIS, 2019).

Dietary Adjustment and Negative Coping Strategies: Food insecurity driven by conflict has forced many households to adopt negative coping mechanisms such as reducing the number of meals per day, skipping meals, or prioritizing food for children over adults. In some cases, families resort to consuming less preferred or less nutritious foods, which can have long-term health consequences. Extreme cases have seen

vulnerable individuals engaging in survival sex or early marriage as a means to access food or resources, reflecting the dire circumstances faced by the most affected populations (ReliefWeb, 2024).

Agricultural Input Support and Humanitarian Aid: Humanitarian interventions, particularly the distribution of agricultural inputs such as seeds and tools, have played a significant role in enhancing household resilience. Programs led by organizations like the FAO have been shown to improve food consumption scores and reduce reliance on harmful coping strategies among beneficiaries in North-east Nigeria. These interventions not only address immediate food needs but also help restore productive capacity, enabling households to rebuild their livelihoods (ISDC, 2018).

Diversification of Livelihoods: To buffer against the loss of traditional farming income, many affected households diversify their livelihoods. This includes engaging in petty trading, small-scale processing, handicrafts, or wage labour. Diversification spreads risk and provides alternative sources of income, making families less vulnerable to the shocks of conflict and food insecurity. Such strategies are particularly important for women and youth, who may have limited access to land or agricultural resources (FAO, 2019).

Community-Based Resource Sharing: Resource pooling and sharing among extended families and neighbors are common resilience strategies. Communities often organise informal food sharing, group savings schemes, and labour exchanges to ensure that the most vulnerable members are supported during periods of scarcity. These traditional safety nets help maintain social cohesion and reduce the risk of hunger among marginalised groups (NBS, 2021).

Market Adaptation and Informal Trade: Despite disruptions to formal markets, affected communities adapt by establishing informal trading networks and local markets. These alternative systems enable the exchange of goods and services even in insecure environments, helping to stabilise food access and prices. Such adaptability is crucial in regions where conflict has destroyed infrastructure and limited the movement of goods (Sheidu&Izu, 2023).

Advocacy and Engagement with Security Forces: Communities have increasingly engaged with security agencies and local authorities to advocate for safer access to farmland and markets. This includes negotiating ceasefires, requesting military escorts for farmers, or participating in early warning systems to avoid attacks. These efforts are aimed at reducing violence and enabling the resumption of agricultural activities, which are essential for food security (Punch, 2023, as cited in Sheidu&Izu, 2023).

Multi-sectorial Intervention and Collaboration: Collaborative, multi-sectorial interventions that integrate food security, health, education, and livelihood support have proven more effective than isolated efforts. Joint programming by humanitarian agencies, government, and local organizations addresses the complex needs of conflict-affected populations and enhances the sustainability of resilience outcomes. Such approaches recognise the interconnectedness of food security and broader social stability.

Regional Stabilisation and Development Programs: Regional stabilisation initiatives, such as those coordinated by the Lake Chad Basin Commission, focus on long-term recovery through infrastructure rebuilding, livelihood restoration, and conflict resolution. These programs aim to address the root causes of conflict, promote peace, and create enabling environments for food security and economic development in affected areas (CSIS, 2019).

Policy Advocacy and Strengthening Agricultural Systems: Efforts to strengthen agricultural systems and market infrastructure are critical for building long-term resilience. Policymakers and practitioners emphasis the need for integrated approaches that address resource competition, historical grievances, and ethnic tensions. By improving access to arable land, safeguarding farmers, and investing in rural infrastructure, communities can better withstand conflict shocks and sustain food production (Sheidu&Izu, 2023).

CONCLUSION

The findings of this study reveal that armed conflicts in Nigeria, including Boko Haram insurgency, farmer-herder clashes, and rural banditry, have significantly undermined food security across affected regions. Armed conflict disrupts agricultural activities, reduces access to farmland, displaces rural populations, and interrupts food distribution networks. These disruptions result in reduced crop yields, loss of livestock, inflated food prices, and widespread hunger, especially in conflict-prone zones. Furthermore, the study highlights severe socioeconomic consequences, such as increased poverty, malnutrition, and weakened livelihoods among vulnerable populations. Communities have responded by adopting various coping mechanisms, including migration, changes in dietary habits, and community-based support networks. However, these strategies often fall short of providing long-term resilience in the face of persistent conflict. This research emphasises the need for a coordinated and multidimensional response to mitigate the impacts of conflict on food security. A sustainable resolution must integrate security interventions, livelihood support, agricultural recovery programs, and policies aimed at rebuilding resilient food systems in conflict-affected communities.

RECOMMENDATIONS

The following recommendations were made for the study.

- The government should prioritise the deployment of security personnel to protect farming communities, food storage centres, and transportation routes. Special security units should be established to safeguard agricultural zones, ensuring that farmers can access and cultivate their land without the threat of violence or displacement.
- The government should implement comprehensive recovery programs that provide displaced and affected farmers with essential resources such as seeds, fertiliser, farming tools, livestock, and technical training. In addition, livelihood support programs should be developed to promote income-generating activities beyond agriculture, thereby reducing vulnerability to future conflict-induced food insecurity.
- The government should partner with traditional leaders, local organisations, and civil society groups to promote peace-building dialogues and reconciliation in conflict-affected areas.

Funding and technical support should be provided for local resilience programs that strengthen community structures, improve social cohesion, and develop sustainable strategies for managing food insecurity.

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