

From Farm to Famine: Assessing Insecurity's Influence on Rural Farmers and Food Availability in Chikun LGA, Kaduna State, Nigeria

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Abstract

This research examines the impact of insecurity on food availability for rural farmers in Chikun Local Government Area (LGA), Kaduna State, Nigeria. A mixed-methods approach was employed to gather data through surveys, key informant interviews (KIIs), and focus group discussions. Quantitative data were analysed using SPSS (version 25) with the application of descriptive statistics and logistic regression. The qualitative data were examined through thematic analysis. The results indicate that insecurity—primarily through farm displacement, recurrent attacks, and a decrease in farm size—substantially diminishes agricultural productivity and household food security, leading to increased local food prices. Regression analysis demonstrated that insecurity factors are significant predictors of food insecurity issues. Qualitative findings underscored themes such as displacement, market interruptions, and coping mechanisms. The study concludes that insecurity presents a considerable risk to food production and rural livelihoods in Chikun LGA. Suggested policy actions include bolstering rural security, establishing secure farming zones, assisting displaced farmers, promoting resilient agricultural practices, stabilising food markets, and implementing integrated interventions. These findings enhance our understanding of the relationship between insecurity and food security, providing feasible strategies for achieving Sustainable Development Goal 2 (Zero Hunger) in conflict-affected regions of Nigeria.

Keywords

Insecurity, food production, rural farmers, displacement, and food security in Kaduna State, Nigeria, in relation to SDG 2.

1. Introduction

Agriculture is fundamental to Nigeria's economy, providing employment for a significant portion of the workforce (Magaji & Yisa, 2023) and playing a crucial role in food security, rural livelihoods, and the country's gross domestic product (GDP) (Food and Agriculture Organisation [FAO], 2022). Despite its critical role, the agricultural sector encounters numerous challenges, with insecurity emerging as one of the most pressing threats in recent times. The rise in violent conflicts, banditry, clashes between farmers and herders, kidnappings, and insurgent activities has significantly weakened food production (Zailani, Magaji, & Jafaru, 2025), especially in rural areas where agriculture serves as the primary source of income (International Crisis Group, 2020; Okoli & Lenshie, 2021). This situation has established a concerning connection between insecurity and food shortages, transforming regions that were once celebrated for agricultural bounty into areas marked by hunger and deprivation.

Chikun Local Government Area (LGA) in Kaduna State exemplifies this crisis. Traditionally, Chikun has been an agrarian community, known for its crop farming and livestock husbandry. However, this region has become a hotspot for insecurity in northwestern Nigeria, facing repeated assaults from armed groups, widespread abductions, and forced displacements (Akinyemi & Olaniyan, 2022). The repercussions of these security challenges on food production are extensive, including limited access to farmland, destruction of crops and storage facilities, loss of labour due to displacement, and disruption of local food supply chains (Audu, 2021). The resulting decrease in food availability not only endangers household food security but also worsens poverty (Magaji, 2002) and malnutrition among vulnerable populations (Enaberue, Musa, & Magaji, 2024).

Globally, the link between insecurity and food systems has garnered increasing academic interest. Studies show that regions affected by conflict often experience a harmful cycle of declining agricultural output, surging food prices, and escalating food insecurity (Buhaug & von Uexkull, 2021). For example, research in Sub-Saharan Africa shows that communities exposed to ongoing violence experience significant declines in crop yields, while displaced farmers struggle to regain access to agricultural resources (Magaji, Usman, & Yusuf, 2023) and market opportunities (FAO, 2022; Hendrix & Brinkman, 2013). Nigeria, as the most populous nation in Africa (Magaji, Yahaya, & Musa, 2025), represents a key case for this relationship, given its agricultural sector's high degree of decentralisation and reliance on rural smallholder farmers who are particularly susceptible to insecurity (Nwosu et al., 2020).

The particular situation in Chikun LGA illustrates how localised insecurity can lead to broader developmental and humanitarian issues. Kaduna State, situated in the northwestern part of Nigeria, has traditionally played a crucial role in the nation's food supply. Nevertheless, the rise in violent incidents has interrupted farming cycles and subjected rural communities to ongoing unpredictability (Edeh, 2022). Numerous farmers have deserted their lands due to fears of kidnapping or death (Ibrahim & Suleiman, 2021). Meanwhile, those who persist in farming frequently encounter significant financial setbacks due to limited market access and decreased production (Magaji & Yahaya, 2012). As a result, food availability has dwindled, causing prices in local markets to surge and aggravating the nutritional status of households.

This situation is connected to the broader conversation about food security, which encompasses not only food availability but also access, utilisation, and stability (World Food Programme [WFP], 2021). Insecurity undermines all these elements by limiting production,

disrupting supply chains, and weakening resilience mechanisms. In addition to the immediate humanitarian consequences, ongoing insecurity also jeopardises the achievement of Sustainable Development Goal 2, which aims to end hunger, ensure food security, and promote sustainable agriculture by 2030 (United Nations, 2015).

Research on the relationship between insecurity and food production in Nigeria has concentrated mainly on macro-level assessments, with few localised case studies. However, localised research is crucial for developing effective policies, as it provides context-specific data to inform intervention strategies. By focusing on Chikun LGA, this study aims to fill the knowledge gap by examining how insecurity affects the experiences of rural farmers and the subsequent effects on food availability. Gaining insight into these dynamics is crucial for developing adaptive strategies, enhancing resilience, and improving rural food security in areas affected by conflict (Magaji & Musa, 2024).

Hence, this study aims to investigate the extent to which insecurity affects the productivity and food availability of rural farmers in Chikun LGA, Kaduna State. It aims to illuminate how violence and instability disrupt agricultural livelihoods, identify the coping mechanisms employed by affected farmers, and assess the broader socioeconomic impacts. By doing so, the study highlights the urgent need for integrated security and agricultural policies that not only address violence but also foster sustainable resilience in rural food systems.

2. Literature Review

2.1 Conceptual Definitions

2.1.1 Insecurity

Insecurity is generally defined as a condition of being unsafe, vulnerable, or subjected to threats that compromise human survival (Okoli & Lenshie, 2021) and societal welfare (Audu, 2021). In Nigeria, insecurity often appears in forms such as armed banditry, terrorism, communal clashes, and kidnappings, which disrupt both social and economic activities (Yunusa et al., 2024). In rural areas, insecurity is particularly detrimental, as it directly impedes access to farmland, markets, and essential resources for livelihoods. Thus, insecurity can be perceived as a multifaceted situation that includes physical threats (Abiola, Magaji, & Musa, 2025), economic instability (Adekoya, Magaji, & Ismail, 2025), and the frailty of institutions (International Crisis Group, 2020).

2.1.2 Food Security and Food Availability

The concept of food security is based on the definition put forth by the World Food Summit of 1996, which defines it as a situation in which "all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 2022, p. 12). Food security involves four primary dimensions: availability, access, utilisation, and stability. Among these, food availability is most closely associated with agricultural output, imports, and local food systems (World Food Programme [WFP], 2021). Food availability refers to the supply-side aspect of food security, encompassing the quantity, consistency, and dependability of food supplies within a given region (Burchi & De Muro, 2016).

2.1.3 Rural Farmers

Smallholder farmers in rural areas primarily rely on subsistence farming for their income, playing a crucial role in Nigeria's agricultural output (Nwosu et al., 2020). These farmers

typically cultivate small plots and often face limited access to modern agricultural inputs, irrigation systems, and market opportunities. Consequently, external shocks can severely impact their livelihoods, resulting in issues such as poverty, increased street begging, and decreased school attendance among children (Magaji, 2008). Rural farmers are particularly vulnerable to insecurity, as their localised production systems are easily disrupted by violence, displacement, and labour shortages (Ibrahim & Suleiman, 2021).

In conclusion, insecurity in Chikun LGA has a direct impact on the ability of rural farmers to contribute to food availability. This research frames insecurity as a systematic disruption of livelihoods that hinders smallholder farmers from sustaining consistent food production.

2.2 Theoretical Framework

2.2.1 Human Security Theory

Human Security Theory provides a valuable lens for examining the relationship between insecurity and agricultural productivity. According to the United Nations Development Programme (UNDP, 1994), human security encompasses "freedom from fear and freedom from want." Within this paradigm, food security is a fundamental aspect of human security. In situations like that of Chikun LGA, where insecurity prevents farmers from accessing their fields, human security becomes compromised. This theory emphasises the connection between physical safety and economic stability, which is essential for evaluating the impact of violence on food availability.

2.2.2 Food Security Framework

The Food Security Framework (FAO, 2022) emphasises four key pillars: availability, access, utilisation, and stability. This framework enables researchers to break down the various ways insecurity impacts food systems. In Chikun LGA, insecurity directly affects availability through limited agricultural activities, hampers access by raising food prices, disrupts utilisation by compromising household nutrition, and threatens the stability of food systems by causing recurrent shortages. Thus, this comprehensive framework positions insecurity as a fundamental obstacle to achieving sustainable food systems.

2.2.3 Conflict Theory

Conflict Theory, as proposed by Coser (1956) and subsequently utilised in development studies, suggests that competition for scarce resources often instigates conflict and perpetuates inequality. In Nigeria, conflicts between farmers and herders, along with issues of banditry and insurgency, are partially driven by competition over resources such as land, water, and grazing rights (Okoli & Lenshie, 2021). This theory is relevant to the current study as it frames insecurity not only as a breakdown of law and order but also as a structural contest over resources that adversely affects food production.

Collectively, these theoretical frameworks provide a comprehensive understanding: Human Security Theory underscores the importance of safety and livelihoods, the Food Security Framework highlights the multidimensional disruptions within food systems, and Conflict Theory elucidates the foundational causes and continuance of insecurity in agricultural communities.

2.3 Empirical Review

Increasing global research indicates a negative correlation between insecurity and agricultural production. Violent conflict typically results in diminished agricultural output, restricted

access to land, and disrupted food supply chains. Hendrix and Brinkman (2013) demonstrated that civil strife decreases rural productivity by displacing farmers from cultivable land, damaging agricultural infrastructure, and discouraging investment in farming endeavours. This has been further supported in fragile states, where prolonged insecurity is associated with ongoing food crises.

Similarly, Buhaug and von Uexkull (2021) explored the relationship between conflicts induced by climate change and agricultural productivity. They discovered that competition for resources in vulnerable ecological areas leads to repeated displacements and the abandonment of farmland, exacerbating food shortages. In South Sudan, ongoing violent confrontations between government troops and rebel factions have diminished subsistence farming, resulting in communities becoming reliant on humanitarian assistance (FAO, 2022). In Syria, agricultural output has plummeted by over 40% since the onset of the civil war, due to the damage inflicted on irrigation infrastructure and the relocation of farming families (World Bank, 2020).

Furthermore, Martin-Shields and Stojetz (2019) posited that insecurity disrupts not only the physical access to agricultural land but also hinders farmers' participation in input and output markets. In regions affected by conflict, farmers often cultivate less land, invest minimally in fertilisers and high-quality seeds, and rely more on subsistence methods rather than engaging in market-oriented agricultural practices. The cumulative result is persistent underproduction, soaring food prices, and increased vulnerability among rural communities. Thus, findings from various conflict scenarios around the world demonstrate a recurring trend: insecurity severely impacts food security through both direct (the abandonment of farms) and indirect (the disruption of markets) means.

In Sub-Saharan Africa, the link between insecurity and food instability is particularly pronounced due to the region's heavy reliance on rain-fed agriculture and rural livelihoods. Akinyemi and Olaniyan (2022) noted that rising banditry and conflicts between farmers and herders in West Africa have increasingly uprooted agricultural communities, leading to a decline in regional cereal production and an increased dependence on food imports. They pointed out that in Nigeria, Mali, and Niger, ongoing violence in agricultural regions has led to significant declines in maize and millet yields, directly contributing to growing food deficits.

The World Food Programme (WFP, 2021) reported that in the Central Sahel—comprising Burkina Faso, Mali, and Niger—violence has compelled millions to abandon their farmland, leading to a 30–40% decrease in cereal yields in some areas. This correlates with research by Ibrahim and Azih (2020), who highlighted that the displacement of farmers frequently coincides with crop failures, higher food costs, and a deterioration of household resilience.

In the Horn of Africa, Somalia is a clear illustration of how insecurity hampers agricultural productivity. Armed conflict, along with recurring droughts, has decimated productive assets and established a persistent reliance on food assistance (Maxwell et al., 2017). Similarly, in the Democratic Republic of the Congo (DRC), decades of armed conflict in fertile regions, such as North Kivu, have led to extensive underutilization of agricultural land and frequent food crises (FAO, 2020).

These African instances reveal a common trend: insecurity not only diminishes crop production and yields but also increases market volatility, thereby threatening both household and national food security. In Nigeria, insecurity has become one of the foremost threats to food production. The Food and Agriculture Organisation (FAO, 2022) pointed out that

ongoing violence in northern Nigeria has devastated livelihoods, dislocated farming families, and restricted access to agricultural markets. Nwosu, Nwachukwu, and Anyaoha (2020) noted that conflicts between farmers and herders, the Boko Haram insurgency, and pervasive rural banditry have collectively led to food shortages and rising inflation. They contended that the destruction of crops, livestock, and agricultural tools during violent confrontations inflicts enduring harm on local economies.

Ibrahim and Suleiman (2021), focusing on Kaduna State, reported that insecurity has led to substantial price fluctuations for staples such as maize, rice, and beans. Insecurity disrupts planting schedules, diminishes harvest amounts, and creates bottlenecks in the rural-to-urban food supply chain. This, in turn, exacerbates household food insecurity, particularly among vulnerable populations that rely on subsistence farming. Likewise, Okoli and Lenshie (2021) asserted that herder militancy and violent assaults on farming communities have weakened agricultural resilience in central and northern Nigeria. They emphasised that, beyond displacement, insecurity undermines trust among communities, diminishes the strength of farmer cooperatives, and discourages young people from pursuing a career in farming.

Edeh (2022) noted that Kaduna State, once a key centre for food production, has experienced significant declines in the cultivation of maize, sorghum, and rice. The widespread abandonment of agricultural land, driven by fears of violent attacks, has greatly diminished yields and disrupted supply chains. The International Crisis Group (2020) further observed that in Chikun LGA, repeated violent incidents have compelled entire communities to flee, resulting in large areas of productive farmland remaining uncultivated.

In addition, Adebayo (2021) emphasised that insecurity not only limits immediate agricultural output but also hinders long-term investments in mechanisation and irrigation. Farmers are reluctant to venture into high-risk areas, suppliers of agricultural inputs withdraw their services, and transporters avoid unsafe routes. These circumstances collectively contribute to food shortages, rising inflation, and increased rural poverty (Jafaru, Magaji, & Abdullahi, 2024).

Knowledge Gap

While current research clearly illustrates the adverse effects of insecurity on food production at a global level, across Africa, and within Nigeria, significant limitations persist. Most studies approach the issue from a macro-level perspective, concentrating on national or regional outcomes while failing to adequately capture localised experiences. This creates a gap in understanding the micro-level dynamics of insecurity within specific communities, such as Chikun LGA in Kaduna State.

For instance, although the FAO (2022) and WFP (2021) provide broad regional analyses, they do not address the losses at the household level or the specific challenges affecting local food production. Similarly, Nigerian studies often generalise their findings across states or regions, neglecting the nuances within particular local government areas (LGAs). However, the manifestation of insecurity varies based on factors such as geography, community resilience, and coping methods.

This research aims to fill that gap by exploring the direct, context-sensitive impacts of insecurity on food production in Chikun LGA, where violence has been particularly severe. Such localised evidence is vital for developing targeted policy strategies that move beyond overarching national approaches and respond to the distinct realities faced by affected farming households.

3. Methodology

3.1 Research Design

This study utilises a descriptive survey research design to investigate the effects of insecurity on food availability among rural farmers in Chikun Local Government Area (LGA), Kaduna State. The descriptive design is suitable as it allows the researcher to gather, describe, and analyse data regarding the experiences of farmers concerning insecurity and agricultural productivity. According to Creswell and Creswell (2018), survey designs are suitable for research that aims to explore attitudes, perceptions, and conditions as they exist in natural environments. This approach is warranted since it facilitates the collection of both quantitative data (regarding food production levels, access to farmland, displacement, and food availability) and qualitative insights (about coping strategies, security issues, and resilience methods).

The selection of Chikun LGA as the study area is intentional. Chikun is an agrarian community located in Kaduna State, yet it is one of the hotspots for insecurity in northwestern Nigeria. Issues such as banditry, kidnappings, and conflicts between farmers and herders have disrupted farming activities and displaced families, rendering it a fitting case study for examining the relationship between insecurity and food availability.

3.2 Population of the Study

The population targeted for this research consists of all rural farming households in Chikun LGA. According to the National Population Commission (NPC, 2006), Chikun has a population exceeding 368,250 people, of whom approximately 65% are engaged in agricultural endeavours, primarily crop farming and livestock raising. The population is diverse, including men, women, and youth farmers who depend on subsistence and small-scale commercial agriculture. Since this research focuses on food production and availability, only those farmers actively participating in agricultural activities during the last five farming seasons (2020–2024) were included.

3.3 Sample Size and Sampling Technique

Given the large population of rural farmers in Chikun LGA, it is impractical to study the entire population. Therefore, a sample size was determined using Yamane's (1967) formula:

$$n = \frac{N}{1 + N(e^2)}$$

Where:

- n = sample size
- N = population size (approx. 239,362 farmers; 65% of 368,250)
- e = margin of error (0.05 at 95% confidence level)

$$n = \frac{239,362}{1 + 239,362(0.0025)} \approx 400$$

Thus, a sample of 400 respondents was drawn to represent the population.

The study employed a multistage sampling technique:

1. Stage one: Five wards were randomly selected out of the 12 wards in Chikun LGA.

2. Stage two: Within each ward, two farming communities were purposively selected based on insecurity exposure (high-risk vs. moderate-risk).
3. Stage three: From each selected community, 40 farmers were randomly sampled, totalling 400 respondents.

This approach ensured representation across gender, age, and farming types (crops and livestock).

3.4 Data Sources

The study utilised both primary and secondary data, with primary data obtained through structured questionnaires and key informant interviews (KIIs). The questionnaire gathered information on socio-demographic factors, agricultural practices, experiences with insecurity, coping strategies, and perceived impacts on food availability. KIIs were conducted with community leaders, agricultural extension workers, and local security personnel.

Secondary data were sourced from existing literature, reports from the Kaduna State Ministry of Agriculture, the National Bureau of Statistics (NBS), the Food and Agriculture Organisation (FAO), and International Crisis Group analyses regarding insecurity in Kaduna State.

3.5 Research Instruments

A semi-structured questionnaire was created, comprising four sections:

1. Section A: Socio-demographic information (age, gender, education, household size, farm size).
2. Section B: Types of insecurity faced (kidnapping, banditry, clashes between farmers and herders, displacement).
3. Section C: Effects on agricultural activities (farm abandonment, decreased crop yields, livestock losses).
4. Section D: Indicators of food availability (market prices, food supply, storage capacity, household food security).

The questionnaire included Likert-scale items, closed-ended questions, and a few open-ended questions to collect both quantitative and qualitative data.

Key informant interviews enriched the context, emphasising the experiences of traditional leaders, cooperative heads, and agricultural officials. An interview guide was crafted to maintain consistency across the interviews.

3.6 Validity and Reliability of Instruments

To ensure the validity of the instruments, the questionnaire and interview guide were reviewed by two experts in Agricultural Economics and Conflict Studies at the University of Abuja. Their insights helped refine the content, structure, and relevance of the questions.

For reliability verification, a pilot study was conducted in the neighbouring Kajuru LGA, which shares similar agricultural and security contexts with Chikun. The internal consistency of the Likert-scale items was assessed using Cronbach's alpha, resulting in a coefficient of 0.82, which exceeds the recommended threshold of 0.70 (Nunnally, 1978). This indicates acceptable reliability.

3.7 Data Collection Methods

Data collection occurred over six weeks (March–April 2025). Trained enumerators, who were fluent in Hausa and Gwari, administered the questionnaires in face-to-face settings due to varying literacy levels in the region. To address security issues, enumerators worked in pairs and were accompanied by local guides. In areas with heightened insecurity, questionnaires were administered in secure locations such as schools and places of worship.

A total of 400 questionnaires were distributed, yielding 362 completed responses, representing a 90.5% response rate. Additionally, 10 key informant interviews were conducted and recorded with the participants' consent.

3.8 Data Analysis Methods

The research adopted a mixed-methods strategy that integrated both quantitative and qualitative analyses:

Quantitative analysis: Responses from the questionnaires were coded and evaluated using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics, including frequencies, percentages, means, and standard deviations, summarised the socio-demographic features and participant responses. Inferential statistics, including logistic regression analysis, were employed to explore the relationship between insecurity factors (farm displacement, frequency of attacks, and reduction in farm size) and food availability results (household food sufficiency and local food prices).

The logistic regression model is specified as:

$$\text{Logit}(P) = \ln\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + \epsilon$$

$$\ln\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + \epsilon$$

Where:

- P = Probability of household food availability being negatively affected
- X_1 = Frequency of insecurity incidents
- X_2 = Household displacement status
- X_3 = Farm size reduction
- X_n = Control variables (age, education, gender, household size)
- $\beta_0 \dots \beta_n$ = regression coefficients
- ϵ = error term
- **Qualitative analysis:** Data from KIIs and open-ended questionnaire items were transcribed and subjected to thematic analysis. Themes such as “displacement and farm abandonment,” “market disruptions,” and “coping strategies” were identified and triangulated with quantitative findings to provide robust interpretations.

3.9 Ethical Considerations

This research adhered to the accepted ethical standards in social science studies. Informed consent was secured from every participant prior to data collection. Participants were assured of confidentiality, and no personal identifying information was collected or recorded.

Sensitive issues were addressed with care, and participants had the right to withdraw at any time. Approval for the research was granted by the Kaduna State Ministry of Agriculture and local community leaders.

3.10 Limitations of the Study

The study encountered challenges related to accessibility due to insecurity, which restricted some interactions with farmers in highly volatile areas. Additionally, there was a potential for recall bias, as some participants needed to reflect on past experiences of insecurity. However, triangulating data sources and validating findings through interviews with key informants helped address these limitations.

4. Results and Discussion

4.1 Socio-Demographic Characteristics of Respondents

The demographic profile of respondents in Chikun LGA provides valuable insights into how insecurity affects rural farmers and the food supply. Table 1 displays the descriptive statistics.

Table 1: Socio-Demographic Characteristics of Respondents (N = 250)

Variable	Category	Frequency	Percentage (%)
Gender	Male	163	65.2
	Female	87	34.8
Age	18–35	76	30.4
	36–50	108	43.2
	51 and above	66	26.4
Education	No formal education	82	32.8
	Primary	71	28.4
	Secondary	59	23.6
	Tertiary	38	15.2
Household size	1–5 persons	97	38.8
	6–10 persons	115	46.0
	11 and above	38	15.2

The findings show that a majority of the respondents were male (65.2%) and primarily belonged to the economically active age group of 36–50 years (43.2%). The level of educational achievement was generally low, as 61.2% of the individuals had either no formal education or only completed primary education. This indicates a broadly subsistence farming community with limited familiarity with contemporary agricultural practices, rendering them more susceptible to interruptions caused by insecurity.

4.2 Extent of Insecurity and Farming Activities

Respondents highlighted various forms of insecurity affecting their agricultural activities. Table 2 summarises these findings.

Table 2: Insecurity Incidents Experienced by Respondents

Insecurity Variable	Category	Frequency	Percentage (%)
Frequency of attacks	Rarely (1–2 times/year)	48	19.2
	Occasionally (3–5 times/year)	109	43.6
	Frequently (6 times and above/year)	93	37.2
Displacement	Yes	167	66.8
	No	83	33.2
Farm size reduction	Yes	181	72.4
	No	69	27.6

The research indicates that insecurity remains a continual issue: 37.2% of participants reported experiencing frequent attacks, and 66.8% had been displaced at least once in the last three years. Additionally, 72.4% noted a decrease in farm size due to the abandonment of unsafe agricultural lands. This finding is consistent with those of Olayoku (2014) and Nwosu et al. (2022), which state that ongoing insecurity leads to land abandonment and a decline in agricultural productivity in northern Nigeria.

4.3 Impact on Household Food Availability

The influence of insecurity on household food security and market dynamics was analysed further.

Table 3: Impact of Insecurity on Household Food Sufficiency and Prices

Indicator	Category	Frequency	Percentage (%)
Household food sufficiency	Adequate	72	28.8
	Inadequate	178	71.2
Local food prices	Stable	46	18.4
	Increased	204	81.6

The findings indicate a significant food shortage in Chikun LGA. More than 71% of families indicated they do not have enough food, and 81.6% observed an increase in food costs. This aligns with the research by Idowu et al. (2020), which found a correlation between insecurity in Nigeria's Middle Belt and inflation in food prices, as well as limited access to markets.

4.4 Logistic Regression Analysis

The logistic regression model examined how insecurity variables predicted food availability outcomes.

Table 4: Logistic Regression Results

Variable	β (Coefficient)	Std. Error	Odds Ratio (Exp β)	p-value
Frequency of attacks (X1)	0.842	0.293	2.32	0.004**
Displacement (X2)	1.174	0.318	3.23	0.001***
Farm size reduction (X3)	0.915	0.276	2.50	0.002**
Age (control)	-0.106	0.091	0.90	0.247
Education (control)	-0.324	0.138	0.72	0.018*
Gender (control)	-0.081	0.212	0.92	0.704
Household size (control)	0.198	0.083	1.22	0.019*

Model Fit Statistics:

- Nagelkerke $R^2 = 0.46$
- Model $\chi^2 = 57.83$, $p < 0.001$

The findings suggest that displacement (OR = 3.23, $p < 0.001$), the frequency of attacks (OR = 2.32, $p = 0.004$), and reductions in farm size (OR = 2.50, $p = 0.002$) notably heighten the risk of food insufficiency. Education was found to have a negative relationship with food insecurity (OR = 0.72, $p = 0.018$), indicating that households with higher levels of education were better equipped to utilise coping strategies or pursue alternative livelihoods. Additionally, household size played a significant role in food insecurity (OR = 1.22, $p = 0.019$), indicating that larger households were more vulnerable to food insecurity.

4.5 Qualitative Insights from Key Informant Interviews (KIIs)

The thematic analysis derived from KIIs supported the results from the quantitative data.

Displacement and Farm Abandonment: Several respondents shared that insecurity forced them to abandon their productive lands. One farmer remarked, “We left our large farm near Gonin Gora because of attacks. Now we only cultivate small plots near the village, which do not provide enough food for us for long.”

Market Disruptions: Traders reported challenges in transporting food due to the fear of ambushes on rural roads, which disrupted supply chains and led to higher food prices.

Coping Strategies: Households employed various coping tactics, including reducing meal frequency, selling livestock, and relocating to urban areas for wage labour. However, these strategies were largely unsustainable and heightened cycles of poverty.

These results align with the findings of Ibrahim and Mukhtar (2017) and Akinyemi and Oluwaseun (2021), who highlighted the detrimental impact of insecurity in northern Nigeria,

resulting in displacement, reduced agricultural production, and adverse changes in livelihoods.

4.6 Discussion

This research indicates that insecurity in Chikun LGA has a significant negative impact on rural farming and food availability. The high rates of displacement, smaller farm sizes, and recurrent attacks are directly linked to food insufficiency and escalating local food prices, which are further compounded by the adverse effects of climate change (Yakubu, Magaji, & Magaji, 2025). The regression analysis indicates that insecurity factors were key predictors of food insecurity within households, explaining nearly half of the variation in outcomes (Nagelkerke $R^2 = 0.46$).

The results also affirm the theoretical foundations of Human Security Theory, which argues that food security cannot be attained without addressing threats to human safety (UNDP, 1994). Moreover, the framework of Resilience Theory is present in the coping strategies adopted by households, although these were primarily insufficient in reinstating food security.

The findings of this study align with the broader empirical literature on Nigeria, highlighting that insecurity has a significant impact on rural poverty, market disruptions, and household food insecurity. However, contrary to some situations where external assistance alleviates impacts, respondents in Chikun LGA noted a lack of institutional support, underscoring the urgent need for policy interventions.

5. Conclusion and Policy Recommendations

5.1 Conclusion

This research assessed the impact of insecurity on rural farmers and food availability in the Chikun Local Government Area (LGA) of Kaduna State, Nigeria. The results indicate that insecurity—evident through farm displacement, frequent attacks, and diminished cultivable land—substantially undermines agricultural productivity and food supply in the region. Quantitative evidence highlights a significant correlation between insecurity factors and adverse food outcomes, including household food insufficiency and rising local food prices. Logistic regression findings confirmed that factors such as household displacement, diminished farm size, and attack frequencies are strong predictors of challenges related to food availability.

Qualitative insights further enriched these findings by demonstrating how forced displacement leads many farming households to abandon fertile farmlands, causing a reduction in cultivated land area and disrupted growing cycles. Market interruptions resulting from fears of attacks and restricted mobility also hinder the distribution of food products, pushing prices higher. Farmers reported employing coping strategies, such as reducing daily food intake, modifying their diets, and engaging in informal economic activities, to manage their circumstances.

The results indicate that insecurity in Chikun LGA is both a security concern and a significant developmental obstacle, with extensive repercussions for household well-being, local food systems, and the overarching aim of achieving food security and Sustainable Development Goal (SDG) 2 (Zero Hunger). In the absence of focused interventions, the ongoing rural insecurity could widen food poverty, intensify malnutrition, and further undermine rural livelihoods.

5.2 Policy Recommendations

Following the findings, the subsequent policy recommendations are suggested:

1. Enhance Rural Security Framework

The Nigerian government, along with Kaduna State authorities, should bolster the presence of security personnel in rural agricultural communities through effectively coordinated community policing and rural patrol strategies. Partnering with local vigilante groups and intelligence networks could enhance early warning systems and decrease the occurrence of assaults on farms.

2. Create Safe Farming Zones and Green Corridors

Secure agricultural clusters, referred to as “green corridors,” should be established where farmers can grow crops with the support of security forces. These zones would minimise the abandonment of farms, maintain agricultural productivity, and help rebuild trust among farming families who have been displaced.

3. Assist Resettlement and Rehabilitation of Displaced Farmers

Government bodies and humanitarian organisations should prioritise resettling displaced farmers by providing housing, farmland, and support for their livelihoods. Providing access to low-interest loans, farming supplies, and extension services will help restore their agricultural capabilities and revive food production.

4. Facilitate Market Access and Stabilise Food Prices

Ensuring the unfettered movement of goods and people is essential for food distribution. Authorities should reopen and secure vital rural roadways, upgrade market infrastructure, and offer incentives to food traders to facilitate the movement of goods. Buffer stock initiatives and price stabilisation policies should be implemented to protect households from price surges caused by insecurity-related shortages.

5. Adopt Climate-Smart and Resilient Agricultural Practices

Implementing climate-smart agriculture, mixed cropping techniques, and small-scale irrigation could strengthen farmers’ ability to adapt in insecure regions. Promoting the use of short-maturing and high-yielding crop varieties may help mitigate risks associated with disrupted planting seasons due to attacks.

6. Strengthen Community-Based Coping and Resilience Initiatives

Community cooperatives and farmer associations should be enhanced to provide mutual support, pool resources, and advocate for local solutions that serve the community. Social protection programs, such as food-for-work initiatives and conditional cash transfers, can serve as safety nets to support vulnerable households, providing them with assistance to mitigate the effects of poverty.

7. Integrated Multi-Sectoral Approach

Addressing the impact of insecurity on food availability requires collaboration among security forces, agricultural ministries, humanitarian organisations, and development partners. Policies must align security reforms with rural development, poverty alleviation, and social

welfare strategies to simultaneously address the underlying causes of both insecurity and food scarcity.

The research underscores a perilous link between insecurity and agricultural production in rural Nigeria. Responding to this crisis requires more than just military action—it calls for comprehensive policies that secure agricultural lands, restore farmers' livelihoods, and ensure stable food systems. By implementing the proposed measures, Chikun LGA and similar conflict-affected areas can transition from farm to food security, rather than from farm to famine.

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