



IMPACT OF BOKO HARAM INSURGENCY ON FOOD SECURITY IN NORTHEAST NIGERIA

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Abstract

This paper critically examines the impact of Boko Haram insurgency on food security in Northeast Nigeria, with a focus on Borno and Yobe States between 2013 and 2022. The study investigates the drivers of radicalization, the trajectory of food scarcity, and the insurgency's disruption of the four dimensions of food security – availability, accessibility, utilization, and stability. Drawing on Human Security Theory and Rational Choice Theory, the research integrates a mixed-methods approach comprising inferential statistical analysis of secondary datasets (FAO, WFP, NBS) and primary quantitative data from survey questionnaires as well as qualitative data from structured interviews and FGDs. Findings reveal that socio-economic inequality and educational deprivation are significant predictors of radicalization, while displacement and infrastructural destruction are key drivers of food scarcity. The insurgency has profoundly undermined food availability, with cascading effects on access, nutrition, and long-term system stability. Notably, Yobe State exhibited more severe vulnerabilities than Borno, challenging uniform policy assumptions. On the premise of its findings, the study concludes that insurgency-driven food insecurity is both a consequence and perpetuator of structural fragility. The study thus proposed several policy recommendations such as implement conflict-sensitive socio-economic programs targeting youth empowerment and educational reform; establishment of secure, climate-resilient agricultural zones supported by local governance structures; and the expansion of community-based food distribution systems with infrastructural rehabilitation to restore access. These interventions are essential to breaking the cyclical nexus between conflict, radicalization, and food insecurity in conflict-affected regions.

Keywords: Boko Haram insurgency, food security, radicalization, Human Security Theory, Northeast Nigeria, socio-economic inequality.

1. Introduction

The nexus between violent conflict and food security represents one of the most pressing challenges to global human security in the 21st century. Insurgencies, characterized by protracted asymmetrical warfare and systemic destabilization, transcend mere political upheaval to dismantle the socio-economic infrastructures that underpin survival. The United Nations Security Council (2018) has unequivocally condemned the weaponization of hunger as a crime against humanity, yet conflicts from Afghanistan to Myanmar continue to expose populations to catastrophic food crises. In Afghanistan, Taliban insurgency and climatic extremes have decimated agrarian livelihoods, leaving 18 million people acutely food insecure (FAO, 2021). Similarly, Myanmar's ethnic conflicts have displaced over 1.5 million individuals, fracturing food

distribution networks and inflaming malnutrition rates (WFP, 2021). These cases underscore a universal truth: insurgency does not merely disrupt governance—it unravels the very fabric of food systems, rendering communities vulnerable to cycles of scarcity, displacement, and dependency.

Within this global panorama, sub-Saharan Africa emerges as a critical epicenter of conflict-driven food insecurity. The Democratic Republic of Congo (DRC) and South Sudan exemplify how insurgencies amplify fragility, with DRC's agricultural collapse displacing 5.6 million people and South Sudan's famine declarations reflecting the lethal intersection of ethnic strife and governance failure (Reid, 2020; FAO, 2020). Yet Nigeria's Northeast, besieged by the Boko Haram insurgency since 2009, presents a paradigmatic case of localized conflict precipitating systemic food insecurity. As Africa's most populous nation,

Nigeria's crisis has displaced 2.2 million people, destroyed 30% of arable land in Borno State, and propelled the region to the apex of global terrorism indices (Statista Research Department, 2021; DTM, 2021). The insurgency's scorched-earth tactics—burning farmlands, looting granaries, and extorting traders—have crippled all four dimensions of food security: availability, accessibility, utilization, and stability (FAO, 2021).

This study interrogates the Boko Haram insurgency's holistic erosion of food security in Northeast Nigeria, addressing critical gaps in extant literature. While scholars have quantified declines in crop yields (Alhaji, 2023) and generalized economic impacts (Yunusa et al., 2023), few have systematically analyzed how insurgent violence intersects with climate shocks, governance failures, and cultural adaptations to destabilize food systems. Existing works remain siloed, emphasizing singular dimensions such as food availability while neglecting the cascading effects on dietary diversity, market resilience, and intergenerational malnutrition (Agofure et al., 2022; Ikemefuna, 2022). This paper bridges this gap through a dual theoretical lens: Human Security Theory, which frames food insecurity as a structural consequence of systemic neglect and environmental stress (UNDP, 1994), and Rational Choice Theory, which decodes individual survival strategies amid scarcity (Homans, 1961). Together, these frameworks illuminate how macro-level vulnerabilities and micro-level agency coalesce to perpetuate cycles of deprivation.

Three research questions guide this inquiry:

- i. What are the driving factors for the radicalisation of people into Boko Haram in Northeast Nigeria?
- ii. What are the patterns of food scarcity in Northeast Nigeria between 2013 and 2022?
- iii. How has Boko Haram insurgency affected the dimensions of food security, including availability, accessibility, utilization, and stability, in Northeast Nigeria?

The Boko Haram insurgency has inflicted profound disruptions on food security in Northeast Nigeria, particularly in Borno and Yobe States. Since 2009, the insurgency's scorched-earth tactics—such as the deliberate destruction of farmlands, looting of granaries, and disruption of trading routes—have

devastated agricultural production and livelihoods. This sustained violence has severely undermined the availability, accessibility, utilization, and stability of food, pushing millions into chronic food insecurity and dependency on humanitarian aid. The conflict has also triggered massive displacement, with over 2.2 million people forced to flee their homes, further straining already fragile food systems and host communities. Despite the region's agrarian potential, decades of insecurity, infrastructural damage, and socio-economic inequality have compounded vulnerabilities, creating a cyclical nexus between radicalization and deprivation.

Current policy responses have often overlooked these complex, interconnected drivers, tending instead to address food security and insurgency as separate issues. Moreover, wide regional disparities exist, with Yobe State exhibiting more acute vulnerabilities than Borno, challenging uniform policy approaches. There is a critical need for an integrated understanding of how insurgency, socio-economic factors, and environmental shocks collectively destabilize food systems. Addressing this knowledge gap is essential to designing sustainable interventions that simultaneously mitigate conflict and enhance food security resilience in Northeast Nigeria's conflict-affected communities.

2. Literature Review

2.1 Conceptual Review

Insurgency: Conceptual and theoretical foundations

Insurgency, as a phenomenon, constitutes a deliberate and organized challenge to state authority, often emerging from a legitimacy crisis precipitated by socio-economic disparities, political exclusion, and historical grievances (Adeboye, 2020; O'Neill, 2005). Scholars define insurgency as a protracted, asymmetric form of violent conflict wherein non-state actors employ subversive tactics such as violence, propaganda, and psychological operations, to undermine governance and pursue ideological or political objectives (Metz & Millen, 2004; Kilcullen, 2006). This conceptualization is enriched by Mitchell's (1989) triangular typology, which delineates insurgency's progression through goal incompatibility, polarized attitudes, and overt conflict

behaviour, illustrating how latent tensions escalate into sustained resistance. In contexts marked by governance failures, such as Nigeria's Northeast, insurgency exploits structural vulnerabilities, leveraging socio-economic deprivation to mobilize disaffected populations (Kwaja, 2011; ICG, 2014).

The Boko Haram insurgency epitomizes this dynamic, evolving from a radical Islamist sect into a formidable force that capitalizes on regional marginalization (Walker, 2012). Rooted in Mohammed Yusuf's rejection of Western education and secular governance, Boko Haram's trajectory reflects a broader interplay of ideological zeal and socio-economic discontent (Adeboye, 2020). Its strategies such as protracted guerrilla warfare, targeting of infrastructure, and coercion of civilians, align with Kilcullen's (2006) characterization of modern insurgencies as efforts to dismantle existing socio-political orders while cultivating local support through grievance-based narratives. This dual role as both a symptom of systemic failure and a catalyst for transformation underscores insurgency's complexity, necessitating a nuanced theoretical lens to unpack its implications for food security.

Food security: A multidimensional construct

Food security, as articulated by the FAO (2008), is a multidimensional condition encompassing availability, accessibility, utilization, and stability of food resources, each integral to human survival and well-being. Availability pertains to the adequacy of food supply through domestic production or imports, while accessibility hinges on economic and physical infrastructure enabling procurement (FAO, 2017). Utilization extends to the nutritional quality of food and the biological capacity to metabolize it, reliant on ancillary resources like clean water and sanitation (FAO, 2014). Stability, the temporal dimension, emphasizes resilience against economic, environmental, or political disruptions that threaten consistent access (FAO, 2008). This framework is complemented by a rights-based perspective, enshrined in the Universal Declaration of Human Rights (1948) and the 1966 Covenant on Economic, Social, and Cultural Rights, which positions food security as a fundamental entitlement, obligating states to ensure equitable access (FAO, 2017).

In conflict-affected regions, these dimensions are systematically undermined. Violent conflict disrupts agricultural production, displaces populations, and fractures market systems, eroding the structural integrity of food security (Otekunrin & Otekunrin, 2020). The interplay of socio-economic, environmental, and political determinants such as income levels, land ownership, climate variability, and governance efficacy, further complicates this landscape, highlighting the need for integrated analytical approaches (Cheema & Abbas, 2016; Mbow et al., 2020). In Northeast Nigeria, these factors converge with insurgency-induced instability, amplifying vulnerabilities and necessitating a comprehensive examination of food security's multifaceted nature.

The Boko Haram insurgency: Origins and drivers

The Boko Haram insurgency originated in the late 1990s as a radical Islamist movement in Maiduguri, Borno State, under Mohammed Yusuf's leadership, initially advocating non-violent resistance to Western education and secular governance (Walker, 2012). Its evolution into a violent insurgency was catalysed by socio-economic disenfranchisement and a pivotal 2009 confrontation with state forces, culminating in Yusuf's extrajudicial killing (Adeboye, 2020). This event marked a shift to guerrilla tactics such as bombings, assassinations, and mass abductions, reflecting a strategic adaptation to regional grievances and governance deficits (Agbibo, 2013).

Empirical studies identify poverty, unemployment, and political marginalization as primary drivers of Boko Haram's recruitment and persistence (Akinteye et al., 2023; Onuoha, 2014). Adelaja et al. (2018) found that 80% of Northern Nigerians attribute the insurgency to unemployment, with 72% citing poverty, underscoring the socio-economic underpinnings of radicalization. Usman (2015) further highlights a cyclical relationship wherein insurgency exacerbates these conditions, deepening deprivation and sustaining conflict. Ideologically, Boko Haram's anti-Western narrative, rooted in distorted religious interpretations, exploits educational deficits and governance failures, resonating with marginalized youth (Africa Centre for Strategic Studies, 2015). This confluence of structural and ideological factors positions Boko Haram as a transformative force,

reshaping Northeast Nigeria's socio-economic fabric and food security landscape.

Violent conflict and food systems: Global and regional perspectives

Violent conflict disrupts food systems through direct and indirect mechanisms, a phenomenon well-documented globally and acutely manifest in Northeast Nigeria. Globally, conflict destroys agricultural assets, displaces human capital, and fragments markets, reducing food availability and accessibility (FAO, 2018; Vos et al., 2020). In Sub-Saharan Africa, where 825 million people faced hunger in 2020, conflict compounds climatic and demographic pressures, with Nigeria exemplifying this nexus (FAO, 2020; de Carvalho, 2021). The Boko Haram insurgency employs scorched-earth tactics such as burning farmlands, looting livestock, and blockading transport routes, mirroring patterns observed in Somalia and Tigray, where food is weaponized to control populations (Olaniyan & Okeke-Uzodike, 2020; Maxwell, 2014).

Market disruptions amplify these effects, inflating food prices and fostering exploitative black markets, as seen in Nigeria's Northeast, where insecurity triples commodity costs (Hiller et al., 2014; Da-Cocodia, 2021). Displacement, affecting over 1.8 million people, further erodes agricultural labor and livelihoods, aligning with global trends where conflict-driven migration strains food systems (OCHA, 2018; Holleman et al., 2017). These dynamics underscore the need for resilience-focused interventions that address both immediate disruptions and systemic vulnerabilities, a critical consideration for Northeast Nigeria's recovery.

3. Methodology

3.1 Research Design

This study adopted a mixed-methods design, combining quantitative and qualitative approaches to investigate the link between Boko Haram insurgency and food security in Northeast Nigeria. The design balances statistical rigor for hypothesis testing with contextual depth to capture lived experiences in conflict zones, following Creswell and Plano Clark (2018) and Teddlie and Tashakkori (2009). Quantitative data were sourced from FAO, WFP, and

Nigeria's National Bureau of Statistics and analyzed using inferential statistics for trends and correlations. Qualitative data were collected via semi-structured interviews and focus group discussions (FGDs) with displaced persons, farmers, Civilian Joint Task Force (CJTF) members, and policymakers. This triangulation enhanced validity and depth.

3.2 Population and Sampling

The target group included 1,650 persons affected by conflict: 700 smallholder farmers, 350 internally displaced persons (IDPs), 350 CJTF personnel, and 250 policymakers. Stratified random sampling ensured proportional subgroup representation, complemented by purposive sampling for key informants (Patton, 2015). Sample size was calculated with Yamane's (1967) formula and adjusted by 25% to counter attrition, resulting in 403 participants. Stratification minimized bias; purposive sampling enriched qualitative insights.

3.3 Data Collection Methods

Primary data comprised face-to-face structured surveys using five-point Likert scales, covering demographics, radicalization drivers, food scarcity, and food security. Weighted mean scores interpreted responses. Semi-structured interviews and FGDs involved 10 purposively selected participants, guided by thematic scripts and verbatim transcripts. Secondary data included archival FAO, FEWS NET, and scholarly sources (2013–2022) on food insecurity, insurgency activity, and socio-economic indicators. Policy documents and institutional reports contextualized findings (Booth et al., 2016).

3.4 Data Analysis

331 valid surveys were analyzed with SPSS 27. Hypotheses on drivers of radicalization used OLS regression with eight predictors, with model fit checked by R^2 , F-statistics, and Durbin-Watson tests. Food scarcity trends across Borno and Yobe states were analyzed using chi-square tests and Monte Carlo simulations. Public insurgency impact on food security was assessed via multivariate OLS regression. Thematic qualitative analysis used open, axial, and selective coding to contextualize disruptions (Braun & Clarke, 2006).

4. Results and Discussion

This section presents the empirical findings from a mixed-methods study that explored the complex impacts of the Boko Haram insurgency on food security in Northeast Nigeria. The investigation was guided by three research questions and their corresponding hypotheses, utilizing a robust combination of survey data, regression analyses, chi-square tests, and qualitative insights derived from interviews and FGDs conducted in 2025. The results elucidated the socio-political and economic drivers of radicalization into Boko Haram, traced the evolution of food scarcity from 2013 to 2022, and evaluated the insurgency’s effects on the four dimensions of food security. Each subsection below addressed a specific research question and hypothesis, offering a scholarly synthesis of the data.

The first research question examined the socio-political and economic factors that propelled individuals to join Boko Haram in Northeast Nigeria. Survey data), provided a quantitative basis, enriched by qualitative narratives from interviews and FGDs. Eight factors were assessed: poverty, high unemployment rates, educational deprivation, socio-economic inequality, weak institutional governance, lack of community support programs, exploitation of religious ideologies, and marginalization of communities due to limited opportunities.

Respondents’ perceptions were measured on a Likert scale, with a weighted mean cut-off point of score of $\bar{x}$ = 3.38 distinguishing agreement from disagreement.

The quantitative analysis identified a hierarchy of perceived drivers. The exploitation of religious ideologies achieved the highest mean score of $\bar{x}$ = 3.50, exceeding the cut-off score of $\bar{x}$ = 3.38, with a net agreement of +38% (63% agreed vs. 25% disagreed). Its low standard deviation of *St.D* = 1.30 indicated strong consensus among the 331 respondents. Poverty followed with a mean of $\bar{x}$ = 3.49 and a net agreement of +28% (59% agreed vs. 31% disagreed), though its standard deviation of *St.D* = 1.50 suggested divergent opinions. High unemployment rates recorded a mean score of $\bar{x}$ = 3.45 and a net agreement of +29.6% (59.5% agreed vs. 29.9% disagreed), reinforcing economic disenfranchisement as a significant factor. Socio-economic inequality (mean score of $\bar{x}$ = 3.39, net agreement = +25.1%) and lack of community support programs (mean = 3.38, net agreement = +28.1%) met or exceeded the threshold, indicating moderate influence. Factors below the cut-off included educational deprivation (mean score of $\bar{x}$ = 3.34, net agreement = +22.4%), marginalization of communities (mean score of $\bar{x}$ = 3.27, net agreement = +18.2%), and weak institutional governance (mean score of $\bar{x}$ = 3.24, net agreement = +15.2%), suggesting less pronounced but still relevant roles.

Table 1: Model summary of regression and ANOVA analysis

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	0.359 ^a	0.129	0.107	0.457	0.158	
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.945	8	1.243	5.944	0.000 ^b
	Residual	67.348	322	0.209		
	Total	77.293	330			

a. Dependent Variable: Radicalization in to Boko Haram
b. Predictors: (Constant), Limited opportunities associated with marginalised communities, Exploitation of religious ideologies, Lack of community support programs, Educational deprivation, High unemployment rates, Poverty, Weak institutional governance, Socio-economic inequality,

Source: Author’s computation, 2025.

Regression analysis, presented in Table above. Further clarified these dynamics. The model yielded an R-square of r^2 = 0.129, explaining 12.9% of the variance in radicalization across the eight predictors, with overall significance (*F* = 5.944, *p* < 0.001). Socio-economic inequality emerged as the most robust

predictor (β = 0.267, *p* < 0.001), followed by educational deprivation (β = 0.126, *p* = 0.025), both rejecting the null hypothesis of no effect. Other factors, such as poverty (*p* = 0.924) and unemployment (*p* = 0.629), lacked individual significance, suggesting their influence was mediated through structural disparities.

5. Conclusion and Recommendations

The paper offered a detailed examination of the Boko Haram insurgency's profound effects on food security in Northeast Nigeria, employing a mixed-methods framework to address three central research questions and their associated hypotheses. The study integrated quantitative data from secondary sources with qualitative insights derived from interviews and focus group discussions (FGDs), revealing the intricate connections between insurgent violence, socio-economic marginalization, and food insecurity. The investigation into the first research question identified the primary drivers of radicalization into Boko Haram. The findings indicated that socio-economic inequality and educational deprivation were statistically significant predictors, rejecting the null hypothesis (H_{01}) that no significant factors contributed to radicalization. Qualitative data reinforced this, with respondents noting, chronic poverty drives many into Boko Haram's ranks, as the promise of financial incentives or sustenance outweighs the bleak prospects of unemployment and deprivation in our region, and limited access to education and healthcare fosters despair, rendering individuals vulnerable to radical narratives. The exploitation of religious ideologies also emerged as a key factor, illustrating how structural vulnerabilities were leveraged to sustain the insurgency.

The second research question traced patterns of food scarcity from 2013 to 2022, uncovering a marked decline in food security exacerbated by displacement and agricultural disruption. The partial rejection of the null hypothesis (H_{02}) highlighted geographic disparities, with Yobe State experiencing more severe declines in food availability than Borno State. Respondents emphasized this deterioration: "Food availability has declined precipitously since 2013... now even staple grains are scarce," and "Mass displacement and the burning of farmland have left vast tracts uncultivated". Secondary data corroborated these accounts, documenting a rise in acute food insecurity from 1.5 million affected individuals in 2013 to 4.4 million in 2022.

The third research question evaluated the insurgency's impact on the four dimensions of food security, leading to the rejection of the null hypothesis (H_{03}). Availability was most severely compromised, with

regression analysis confirming its significant disruption. Qualitative narratives underscored this: "The insurgency has decimated agricultural production by killing or displacing farmers," and "Displacement strips our communities of her agricultural labour force." While accessibility, utilization, and stability were also affected, their impacts were mediated through the primary collapse of availability, illustrating a cascading crisis. In sum, the study thus concluded that the Boko Haram insurgency entrenched a vicious cycle of food insecurity and radicalization in Northeast Nigeria. The interplay of socio-economic deprivation, ideological exploitation, and agricultural collapse not only undermined food systems but also perpetuated instability, necessitating comprehensive strategies to address both immediate and systemic challenges.

Based on the findings, the paper proposed the following recommendations to mitigate the insurgency's impact on food security in Northeast Nigeria:

- i. **Counter Radicalization through Socio-Economic Empowerment:** To counter the factors driving the radicalisation of people into Boko Haram, the study is of the proposition that the government – both at the state and federal levels should target the establishment and sponsorship of educational and vocational programs in the Northeast region, so as to address socio-economic inequality and educational deprivation, which was found to be a key driver of radicalization.
- ii. **Restore Agricultural Productivity:** The state government in the region should invest in secure farming zones and climate-resilient practices to rebuild agricultural capacity of farmers in the region.
- iii. **Enhance Food Distribution Networks:** the federal government through the ministry of work should collaborate with construction industry in the private state to ensure the reconstruction of market infrastructure and community-based storage systems so as to improve accessibility, thus securing supply chains in the process.
- iv. **Address Nutritional and Health Impacts:** Nutritional programs targeting vulnerable groups and improved water sanitation were

should be undertaken by both the state and federal government so as to enhance utilization of food, thus promoting healthy nutritional food and food consumption in this region, especially among children.

- v. **Promote Long-Term Stability:** The study also recommends the strengthened local governance and conflict-sensitive development especially in local communities in the region, so as to ensure stability. Moreover, restoring credibility to local governance through transparent resource allocation could counteract the narrative of marginalization.

- vi. **Tailor Interventions Geographically:** Spatially specific strategies should be developed to address regional disparities, with Yobe State requiring intensified focus due to its pronounced food scarcity, per the findings of the study.

- vii. **Integrate Humanitarian and Development Efforts:** the government, both at the state and federal level should collaborate with humanitarian and governmental actors to shift from short-term relief to sustainable recovery, thus addressing the inadequacy of emergency interventions noted across the study.

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