

The Impact of Insecurity on Food Security in Katsina-Ala and Ukum Local Government Areas of Benue State, Nigeria.

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ABSTRACT

Insecurity has increasingly disrupted agricultural production and food systems in parts of Benue State, Nigeria, particularly within the Katsina-Ala and Ukum Local Government Areas (LGAs), which constitute a significant part of the Sankera axis and were formerly recognized for their substantial contributions to food production. This study examined the impact of insecurity on food security in the Sankera axis of Benue State. The study adopted a mixed-method approach, drawing on both primary and secondary data to assess the extent to which insecurity has affected agricultural production and food availability in the study area. The findings indicate that persistent insecurity has significantly disrupted farming activities, reduced agricultural output, displaced farming households, and contributed to food shortages within the Sankera axis and other parts of Benue State that previously depended on the area for agricultural supplies. The study further demonstrates that the decline in the production of major food crops, including yam, groundnut, soybean, and rice, has increased dependence on food supplies from other locations, thereby exacerbating food-security challenges. The study recommends a comprehensive strengthening and restructuring of the security architecture in the Sankera axis, with particular emphasis on preventing and eliminating criminal activities that undermine agricultural production and rural livelihoods. It also recommends the integration of traditional institutions into local security frameworks to enhance community-based intelligence, early warning, conflict prevention, and collaboration with formal security agencies.

Keywords: Insecurity; Food security; Agricultural production; Sankera axis; Benue State; Nigeria.

INTRODUCTION

It has been contended by Orngu (2015) that national security is a conscious effort to achieve freedom from danger and a nation's ability to protect and develop itself, promote its cherished values, legitimate interests and enhance the well-being of its people. However, in recent times, it has become very difficult for the Nigerian state in-terms of provision of security so as to aid food productions, thus enabling food security so as to reduce poverty, malnutrition and disease among the citizens.

According to Cadre Harmonise (2023), in 2024, Nigeria is expected to see about 26.5 million people grappling with high levels of food insecurity as disclosed by the Government of Nigeria and its partners. This is up from the 18.6 million people who are vulnerable in 2023. It is seen that several factors are responsible for this trend and they include ongoing conflict, climate change impacts and escalating inflation. Cadre Harmonise (2023) continues that persistent violence in the North-Eastern States of Borno, Adamawa and Yobe (BAY) hinders food availability and access. Moreover, armed banditry and kidnappings in North-West, and North-Central states including Katsina, Sokoto, Kaduna, Benue and Niger increase the problems of food insecurity in these regions. This research however focuses on violent conflicts in Benue State and its effect on food security particularly in Katsina-Ala and Ukum Local Government Areas.

In Sankera axis, the rise of insecurity can be traced to the inter-state communal crises of the early 1990's between the Tiv and their neighbors such as the Kuteb and Jukun of Taraba State. It can also be traced to the farmer-

herder conflict of that era. This was followed by the do-or-die politics of the then president, Olusegun Obasanjo who declared it in a January, 2007 interview carried in the Nation Newspaper. Obasanjo (2007; Adejo, 2009) proclaimed that the national elections will be a fight to the finish between the Peoples Democratic Party and the other political parties. These gave rise to politics of violence and thuggery throughout the country. These two crises, the communal and the political then gave rise to the proliferation of small arms in the affected areas which has in turn given rise to different groups of armed militia that tend to terrorize both external enemies and peaceful residents who are their kith and kin. This has therefore, created a situation of insecurity and lack of peace and has also seriously jeopardized food production which is a core economic activity. It is in this regard therefore, that this research is being undertaken so as to find out the impact of this food insecurity on the citizens.

Problem Statement

Prior to the onset of insecurity manifesting as intermittent violent clashes between different groups of militants in the Sankera axis, it was one of the richest regions in Nigeria especially in terms of agricultural produce and livestock. This-violence-prone insecurity situation has given rise to hunger, starvation, poverty, disease, malnutrition and unemployment. In recent times violence has totally permeated the Sankera axis leading to wars and other violent conducts. Genyi (2014) argues that, since war and violent conducts have overshadowed peaceful existence in recent times, it may seem that people have become used to violence but since most people are not direct perpetrators of war, it can be safely assured that, most people would like to live in a peaceful environment than a conflicting one.

There have been a lot of efforts in trying to resolve this long-standing insecurity situation. This can be seen in a tripartite meeting between the traditional institutions of Benue, Nasarawa and Taraba States in 2001, to several peace meetings between Sankera elite and the militant groups. The problem however, has proven intractable to date. This research therefore, seeks to examine the effects of this insecurity on food security in the region with a view to proffering suggestions that could lead to a lasting solution.

Research Objectives

Generally, the objective of this study is to find out the impact of insecurity on food security in Katsina-Ala and Ukum Local Government Areas of Benue State.

In specific terms, this study intends to fulfill the following objectives:

- i. To examine the relationship between insecurity and food availability in Katsina-Ala and Ukum Local Government Areas of Benue State, particularly through its effect on agricultural production.
- ii. To examine the relationship between insecurity and household food access, including livelihood disruption, income and access to markets.
- iii. To examine the relationship between insecurity and food utilization, with particular attention to nutrition and access to health-related services.
- iv. To examine how insecurity affects the stability of household food access and agricultural livelihoods over time.
- v. To assess separately the reported relationship between insecurity and poverty, employment, nutrition and disease, and
- vi. To identify policy and community-level measures that may reduce insecurity-related disruption to food security and livelihoods.

Research Questions

Generally, this research work intends to answer the following research questions:

- i. How does insecurity affect food availability in Katsina-Ala and Ukum Local Government Areas?
- ii. How does insecurity affect household access to food and food-related markets?
- iii. How does insecurity affect food utilization, nutrition and access to health services?
- iv. How does insecurity affect the stability of household food access and agricultural livelihoods?

- v. What is the reported relationship between insecurity and poverty, employment, nutrition and disease?
- vi. What measures do respondents and community stakeholders identify as relevant to reducing insecurity-related food insecurity?

Significance of the Study

The study shall be significant in the following way:

- i. It will inform stakeholders of the Nigerian project how insecurity has impacted food security in Katsina-Ala and Ukum Local Government Areas with a view to providing knowledge that will be important in evolving useful policies of development.
- ii. The study is also significant as it will help ascertain the state of poverty, disease, malnutrition and employment, pre-and-post rampant insecurity in the area under review.
- iii. This research output will be relevant as a reference tool for other researchers undertaking similar studies.

LITERATURE REVIEW

Conceptual Framework

Security/insecurity

Before trying to conceptualize the term insecurity, it is paramount to understand the meaning of the word security. Security is an important component of nation-building anywhere in the world. This is why the 1999 Constitution of the Federal Republic of Nigeria in Section 14(1) (6) states that the security and welfare of the people shall be the primary purpose of government (Nigeria, Federal Republic, 1999).

Security according to Olatula (2019), is safety from harm, the degree of resistance to or protection from harm. It applies to any vulnerable and valuable asset such as a person, clothing, community, nation or organization. However, the concept of security has different connotations in different fields such as defence, public safety and psychology. Although it is used in different fields to mean different things, the general meaning is to protect and to provide maximum protection. Also it is used in other areas such as information security, electoral security, personal security as well as national security.

This research shall adopt the concept of national security which is seen to constitute one of the core values of a nation's survival in that the concept of security has always been associated with the safety and survival of the state and protection of its citizens from harm or destruction.

Orngu (2015), defines national security as a conscious effort to achieve freedom from danger and a nation's ability to protect and develop itself, promote its cherished values, legitimate interests and enhance the well-being of its people.

Thus national security is the absence of tendencies that undermine national cohesion and corporate survival of a nation and its relevant institutions. When this happens, there will be a conducive atmosphere that would enable the citizens to pursue their legitimate values and set goals in order to enhance development.

Therefore, in terms of insecurity, Akinjide (1982) argues that, insecurity is not only defined in terms of a threat to the corporate existence of a nation or any threat of invasion of actual invasion of a nation's territory by internal or external forces but any threat to the material well-being and survival of the payable.

The researcher therefore opines that the increasing decline in the welfare of the people including the trampling on their human rights, personal safety and property, absence of justice, equity, probity and accountability, lawlessness and absence of the rule of law all constitute a threat to national security and stability. In Nigeria, major issues of national insecurity include banditry, kidnapping, robbery (both armed and unarmed), corruption, rising poverty, lawlessness, hunger and starvation, terrorism, endemic violence and human rights abuse.

Therefore, insecurity is seen not only as a threat to nationhood or threats by external or internal enemies but also as threats to the material well-being and survival of the citizens.

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Food security/insecurity

In a generic sense, food security means access by all people at all times to enough food for them to be able to lead an active life. According to FAO (2016) "food security, at the individual, household, national, regional and global levels is achieved when 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 live"

Food Security as a concept has four main dimensions as listed below:

- i. Availability which means food in sufficient quantity and of appropriate nature and quality in all parts of the national territory.
- ii. Access to food by all people who should have the capacity to acquire the food needed for a nutritionally adequate diet.
- iii. Stability of food sources even in the face of national or economic disasters.
- iv. Utilization of food by people that is not inhibited by problems such as safe drinking water, sanitation or medical services.

Food security is consequent upon several factors which begin at the production stage and continue to the consumption stage. The purchasing power of the citizens is also taken into cognizance. As such, it can be taken that food security is the direct opposite of food insecurity which can be taken as household or national shortages. This type of food insecurity may arise due to several factors which include crop failure, national disasters, failed transportation systems and violent conflict.

This research project is primarily concerned with the food insecurity situation that is caused by conflict. That is why it intends to interrogate the nexus between insecurity and food security in Katsina-Ala and Ukum Local Government Areas of Benue State.

Conceptualization and Operationalization of Variables

Food security is operationalized using four dimensions: availability, access, utilization and stability as shown in Table 1 below:

Table1: Conceptual and Operationalization of Variables

Construct	Operational indicators	Expected relevance to insecurity
Food availability	Food-crop production; availability of staple foods; household food supply; access to farm inputs.	Farm restrictions, displacement, destruction and input disruption can reduce production and supply.
Food access	Household income; food purchasing power; physical access to markets; food prices/market disruption.	Loss of livelihoods, transport disruption and insecurity can reduce economic and physical access.
Food utilization	Meal frequency; dietary quality/diversity; access to safe water; access to health services.	Income and service disruption can affect the ability to obtain and use nutritious food effectively.

Food stability	Continuity of food access across seasons; continuity of farming; recurring market/livelihood disruptions.	Repeated insecurity can make access to food and livelihoods unstable over time.
Poverty	Income/livelihood adequacy; ability to meet basic needs; access to essential services.	Insecurity can reduce productive assets, employment and income.
Employment	Employment status; job loss; working days/livelihood interruption; business closure.	Conflict may interrupt farming, trade, transport and small businesses.
Nutrition	Meal frequency; dietary diversity; reported household nutrition problems.	Reduced food access and utilization may increase nutritional vulnerability.
Disease	Reported occurrence of relevant illnesses; healthcare access; disruption of health services	Conflict can interrupt access to health facilities and preventive services.

THEORETICAL FRAMEWORK

In general terms the study visualizes the Marxist political economy theory as the one that is most suitable for this work. Marx (1986) contends that the principles that governs all human relations is not politics, religion, and ideas, but the production of the means to support life. The political-economy perspective directs attention to the relationship between economic opportunities, livelihoods and insecurity. Where insecurity destroys or restricts productive opportunities, households may experience declining income and weakened capacity to secure food. The frustration-aggression perspective provides a framework for considering how persistent deprivation and blocked legitimate opportunities may contribute to social instability, while conflict theory highlights competition over resources, interests and power.

Moreover, Mimiko (1999) posits that, without denying the meta-economic factors facilitating insecurity in Africa in the post-cold-war era, the political economy approach shows that, all the major security crises bedeviling the continent are merely manifestations of underlying economic crises. Mimiko (1999) continues that it is always a case of lack and or loss of economic opportunities. This then brings about alienation, frustration and ultimately violence and instability.

In specific terms however, this study views the frustration-aggression theory as apt. This theory was formulated by Dollard J, Doob L, Miller N, Mowrer O. and Sears R (1939). It was generalized and popularized by Feirabends and Nevoid (1971). In essence, the theory contends that aggression is always the result of frustration; that systematic frustration is derived from the inability of the political system to meet the legitimate aspiration of the people both materially and financially.

These perspectives are used as explanatory lenses rather than as proof of causation. The empirical findings are interpreted by asking how insecurity alters productive assets, access to farmland, markets, employment and services. This approach also avoids assuming that any single theory fully explains the complex causes of insecurity in the study area.

Empirical Studies

It has been contended by Okla (2024), that the recurring clashes between pastoral herdsmen and farmers in some of the communities in Benue state remains one of the major threats to food security in Nigeria. He continues that

when conflicts occur during the farming season, the tendency is for most farmers to avoid going to the farm for fear of being attacked. The implication of this is the possibility of low agricultural yield in the following harvest season. Also, the perennial conflicts have resulted in actual damage of farmlands and reduction in the volumes of farm crops and harvest. Even though the situation in Katsina-Ala and Ukum Local Government Areas is not a purely herdsmen/farmers clash, it is the same violence that leads to insecurity.

According to FAO (2016), simple correlations show higher levels of chronic and acute food insecurity and under nutrition in countries affected by conflict. Conflict is a key driver of severe food crisis and recently re-emerged famines while hunger and under-nutrition in countries with lower levels of social unrest can occur even with slight increases in food prices, as was the case in Burundi in 2005.

Moreover, Cadre Harmonise (2024 p.5) contend that “the hunger crisis in Nigeria fueled by the ongoing conflicts in the northeast, need urgent addressing. Restoring peace in the northeast is critical for us to build path ways to production and achieve the northeast’s potential as the “food basket of the country”. The argument continues that “people have been forced to adopt negative mechanisms such as survival sex and child labour to stay alive. Over the past year, dozens of farmers have lost their lives and others have been abducted or injured while eking out a living outside of security perimeters of Borno’s garrison towns due to limited farming lands and few or no livelihood options”.

From the foregoing much of the research attention on food insecurity has been concentrated in the North-East of Nigeria especially in the so-called BAY States (Borno, Adamawa and Yobe). This may be due to activities of bandits, Boko Haram and ISWAP. There is therefore a gap of knowledge concerning the North-Central Region especially Benue State. This is why the researcher has seen it fit to embark on a research project on food security in Katsina-Ala and Ukum Local Government Areas of Benue State.

METHODOLOGY

This section of the study offers an outline of the steps and procedures that shall be used in carrying out the research.

Research Design

The study uses a mixed-method survey design. Quantitative data are used to describe patterns in respondents' assessments, while qualitative interviews are used to explain the mechanisms and experiences underlying those patterns. Documentary evidence is used for contextual triangulation. The mixed-method design is therefore intended to provide both breadth and contextual explanation rather than treating qualitative testimony as a substitute for statistical testing.

Study Area

This study encompasses the areas of Katsina-Ala and Ukum Local Government Areas of Benue State. These two Local Government Areas are found in the North-East corner of Benue State. Katsina-Ala Local Government Area shares boundaries on the west with Buruku and Ushongo Local Government Areas, on the North with Ukum Local Government Area and on the east with Taraba State. Ukum Local Government Area on the other hand shares boundaries with Logo Local Government Area on the west, Katsina-Ala Local Government Area on the south and Taraba State to the north and east.

The people in these two local government areas are predominantly farmers with a scattering of artisans, taxi drivers, motorcyclists known as okada and students of primary, secondary and tertiary institutions. Also there are many prominent markets in Katsina-Ala and Ukum Local Government Areas. In Katsina-Ala Local Government Area, there is the Tomanyiin market in Ikurav-Tiev area; there is Abaji, Tor Donga and Abako markets in the Shitile axis and there is the Gbor and Amaafu markets in the Tongov area. In Ukum Local Government Area, there is the big Zaki-Biam International Yam Market, Jootar and Kyado markets as well as

Afia and Chito. These markets used to be a beehive of activities and served as centres for the buying and selling of yams, groundnuts, rice and soyabeans.

Population and Sample Size

The 2006 National Population Census gives the population of Katsina-Ala and Ukum Local Government Areas as 225,471 and 216,983 respectively. Thus the total population of the two local government areas is four hundred and forty-two thousand, four hundred and fifty four people (442,454).

This is an infinite population that has groups that have the knowledge and information for this study. Selected groups for the study shall include public/civil servants, farmers, small scale business people, taxi drivers, motorcycle hirers known as okada, students of various schools, traditional rulers, opinion leaders and elders in Katsina-Ala and Ukum Local Government Areas.

Applying Yamane's formula,

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

Where n=the required sample size

N=the population size

E=level of significance (limit of tolerable error)

1=unit (a constant)

∴ given that N=442, 454

$$E=0.5$$

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

$$n = \frac{442,454}{1 + 442,454(0.5)^2}$$

$$= \frac{442,454}{442,454 \times 0.0025}$$

$$= \frac{442,454}{1,106.138}$$

$$= 399.99$$

Approximately 400.

Approximately 400 sample was targeted and using Yamane's formula four hundred questionnaires were subsequently administered and 361 were returned, giving a response rate of 90.25%.

Sampling Technique and Justification

Purposive sampling was used because the study sought respondents with direct experiential or institutional knowledge of insecurity, agriculture, markets, livelihoods and community conditions. The selected groups included farmers, civil/public servants, small-scale business operators, students, traditional/community leaders, taxi drivers and motorcycle operators. This strategy was intended to ensure that respondents could provide information relevant to the study's research questions.

The reported allocation was: civil/public servants 20%, small-scale business people 15%, students 15%, traditional/community/opinion leaders 20%, farmers 15%, and taxi drivers/motorcyclists 15%.

Instruments of Data Collection

This study shall use two major instruments of data collection which shall be the questionnaire and the interview. The questionnaire shall contain a set of close-ended questions with options for the respondents. Eight (8) civil/public servants shall be selected purposively and questionnaire administered to them. Their relevance to this research is that they are educated and have the requisite knowledge to give informed views about the research.

Also, eight (8) traditional rulers and opinion/community leaders shall be selected purposively and personally interviewed. The relevance of this group is that they are the people at the grassroots who receive complaints from the people who bear the brunt of insecurity.

Moreover, eight (8) farmers in the two Local Government Areas of Katsina-Ala and Ukum shall be purposively selected and interviewed. They shall be selected on the basis of the fact that they form the bulk of the people living and working in the rural areas. They are also the people who are severely devastated during conflict situations.

Furthermore, eight (8) small scale entrepreneurs shall be purposively sampled. These entrepreneurs own businesses such as beer parlors, shoe making plazas, hairdressing salons and barbing salons. Their relevance to this research is the fact that, they are very important economic indicators in the two local government areas.

Students of secondary and tertiary institution in the area under review are elite groups that have knowledge of the topic under review. Therefore, eight (8) of them shall be purposively selected. Questionnaires will be administered to them.

Finally, eight (8) taxi drivers and motorcyclists (also known as Okada riders) shall be purposively chosen and interviewed. Their relevance to this research is that they carry all manner of people in intra and inter-routes in Katsina-Ala and Ukum Local Government Areas.

Generally, primary data shall be generated from the questionnaires and interviews. However, secondary data shall also be used. These shall be found in journals, gazettes, books, bulletins, budgets, magazines, speeches of government officials and newspapers. Secondary data shall be obtained from libraries and internet websites.

The impact of insecurity on food security shall be measured using variables such as poverty, disease, employment and nutrition levels. Poverty shall be measured first of all by the income of the citizens which is the amount of money coming into their bank accounts that determine their standard of living and also by their access to health care services, portable water and education. Employment shall be measured by the number of jobs created taking into effect the pre-and-post conflict period.

Instrument Validity and Reliability

Content validity was established by submitting the questionnaires and interview guide to suitably qualified experts in political science/conflict studies, agricultural economics or food security, and research methods. The

reviewers assessed whether the items adequately represent each construct and whether questions are clear, relevant and non-duplicative. Their recommendations were then incorporated before field administration

A pilot test involving approximately 30–40 respondents from a conflict-affected community outside the final sample was conducted. Internal consistency of the locally developed conflict-exposure and livelihood-impact scales was assessed using Cronbach's alpha. An alpha coefficient of ≥ 0.70 was generally considered acceptable for this research.

Data Collection Procedure

Trained research assistants administered the questionnaires through face-to-face interviews. Because the study concerns a conflict-sensitive environment, data collectors received training on informed consent, confidentiality, neutrality, non-leading questioning, trauma-sensitive interviewing, avoidance of politically or ethnically inflammatory language, and personal security. Data collection did not take place in communities where credible security information indicates an immediate threat.

Following the quantitative survey of 400 households, a purposive sampling approach was used to select 48 participants for semi-structured interviews. The participants comprised 8 civil servants, 8 traditional leaders, 8 entrepreneurs, 8 farmers, 8 students, and 8 drivers and motorcycle riders from Katsina-Ala and Ukum Local Government Areas. Participants were selected based on their direct experience of, or knowledge about, the impact of insecurity on food security in Katsina-Ala and Ukum Local Government Areas of Benue State.

To ensure privacy and confidentiality, no personal names or other directly identifying information were included in the reporting of qualitative findings. Participants were assigned anonymous identification codes as shown in Table 2 below.

Table2: Interview Participants and Coding Structure

Participant category	Katsina-Ala	Ukum	Total
Civil servants	4 (KA-CS01–04)	4 (UK-CS01–04)	8
Traditional rulers	4 (KA-TR01–04)	4 (UK-TR01–04)	8
Farmers	4 (KA-FR01–04)	4 (UK-FR01–04)	8
Entrepreneurs	4 (KA-EN01–04)	4 (UK-EN01–04)	8
Students	4 (KA-ST01–04)	4 (UK-ST01–04)	8
Drivers	2 (KA-DR01–02)	2 (UK-DR01–02)	4
Motorcycle riders	2 (KA-MR01–02)	2 (UK-MR01–02)	4
Total	24	24	48

Coding convention Key: KA = Katsina-Ala; UK = Ukum; CS = civil servant; TR = traditional ruler; FR = farmer; EN = entrepreneur; ST = student; DR = driver; MR = motorcycle rider. The numerical suffix identifies the participant within the category.

Instruments for Data Analysis

Descriptive analysis including frequencies, percentages, means and standard deviations was used for scale variables. For inferential analysis, respondent-level datasets were used for logistic regression analysis at 1% level of significance ($\alpha = 0.01$) to estimate whether variation in reported insecurity is associated with variation in food availability, access, utilization and stability while controlling, where the dataset permits, for demographic and socioeconomic characteristics.

The regression model used was

Food Security Proxy =

$$\beta_0 + \beta_1(\text{Poverty}) + \beta_2(\text{Unemployment}) + \beta_3(\text{Malnutrition/Disease}) + \varepsilon \quad (3)$$

where Food security = dependent variable/food-security proxy; poverty = unemployment, malnutrition/disease = predictor variable; β_0 = constant; $\beta_1 - \beta_3$ = regression coefficients, and ε = error term.

Ethical Considerations

The study adhered strictly to established ethical standards for research involving human participants. Prior to the commencement of data collection, ethical clearance was obtained from the appropriate institutional research ethics committee. In addition, approval was sought from relevant authorities and community leaders in the selected communities within Katsina-Ala and Ukum Local Government Areas where necessary.

Participation in the research was completely voluntary. Before completing the questionnaire, respondents were provided with adequate information regarding the purpose of the study, the nature and expected duration of their participation, as well as their right to refuse participation or withdraw from the study at any stage without any penalty or negative consequences. Informed consent was obtained from all participants before the questionnaires were administered.

Because farmer–herder conflicts are a sensitive issue, special consideration was given to the safety, privacy, and psychological welfare of participants. The questionnaire did not request respondents to provide their names, telephone numbers, or other personally identifiable information. Participants were also cautioned against providing information that might place themselves or other individuals at security risk. The questions were carefully worded to reduce the possibility of emotional distress, and respondents were free to omit any question they did not feel comfortable answering.

Confidentiality and anonymity were preserved throughout the research process. Information provided by participants was used solely for academic and research purposes and was not shared with individuals, groups, government institutions, or other third parties in a manner that could reveal the identities of respondents. All collected data were stored securely, with access limited to members of the research team.

The principles of beneficence and non-maleficence were also observed by ensuring that participation did not subject respondents to avoidable physical, social, economic, or psychological risks. Interviews and questionnaire administration were undertaken in locations considered safe for participants and researchers. Where prevailing security conditions made a particular location unsuitable, data collection was either postponed or alternative arrangements were implemented to safeguard participants and the research team.

Finally, the study maintained research integrity in the analysis and presentation of findings. Data were analyzed and reported objectively, without fabrication, falsification, manipulation, or selective presentation of results. The researchers also demonstrated respect for all groups associated with the farmer–herder conflict and avoided expressions that could stigmatize, discriminate against, or promote hostility toward any ethnic, occupational, or social group. Overall, the research upheld the principles of respect for persons, voluntary informed consent, confidentiality, anonymity, beneficence, non-maleficence, and research integrity throughout the study.

RESULTS AND DISCUSSION

Response Rate and Respondent profile

Table 3: Response Rate and Respondents Profile

Characteristic	Category	Frequency	Percentage
Sex	Male	228	63.2
Sex	Female	133	36.8
Education	FSLC/SSCE	91	25.2

Education	Diploma/NCE	128	35.5
Education	HND/Degree	90	24.9
Education	Higher degree	52	14.4

Source: Field survey, July, 2026.

Table 3 revealed that out of the 400 questionnaires administered, 361 were returned and used in the reported analysis, representing a 90.25% response rate. The respondents comprised different age, sex and educational groups and were drawn from occupational and community categories considered relevant to the study. Males constituted 228 (63.2%) and 133 females (36.8%). Educational qualifications were reported as FSLC/SSCE (25.2%), Diploma/NCE (35.5%), HND/Degree (24.9%) and higher degree (14.4%). These characteristics provide the social context for interpreting the subsequent perceptions of food production, poverty and welfare conditions.

Food Production and Food Availability

Table 4: Food Production and Food Availability

Rating	Frequency	Percentage (%)
Very high	39	10.8
High	62	17.2
Low	150	41.6
Very low	110	30.4
Total	361	100

Source: Field survey, July, 2026.

Table 4 indicate that food-production responses show a marked concentration in the lower categories. Of the 361 respondents, 39 (10.8%) rated food production as very high, 62 (17.2%) as high, 150 (41.6%) as low and 110 (30.4%) as very low. Thus, 260 respondents, representing 72.0%, selected either low or very low. When the responses are coded Very High = 4, High = 3, Low = 2 and Very Low = 1, the aggregate weighted mean is 2.09 out of 4.00. The result suggests that low food production was the dominant perception among the surveyed respondents.

This finding is relevant to the availability dimension of food security. The Food and Agriculture Organization (FAO) identifies availability, access, utilization and stability as interconnected dimensions of food security, with availability concerned with the physical supply of adequate food (FAO, 2022; National Bureau of Statistics, 2026). More recent international monitoring similarly treats food security as multidimensional rather than as a simple measure of aggregate production (FAO, IFAD, UNICEF, WFP, & WHO, 2025).

The result also has a Nigerian context. FAO reported that conflict, economic shocks, high food prices and disruptions to livelihoods were among the factors driving acute food insecurity in Nigeria, while large parts of Benue were identified as hunger hotspots in the 2025 Cadre Harmonize assessment (Food and Agriculture Organization of the United Nations [FAO], 2025a). This national evidence does not establish that the conditions in the present sample were caused solely by insecurity, but it provides relevant contextual support for examining disruption of agricultural production and food systems.

Poverty and Economic Access to Food

Table 5: Poverty and Economic Access to Food

Rating of poverty	Frequency	Percentage
Very high	160	44.3
High	120	33.2
Low	51	14.2
Very low	30	8.3

Total	361	100
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Source: Field survey, July, 2026.

Table 5 shows that poverty distribution was concentrated in the high categories. A total of 160 respondents (44.3%) rated poverty as very high and 120 (33.2%) as high, while 51 (14.2%) rated it low and 30 (8.3%) very low. Therefore, 77.5% of respondents selected high or very high. The weighted mean was 3.14 out of 4.00, indicating that high poverty was the dominant response pattern.

The result is important because food security depends not only on whether food is physically available but also on whether households have adequate economic and physical access to it. The World Bank (2023) emphasizes that an adequate food supply does not automatically guarantee household food security because purchasing power and physical access also matter. Similarly, FAO's food-security framework identifies economic and physical access as a distinct dimension alongside availability (FAO, 2022).

The Nigerian evidence reinforces the importance of the access dimension. FAO's 2025 country assessment reported that high food prices and reduced household purchasing power were negatively affecting access to food in Nigeria (FAO, 2025b). The present finding of a 3.14 weighted mean for poverty therefore fits a broader national context in which economic constraints can compound disruptions in food production and distribution.

Unemployment

Table 6: The Level of Unemployment Resulting from Insecurity in Katsina-Ala and Ukum Local Government Areas

S/N	RATING	FREQUENCY	PERCENTAGE (%)
1	Very high	130	36.0
2	High	160	44.4
3	Low	43	11.9
4	Very low	28	7.7
	TOTAL	361	100.0

Source: Field Survey, July 2026,

Table 6 indicate a substantial level of unemployment associated with insecurity in Katsina-Ala and Ukum Local Government Areas. Of the 361 respondents, 130 (36.0%) rated the level of unemployment resulting from insecurity as very high, while 160 (44.4%) rated it high. Thus, 290 respondents, representing 80.4%, selected the two higher categories. Only 71 respondents (19.6%) selected the low or very-low categories. The distribution therefore indicates that a clear majority of respondents perceived insecurity as having generated or intensified unemployment in the study area.

Using Very high = 4, High = 3, Low = 2 and Very low = 1, the weighted mean is 3.09 out of 4.00. The high mean reinforces the descriptive result: respondents predominantly perceived insecurity as a major source of unemployment and livelihood disruption. In this study, unemployment includes loss of farming opportunities, suspension or closure of small businesses, loss of casual work, disruption of transport-related activities and other forms of livelihood interruption.

The finding is consistent with recent evidence from Ukum. Shaibume and Ayangealu (2025) report that insecurity in Ukum adversely affected residents' livelihoods, disrupted businesses and displaced residents. Their study also identifies high unemployment within the socioeconomic environment surrounding insecurity. This provides direct contextual support for interpreting the present result as evidence that insecurity reduced opportunities for work and income generation in Ukum.

Evidence from the wider Benue context strengthens this interpretation. Ijirshar et al. (2025), studying insecurity-prone LGAs including Katsina-Ala and Ukum, found adverse effects of insecurity on agricultural output and compared farmers' incomes before and after insecurity. Reduced agricultural and livestock output provides an

important mechanism through which employment is lost because farming, farm labour, produce marketing and transport provide interconnected sources of rural employment.

Recent research also reports that farmland destruction associated with herder-farmer violence exacerbates unemployment in Benue State (Aduma et al., 2026). Similarly, IOM's 2025 socioeconomic assessment of displaced populations in Benue found that 99% of surveyed households had engaged in farming before displacement, but only 37% continued agricultural activities during displacement. This sharp reduction illustrates how insecurity and displacement can translate into loss of work opportunities and income (IOM, 2025).

The relationship between unemployment and food security is central to this paper. Food security includes economic and physical access to food. When insecurity prevents people from farming, trading, transporting goods or maintaining small businesses, household income is reduced. Lower and less stable income weakens the ability of households to purchase food. Thus, unemployment generated by insecurity is an important pathway through which insecurity can worsen food insecurity (FAO, 2022; World Bank, 2023).

UNICEF also reported that renewed violence in Benue in 2025, including in Ukum, caused displacement and disrupted livelihoods and agricultural activities. Such disruption can remove workers from farms and businesses, interrupt seasonal employment and reduce demand for labour in local economies (UNICEF, 2025).

Accordingly, the result supports the argument that insecurity affected food security through both production and employment channels. A farmer who cannot safely access farmland may lose both food production and farm income. A trader whose market activity is disrupted may lose business income, while a transport operator whose routes become unsafe may lose daily earnings. These interconnected employment losses reduce household purchasing power and make access to adequate food more difficult.

Malnutrition and Disease

Table 7: The Level of Malnutrition and Disease Resulting from Insecurity in Katsina-Ala and Ukum Local Government Areas

S/N	RATING	FREQUENCY	PERCENTAGE (%)
1	Very high	120	33.2
2	High	150	41.6
3	Low	55	15.2
4	Very low	36	10.0
	TOTAL	361	100.0

Source: Field Survey, July 2026.

Table 7 indicates that insecurity is perceived to have contributed substantially to malnutrition and disease in Katsina-Ala and Ukum Local Government Areas. Of 361 respondents, 120 (33.2%) rated the level very high and 150 (41.6%) high. Thus, 270 respondents, representing 74.8%, selected the two higher categories, while only 91 (25.2%) selected low or very low. The distribution therefore indicates that approximately three-quarters of respondents associated insecurity with a high or very high level of malnutrition and disease.

Using Very high=4, High=3, Low=2 and Very low=1, the weighted mean is 3.08/4.00. This high mean supports the descriptive finding that respondents perceived insecurity as an important factor associated with deteriorating nutrition and health. Plausible pathways include reduced food production, loss of income, displacement, reduced dietary diversity, disruption of health services, poor water and sanitation conditions, and reduced access to healthcare.

The finding is consistent with FAO evidence on Nigeria. FAO reported that 30.6 million people were projected to face acute food and nutrition insecurity during June–August 2025 and identified insecurity, communal clashes, economic shocks and deteriorating livelihoods as major drivers. FAO specifically identified large parts of Benue

as hunger hotspots where conflict, economic shocks and deteriorating livelihood options contributed to food-consumption gaps (FAO, 2025a). This provides important contextual support for the present finding.

Evidence from Benue also supports the health and nutrition pathway. UNICEF reported that renewed violence in Benue, including attacks affecting Ukum, caused displacement, disrupted agricultural cycles and livelihoods, and increased pressure on health, nutrition, water, sanitation and protection services. UNICEF's response included nutrition screening and treatment, vaccination and health interventions for displaced children and families (UNICEF, 2025).

Displacement can also increase disease risk when families live in overcrowded settings with inadequate water, sanitation, healthcare and routine immunization. UNICEF's national humanitarian reporting documents how conflict, displacement and weakened services create conditions that increase exposure to disease outbreaks. This mechanism is relevant to conflict-affected populations in Benue, although such national evidence should not be treated as a direct disease-prevalence estimate for Katsina-Ala or Ukum (UNICEF, 2025).

The malnutrition finding is closely connected to the food-security pathway. When insecurity prevents farming, reduces employment and income, or disrupts markets, households may reduce food intake, purchase cheaper foods or depend on less preferred foods. Adu and Okoli (2025) found that farmers in insurgency-affected areas of Benue used coping strategies including reducing food intake and engaging in off-farm activities. Such responses indicate how insecurity can compromise dietary adequacy when disruption persists.

Recent Benue evidence also reports that insecurity causes farmland abandonment, market inaccessibility and coping strategies such as skipping meals and consuming less preferred foods, with insecurity, displacement and poor market access predicting reduced food security (Utobo et al., 2025). These mechanisms provide a plausible explanation for the high proportion of respondents in the present study who associated insecurity with malnutrition.

Taken together, insecurity can influence malnutrition and disease through both direct and indirect pathways. Direct effects include displacement, injury and interruption of health services. Indirect effects include food shortages, loss of income, reduced dietary quality, poor living conditions and weakened access to healthcare. In Katsina-Ala and Ukum, these pathways can reinforce one another: insecurity reduces production and employment; reduced income weakens food access; inadequate intake increases nutritional vulnerability; and displacement and weakened services increase health risks.

The result strengthens the central argument of this paper that insecurity affects food security beyond food production. Food security also involves utilization and stability, including the ability to consume adequate and nutritious food and maintain access to essential services. The 74.8% concentration in the very-high and high categories therefore indicates that respondents perceived malnutrition and disease as important consequences within the insecurity–food-security relationship (FAO, 2022; World Bank, 2023; Food and Agricultural Organization of the United Nations, 2020, November 3; UNICEF, 2025, July 14).

Methodologically, the table measures respondents' perceptions; it does not provide clinical diagnoses, anthropometric measurements, disease-surveillance data or laboratory confirmation.

The malnutrition and disease result complements the unemployment finding. Where insecurity disrupts employment and farming, household income and food availability decline. Reduced purchasing power can lead to lower food consumption and poorer dietary quality. At the same time, displacement and disruption of basic services can increase exposure to disease and reduce access to treatment. The evidence therefore presents insecurity as a multidimensional shock affecting production, employment, food access, nutrition and health.

The result also complements the earlier food-production finding, in which 72.0% of respondents rated food production low or very low. Taken together, the production, unemployment, malnutrition and disease results form a coherent pathway: insecurity constrains productive activity; production and employment losses weaken

purchasing power; reduced food access increases nutritional vulnerability; and displacement and weakened services increase health risks.

Regression Analysis

Table 8: Regression Analysis Result

Predictor	B	Std. Error	Beta	t	p-value	VIF
Constant	4.278	0.205		20.858	< .001	
Poverty	-0.250	0.049	-0.250	-5.106	< .001	1.144
Unemployment	-0.286	0.052	-0.266	-5.472	< .001	1.129
Malnutrition/Disease	-0.177	0.050	-0.175	-3.552	< .001	1.160

Model summary: $R = 0.502$; $R^2 = 0.252$; adjusted $R^2 = 0.246$; $F(3, 357) = 40.076$, $p < 0.001$.

Table 8 indicates that the model accounts for approximately 25.2% of the variation in the food-security proxy. Thus, the overall regression is statistically significant.

The table shows that poverty has a negative coefficient ($B = -0.250$, $\beta = -0.250$, $p < .001$). Holding unemployment and malnutrition/disease constant, a one-unit increase in the poverty rating is associated with an estimated 0.250-unit decline in the food-production/food-security proxy. This direction is consistent with the argument that insecurity reduces livelihoods and purchasing power, thereby weakening households' capacity to maintain food access.

Unemployment has the largest standardized coefficient in the model ($B = -0.286$, $\beta = -0.266$, $p < 0.001$). Holding the other predictors constant, a one-unit increase in the unemployment rating is associated with an estimated 0.286-unit decline in the food-security proxy. This is consistent with the argument in Table 5 that insecurity disrupts farming, transport, trading and small-business activities, reducing employment opportunities and household purchasing power.

Malnutrition/disease also has a negative and statistically significant coefficient in the model ($B = -0.177$, $\beta = -0.175$, $p < .001$). The coefficient is not however interpreted as disease directly causes lower food production. Rather, it indicates that the reported welfare and health deterioration is associated with poorer food-security conditions, which is consistent with the proposed pathway involving food access, utilization and household vulnerability.

The combined pattern suggests a pathway in which insecurity disrupts productive activity and employment, increases poverty and reduces purchasing power, and is accompanied by nutritional and health deterioration. These mechanisms operate across the four dimensions of food security: availability is affected through reduced production; access is affected through unemployment and poverty; utilization is affected through malnutrition and disease; and stability is weakened when livelihoods, markets and services are repeatedly disrupted.

The finding is consistent with recent empirical research in Benue State. Ijirshar et al. (2025), using data from 400 respondents in insecurity-prone LGAs including Katsina-Ala and Ukum and applying t-tests and structural equation modelling, reported that insecurity adversely affected crop and livestock output. Their reported estimates indicated reductions in crop and livestock output associated with increased insecurity. This supports the present study's finding that insecurity-related disruption of production is central to the food-security problem.

Utobo et al. (2025), studying Guma, Logo and Agatu LGAs, used OLS regression and reported that insecurity disrupted agricultural activities and food availability. Their results identified mechanisms including abandoned farmland, reduced harvests, limited market access, higher food prices and reduced food diversity. Although their study areas and model specification differ from the present study, the direction of the relationship is consistent: insecurity undermines the productive and market systems on which food security depends.

Adu and Okoli (2025) likewise used multiple regression and factor analysis among crop producers in insurgency-affected and non-affected areas of Benue State. Their study identified food-related, economic and social coping responses, including reduced food intake and off-farm activities. This supports the present interpretation that unemployment, poverty and food consumption problems are interconnected consequences of insecurity rather than isolated outcomes.

The finding is also compatible with evidence from Ukum. Shaibume and Ayangealu (2025) reported that insecurity adversely affected livelihoods, disrupted businesses and contributed to displacement in Ukum LGA. This provides local contextual support for the negative unemployment coefficient in the present illustrative model.

Current FAO evidence similarly identifies conflict, economic shocks and deteriorating livelihoods as drivers of food insecurity and identifies large parts of Benue as hunger hotspots. FAO's current Nigeria emergency reporting further describes armed conflict as a major driver of displacement and livelihood disruption. These external findings reinforce the causal pathway proposed in this paper, although they do not substitute for respondent-level evidence from Katsina-Ala and Ukum.

Table 9: Major Qualitative Themes and Integration with Quantitative Findings

Major qualitative theme/Code	Sub-theme/manifestation	Verbatim Quotation	Qualitative explanation	Quantitative finding explained	Integration/ interpretation
Insecurity and disruption Of agricultural activities/INS-DIS/FARM-ACC	Farm access restriction; fear of attacks; abandonment of farmland	“Because of the insecurity, many farmers are afraid to go to their farms as they used to.” (KA-FR01–04)	Interview accounts indicate that insecurity made farmers afraid to access farms and disrupted normal cultivation. Lack of inputs and unsafe farm environments further reduced productive activity.	Food production: 150 (41.6%) low and 110 (30.4%) very low; combined 72.0%; weighted mean = 2.08.	The qualitative evidence explains the mechanism behind the low food-production assessment: insecurity restricts access to productive resources and farming locations, reducing food availability.
Reduction in food production/ PROD-RED	Low yields; inadequate inputs; disrupted cultivation	“When farmers cannot reach their farms regularly, production becomes low.” (UK-DR01–02)	Participants associated insecurity with reduced farm output through disrupted access to farms and agricultural inputs.	The 72.0% low/very-low response indicates substantial perceived deterioration in food availability.	Qualitative and quantitative findings converge on reduced agricultural production and weakened local food supply.
Market and transport disruption/ MKT-DIS/ TRANS-DIS	Roadblocks; difficulty moving produce; market attacks; reduced	“Even when produce is available, moving it to the market is difficult when the roads are	Interview evidence describes difficulty transporting farm produce and disruptions to markets and	Poverty was rated high/very high by 77.5%; food production was 72.0% low/very low.	Market and transport insecurity provides a pathway connecting reduced production with reduced household income and impaired food access.

	trading activity	unsafe.” (KA-EN01-04)	mobility. These conditions affect farmers' ability to sell produce and consumers' ability to obtain food.		
Poverty and declining purchasing power /POV-INC/ LIV-LOSS	Income loss; livelihood loss; reduced household resources; coping (UK-CS01-04)	“People lose their source of income when farming and other businesses are disrupted.” (KA-MR01-02)	Participants linked insecurity to loss of livelihood opportunities and reduced income from farming, trading and other activities.	Poverty: 160 (44.3%) very high and 120 (33.2%) high; combined 77.5%; weighted mean = 3.14.	The qualitative findings give contextual meaning to the high poverty responses by showing how insecurity can reduce income and household capacity to purchase food.
Unemployment and livelihood disruption /UNEMP/LIV-LOSS	Loss of farming jobs; disrupted businesses; reduced transport opportunities; livelihood loss	“When income and food production fall, some households cannot maintain the same quantity or variety of food.” (UK-ST01-04)	Interview evidence indicates that insecurity disrupted farming, markets, taxi services and motorcycle transport, thereby creating or intensifying unemployment.	Unemployment/livelihood disruption: 130 (36.0%) very high and 160 (44.4%) high; combined 80.4%; weighted mean = 3.09.	The qualitative evidence explains the high unemployment assessment as an outcome of disrupted economic activity rather than insecurity generating employment.
Malnutrition and disease vulnerability (NUTR/DIS HEALTH-ACC)	Reduced food intake; reduced dietary options; difficulty accessing healthcare	“When income and food production fall, some households cannot maintain the same quantity or variety of food.” (KA-DR01-02)	Interview themes link insecurity-related food and income losses with vulnerability to poor nutrition and difficulties accessing health services. These are perceptions, not clinical prevalence estimates.	Malnutrition/disease: 120 (33.2%) very high and 150 (41.6%) high; combined 74.8%; weighted mean = 2.98.	The qualitative evidence provides a plausible pathway from food and livelihood disruption to nutritional and health vulnerability.
Coping and adaptation /COPE	Reduced consumption; alternative livelihoods; dependence on support	“Families have had to adjust what they eat or find other ways to survive when normal livelihoods	Participants described household and community coping responses to insecurity and livelihood disruption.	The poverty and malnutrition/disease results indicate substantial socioeconomic and food-access pressure.	Coping may reduce immediate hardship but can also indicate erosion of household resilience when insecurity persists.

		are disrupted.” (KA-CS01–04)			
Recovery and policy needs /RECOV	Security; farm access; livelihood restoration; food and health support; dialogue	“Improving security around farms and markets would help people return to productive activities.” (UK-TR01–04)	Participants' proposed responses emphasize safer access to farms and markets, livelihood restoration, food/health support and measures addressing insecurity.	The combined quantitative results show disruption across production, poverty, unemployment and health/nutrition dimensions.	The mixed-method evidence supports an integrated response rather than a production-only intervention.

Source: Field survey, July, 2026.

Qualitative Thematic Findings

Insecurity, farm access and reduction in food production

Table 8 shows that insecurity was manifested mainly through restricted access to farmland, fear of attacks, disruption of cultivation and reduced agricultural production. These themes provide an explanatory layer to the quantitative finding that 72.0% of respondents rated food production as low or very low, with a weighted mean of 2.08. The qualitative evidence suggests that the reduction was not simply a perception of lower harvests; it was connected to concrete disruptions in the production process, including inability or unwillingness to reach farms and difficulty obtaining or using inputs.

This finding is strongly supported by Ijirshar et al. (2025), whose study covered insecurity-prone LGAs including Katsina-Ala and Ukum and found that insecurity adversely affected crop and livestock output. Their analysis estimated that a 1% increase in insecurity was associated with a 0.211% reduction in crop output and a 0.311% reduction in livestock output. Bojande et al. (2025), studying the Sankera axis, similarly identified displacement of farmers, loss of farmland and reduced farming activity as major implications of insecurity. Utobo et al. (2025) also reported farmland abandonment and impaired market access among farming households in Benue State. Thus, the qualitative themes in the present study are consistent with both local and wider Benue evidence, while adding contextual explanation of how the disruption is experienced by different community groups.

Market and transport disruption

The market and transport themes indicate that insecurity affects food security beyond the farm. Difficulty moving farm produce, unsafe roads, market disruption and reduced trading activity can prevent available food from reaching consumers and can reduce the income farmers and traders obtain from their activities. This theme helps connect the low food-production finding with the high poverty result, in which 77.5% of respondents rated poverty as high or very high.

This pattern agrees with Bojande et al. (2025), who identified reduced access to markets and loss of agricultural investment among the consequences of insecurity in the Sankera axis. Utobo et al. (2025) likewise reported market inaccessibility as an important component of food-security deterioration. FAO (2025) reports that conflict and other shocks in Nigeria have constrained productive capacity and food access, while high food prices and low purchasing power further weaken household access to food. The present qualitative evidence therefore suggests a supply-and-access pathway: insecurity can reduce production, disrupt distribution and simultaneously reduce the purchasing power needed to acquire food.

Poverty, income loss and declining purchasing power

The poverty-related themes show that insecurity was associated with loss of income, disruption of livelihoods and reduced household resources. This qualitative pattern explains the quantitative result in which 77.5% of respondents rated poverty as high or very high and the weighted mean was 3.14. Rather than treating poverty as an isolated outcome, the interviews position it within the disruption of farming, trading, transport and other livelihood activities.

The finding is consistent with Shaibume and Ayangealu (2025), who examined insecurity and socioeconomic development in Ukum and reported adverse effects on livelihoods and businesses. FAO (2025) similarly identifies low household purchasing power, conflict and economic pressures as important contributors to food-access problems in Nigeria. The agreement is particularly relevant because the present study covers Ukum and Katsina-Ala, while the wider evidence indicates that insecurity can affect both the ability to earn income and the ability to obtain food.

Unemployment and livelihood disruption

The unemployment theme shows that 80.4% of respondents rated unemployment/livelihood disruption as high or very high, with a weighted mean of 3.09. The qualitative evidence indicates that insecurity disrupted farming, businesses, taxi operations and motorcycle transport, thereby creating or intensifying loss of employment and livelihood opportunities.

This research finding is compatible with Shaibume and Ayangealu (2025), whose Ukum study identified adverse socioeconomic consequences of insecurity. It also fits FAO's broader assessment that conflict can disrupt livelihoods and productive activities. The qualitative findings therefore strengthen the interpretation that insecurity operates through the local labour and livelihood system: when farms, markets, roads and businesses become unsafe or inaccessible, working opportunities decline. The result should, however, be understood as respondents' assessment of unemployment/livelihood disruption, not as an official unemployment rate.

Malnutrition, disease, and access to health services

The health and nutrition themes indicate that respondents connected insecurity with reduced food access, changes in food consumption and difficulty reaching health services. These themes help explain the quantitative finding that 74.8% rated malnutrition/disease as high or very high, with a weighted mean of 2.98. Because the study instrument measures respondents' perceptions, these findings should not be presented as clinical prevalence estimates.

This finding is consistent with Utobo et al. (2025), which documented food-security coping responses among affected farming households, and with FAO's reporting on acute food and nutrition insecurity in Nigeria. FAO reported that 25.1 million people were acutely food insecure in the last quarter of 2024 and attributed deterioration to factors including conflict, economic pressures, high food prices and reduced purchasing power. The present study adds a local qualitative explanation: food and income disruptions may affect what households can obtain and consume, while insecurity can also make access to health services more difficult.

Coping and recovery needs

The coping and recovery themes indicate that households and communities do not respond passively to insecurity. Participants described adjustments in consumption and livelihood activities, while proposed recovery measures emphasized security, safer access to farms and markets, livelihood restoration, food and health support and community-level responses. These themes are important because they connect the descriptive results with practical implications.

Utobo et al. (2025) reported coping responses among affected households, while Bojande et al. (2025) recommended measures including improved security and resettlement of displaced farmers. Ijirshar et al. (2025) also recommended stronger security arrangements and community-oriented approaches. The convergence

suggests that interventions should address the linked production, market, livelihood and food-access dimensions rather than treating agricultural output as the only outcome.

In summary, the qualitative themes provide complementarity to the quantitative analysis. The findings indicate a connected pathway in which insecurity restricts farm access and production; disrupts transport and markets; reduces income and employment opportunities; weakens household purchasing power and food access; and increases vulnerability to nutritional and health problems. This interpretation is broadly consistent with recent evidence from Benue State, particularly studies focused on agricultural output, food production and food security. However, the qualitative findings should be used to explain mechanisms and experiences rather than to claim causal effects independently of the quantitative design.

Implications of the Study

Policy implications

Food-security policy in Katsina-Ala and Ukum should not be limited to food distribution or agricultural inputs. The findings indicate that physical security, functioning markets, household purchasing power, employment and access to health and nutrition services are interconnected components of food security. Effective policy therefore requires coordinated security, agricultural recovery, livelihood and health interventions.

Agricultural implications

Insecurity can weaken the productive base of an agricultural area by preventing farmers from accessing farms, limiting access to inputs and disrupting movement of produce. Agricultural recovery programmes should consequently combine input support with safe access to farmland, transport routes and markets.

Socioeconomic implications

The high reported levels of poverty and unemployment indicate that insecurity has consequences beyond direct violence. Disruption of farming, trading, transportation and small businesses reduces household income and local economic activity. Livelihood recovery is therefore an important component of food-security recovery.

Health and nutrition implications

The findings on malnutrition and disease imply that food-security interventions should be linked with health and nutrition services. Reduced food production and purchasing power may affect dietary adequacy while insecurity may simultaneously restrict healthcare access. Nutrition screening, primary healthcare, disease prevention and food assistance should therefore be considered complementary interventions.

Research and Data Implications

Future studies should retain respondent-level observations and use clearly operationalized measures of insecurity and food security. This would permit stronger multivariate analysis of the relationships among insecurity, poverty, unemployment, food availability, food access, utilization and stability.

Limitations of the Study

The questionnaire findings substantially reflect respondents' assessments and therefore should not be treated as clinical estimates of malnutrition or disease prevalence. The cross-sectional design also limits causal inference because conditions were assessed within the study period.

The use of purposive/judgmental sampling was useful for reaching relevant respondent categories but limits generalization to all residents of the two Local Government Areas. In addition, the available aggregate tables do not preserve respondent-level pairings of variables; consequently, the illustrative regression cannot substitute for regression based on the original 361 individual observations.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the impact of insecurity on food security in Katsina-Ala and Ukum Local Government Areas of Benue State, focusing on food production, poverty, unemployment, and malnutrition and disease. The findings indicate that insecurity has disrupted the agricultural and socioeconomic systems that support livelihoods and food security in the Sankera axis.

First, insecurity has adversely affected food production. The study reports that 72.0% of respondents rated food production as low or very low. The findings and interview evidence indicate that farmers have faced fear of accessing farms, destruction or abandonment of farms, difficulty obtaining farm inputs, and problems transporting produce to markets. These disruptions reduce food availability and weaken the capacity of households and markets to obtain adequate food.

Second, poverty is reported at a high level. The poverty results show that 77.5% of respondents rated poverty as high or very high. Insecurity disrupts farming, trading, transportation and small businesses, thereby reducing household income and purchasing power. Thus, insecurity affects food security through both food availability and household access to food.

Third, the revised unemployment findings show that 80.4% of respondents rated unemployment resulting from insecurity as high or very high. The interview evidence indicates that farming, markets, transport services, small businesses and related livelihood activities have been affected. The evidence therefore supports an interpretation of insecurity as destroying or contracting employment and livelihood opportunities rather than generating employment.

Fourth, malnutrition and disease variable shows that 74.8% of respondents rated malnutrition and disease as high or very high. The study associates these conditions with reduced food production, declining purchasing power, displacement and difficulties accessing health services. These figures represent respondents' assessments and should not be interpreted as clinical prevalence estimates.

Overall, the findings demonstrate an interconnected pathway in which insecurity disrupts agricultural production and markets, reduces employment and income, increases poverty, limits household food access and contributes to vulnerability to poor nutrition and disease. The study therefore concludes that insecurity is a major constraint to food security in Katsina-Ala and Ukum because it undermines both food production and the socioeconomic conditions required for households to access and utilize food.

Restoring food security in Katsina-Ala and Ukum requires more than increasing food supply. Sustainable improvement depends on restoring a secure environment in which farmers can cultivate their land, workers and entrepreneurs can earn livelihoods, markets can function, households can purchase adequate food, and affected populations can access essential health and nutrition services. A coordinated approach linking security, agricultural recovery, livelihood protection and health interventions is therefore necessary for food-security recovery in the study area.

Recommendations

Based on the findings, the study recommends the following:

- i. Strengthen security around farming communities, major roads, markets and other locations essential to agricultural and commercial activities, with particular attention to safe access to farmland.
- ii. Improve intelligence-led community security and early-warning arrangements, with appropriate participation of legitimate traditional and community leaders within the law.
- iii. Provide affected farmers with timely access to seeds, fertilizer, herbicides, farm tools and other essential inputs, especially where productive assets have been destroyed or lost.

- iv. Rehabilitate rural roads, market routes and storage facilities so that farmers can safely transport and market agricultural produce and reduce post-harvest losses.
- v. Establish livelihood-recovery and employment programmes for households whose income sources have been disrupted, including skills development, support for small enterprises and targeted livelihood assistance.
- vi. Expand food assistance and social-protection measures for households affected by displacement, loss of livelihoods and severe reductions in purchasing power, while simultaneously supporting restoration of productive livelihoods.
- vii. Restore and strengthen primary healthcare and nutrition services in affected communities, including mobile or community-based services where conventional facilities are inaccessible.
- viii. Give special attention to children, pregnant women, nursing mothers and other nutritionally vulnerable groups through nutrition screening, treatment and access to diverse foods.
- ix. Develop local-government monitoring systems for food production, food prices, displacement, livelihood disruption, food access and nutrition conditions so that emerging risks can be identified promptly, and
- x. Coordinate security, agriculture, health, social protection and local-government interventions because the study findings show that the consequences of insecurity are interconnected.

Suggestions for Further Research

Further research should be conducted in the following areas:

- i. Conduct longitudinal research to examine how changes in insecurity affect food production, household income, food prices, food access and nutrition over time.
- ii. Use respondent-level multivariate analysis to examine the relative effects of insecurity intensity, displacement, farm access, market access, poverty and unemployment on food security.
- iii. Compare insecurity-affected communities with relatively less-affected communities within Benue State to identify differences in agricultural production, livelihood resilience and food-security outcomes.
- iv. Examine the differential effects of insecurity on women, children, farmers, internally displaced households and other vulnerable groups.
- v. Assess the effectiveness of government and community-based security interventions, agricultural recovery programmes, social protection and nutrition interventions.
- vi. Collect objective nutrition and health indicators, including appropriate anthropometric and health-service data, to complement respondents' perceptions.
- vii. Investigate the effects of insecurity on food prices, transportation costs, market integration, storage and post-harvest losses as possible pathways linking insecurity to household food access.

Contribution of the Study

The study contributes to understanding food insecurity in an insecurity-affected agricultural area by bringing together production, poverty, employment/livelihood and health dimensions. Its findings indicate that insecurity can simultaneously reduce food production, weaken household income and employment, disrupt markets and services, and increase vulnerability to poor nutrition and disease. This integrated perspective provides a basis for responses that address both immediate humanitarian needs and longer-term recovery of livelihoods and agricultural production.

Author Contributions

The study was conceptualized, drafted, and data collected by Mnda Terver, while Yange Clement Terlumun and Terngu Paul Ugosor were responsible for the design and manuscript preparation. All authors contributed to the critical review and revision of the manuscript, participated in the final editing process, and approved the final version for submission.

Ethical Approval and Consent to Participate

The study was exempted from full ethical review in accordance with the guidelines of the National Health Research Ethics Committee (NHREC, 2007) and the Benue State Ministry of Health Research Ethics Committee, as the research was considered to involve minimal risk to participants. Ethical principles relating to voluntary participation, informed consent, confidentiality, privacy, and participants' right to withdraw from the study at any stage were strictly observed throughout the research process.

Consent for Publication

All participants provided consent for the use of their anonymized responses for research reporting and publication of the findings. No personally identifiable information was included in the presentation or publication of the study results.

Competing Interests

The authors declare that they have no competing interests or financial or personal relationships that could have influenced the conduct, analysis, or reporting of this study.

Declaration of Generative AI and AI-Assisted Technologies

In the course of preparation of this work, the authors used ChatGPT to paraphrase the original text for improved grammatical clarity. After that, the authors carefully revealed and edited the content and take full responsibility for the publication of the content.

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APPENDICES

APPENDIX A: QUESTIONNAIRE

Dear Respondent,

This questionnaire is for the study titled “**The Impact of Insecurity on Food Security in Katsina-Ala and Ukum Local Government Areas of Benue State, Nigeria.**” Information supplied will be used for academic purposes and treated confidentially. Do not write your name. Please answer honestly. For Sections C–G, tick one: VH = Very High, H = High, L = Low, VL = Very Low.

SECTION A: BACKGROUND INFORMATION

1. Local Government Area: ☐ Katsina-Ala ☐ Ukum
2. Sex: ☐ Male ☐ Female ☐ Prefer not to say
3. Age: ☐ 18–25 ☐ 26–35 ☐ 36–45 ☐ 46–55 ☐ 56+
4. Highest qualification: ☐ None ☐ Primary ☐ Secondary ☐ NCE/OND ☐ HND/Bachelor’s ☐ Postgraduate
5. Main occupation: ☐ Farmer ☐ Public/civil servant ☐ Small-scale business ☐ Student ☐ Trader ☐ Taxi/Okada operator ☐ Other: _____
6. Years living/working in the LGA: ☐ <5 ☐ 5–10 ☐ 11–20 ☐ >20

SECTION B: EXPOSURE TO INSECURITY

7. How would you rate the level of insecurity in your community? ☐ VH ☐ H ☐ L ☐ VL
8. How frequently has insecurity disrupted normal community/economic activities? ☐ Very frequently ☐ Frequently ☐ Occasionally ☐ Rarely ☐ Never
9. Has insecurity affected access to farmland, workplace, markets or other livelihood locations? ☐ Yes ☐ No
10. Has insecurity caused displacement or interruption of normal residence? ☐ Yes ☐ No
11. Which activities have been most affected? ☐ Farming ☐ Trading ☐ Transport ☐ Small business ☐ Public services ☐ Other: _____
12. What are the main forms of insecurity affecting food-security conditions?

SECTION C: FOOD PRODUCTION AND AVAILABILITY

S/N	Statement	VH	H	L	VL
1	Insecurity has reduced access to farmland.	☐	☐	☐	☐
2	Insecurity has reduced the quantity of	☐	☐	☐	☐

	crops produced.				
3	Farmers have reduced farming because of fear of attacks.	☐	☐	☐	☐
4	Insecurity has affected access to agricultural inputs.	☐	☐	☐	☐
5	Insecurity has made transport of farm produce to markets difficult.	☐	☐	☐	☐
6	Overall food production has declined because of insecurity.	☐	☐	☐	☐

KEY: VH = Very High; H = High; L = Low, and VL = Very Low

Source: Field survey, July, 2026.

SECTION D: POVERTY AND HOUSEHOLD FOOD ACCESS

S/N	Statement	VH	H	L	VL
1	Insecurity has reduced household income.	☐	☐	☐	☐
2	Loss of farming and other livelihoods has increased poverty.	☐	☐	☐	☐
3	Insecurity has reduced households' ability to purchase adequate food.	☐	☐	☐	☐
4	Insecurity has increased household food expenditure/price pressure.	☐	☐	☐	☐

5	Displacement has increased household economic hardship.	☐	☐	☐	☐
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SECTION E: UNEMPLOYMENT AND LIVELIHOOD DISRUPTION

S/N	Statement	VH	H	L	VL
1	Insecurity has caused loss of farming employment/work opportunities.	☐	☐	☐	☐
2	Insecurity has reduced employment opportunities in markets and businesses.	☐	☐	☐	☐
3	Insecurity has negatively affected taxi, motorcycle and other transport livelihoods.	☐	☐	☐	☐
4	Insecurity has forced some businesses to close or reduce activities.	☐	☐	☐	☐
5	Overall unemployment/loss of livelihood opportunities has increased because of insecurity.	☐	☐	☐	☐

Source: Field survey, July, 2026.

SECTION F: MALNUTRITION AND DISEASE

S/N	Statement	VH	H	L	VL
1	Insecurity has reduced households' ability to obtain adequate nutritious food.	☐	☐	☐	☐
2	Malnutrition has become a	☐	☐	☐	☐

	serious problem in insecurity-affected communities.				
3	Insecurity has made it more difficult for vulnerable people to obtain health services.	☐	☐	☐	☐
4	Displacement and poor living conditions have increased exposure to disease.	☐	☐	☐	☐
5	Overall malnutrition and disease conditions have worsened because of insecurity.	☐	☐	☐	☐

Source: Field survey, July, 2026.

SECTION G: OVERALL FOOD SECURITY

S/N	Statement	VH	H	L	VL
1	Food is sufficiently available in the study area throughout the year.	☐	☐	☐	☐
2	Households can economically access adequate food when needed.	☐	☐	☐	☐
3	Households can obtain foods that meet their nutritional needs.	☐	☐	☐	☐

4	Food-security conditions remain stable despite insecurity.	☐	☐	☐	☐
5	Overall food security has been negatively affected by insecurity.	☐	☐	☐	☐

Source: Field survey, July, 2026.

APPENDIX B: INTERVIEWS

SECTION A: Distribution and Coding of Interview Participants

24 participants in each LGA. Each LGA has four civil servants, four traditional rulers, four farmers, four entrepreneurs and four students, plus two drivers and two motorcycle riders, giving 48 participants in total.

S/N	Participant code	LGA	Category
1	KA-CS01	Katsina-Ala	Civil servant
2	KA-CS02	Katsina-Ala	Civil servant
3	KA-CS03	Katsina-Ala	Civil servant
4	KA-CS04	Katsina-Ala	Civil servant
5	KA-TR01	Katsina-Ala	Traditional ruler
6	KA-TR02	Katsina-Ala	Traditional ruler
7	KA-TR03	Katsina-Ala	Traditional ruler
8	KA-TR04	Katsina-Ala	Traditional ruler
9	KA-FR01	Katsina-Ala	Farmer
10	KA-FR02	Katsina-Ala	Farmer
11	KA-FR03	Katsina-Ala	Farmer
12	KA-FR04	Katsina-Ala	Farmer
13	KA-EN01	Katsina-Ala	Entrepreneur
14	KA-EN02	Katsina-Ala	Entrepreneur
15	KA-EN03	Katsina-Ala	Entrepreneur
16	KA-EN04	Katsina-Ala	Entrepreneur
17	KA-ST01	Katsina-Ala	Student
18	KA-ST02	Katsina-Ala	Student
19	KA-ST03	Katsina-Ala	Student
20	KA-ST04	Katsina-Ala	Student
21	KA-DR01	Katsina-Ala	Driver
22	KA-DR02	Katsina-Ala	Driver
23	KA-MR01	Katsina-Ala	Motorcycle rider
24	KA-MR02	Katsina-Ala	Motorcycle rider
25	UK-CS01	Ukum	Civil servant
26	UK-CS02	Ukum	Civil servant
27	UK-CS03	Ukum	Civil servant
28	UK-CS04	Ukum	Civil servant
29	UK-TR01	Ukum	Traditional ruler
30	UK-TR02	Ukum	Traditional ruler

31	UK-TR03	Ukum	Traditional ruler
32	UK-TR04	Ukum	Traditional ruler
33	UK-FR01	Ukum	Farmer
34	UK-FR02	Ukum	Farmer
35	UK-FR03	Ukum	Farmer
36	UK-FR04	Ukum	Farmer
37	UK-EN01	Ukum	Entrepreneur
38	UK-EN02	Ukum	Entrepreneur
39	UK-EN03	Ukum	Entrepreneur
40	UK-EN04	Ukum	Entrepreneur
41	UK-ST01	Ukum	Student
42	UK-ST02	Ukum	Student
43	UK-ST03	Ukum	Student
44	UK-ST04	Ukum	Student
45	UK-DR01	Ukum	Driver
46	UK-DR02	Ukum	Driver
47	UK-MR01	Ukum	Motorcycle rider
48	UK-MR02	Ukum	Motorcycle rider

Source: Field survey, July, 2026.

SECTION B: Interview Coding Scheme

Code	Meaning	Analytical use
KA / UK	Katsina-Ala / Ukum	Study location
CS	Civil servant	Public-sector employment and service disruption
TR	Traditional ruler	Community security, displacement and social conditions
FR	Farmer	Farm access, production, inputs and markets
EN	Entrepreneur	Business, income and employment disruption
ST	Student	Household/community and education-related effects
DR	Driver	Transport, market access and livelihood effects
MR	Motorcycle rider	Mobility, transport and livelihood effects
01–08	Sequence within category	Protects participant identity

Source: Field survey, July, 2026.

SECTION C: Thematic Coding Framework

Theme	Code	Meaning/indicator
Insecurity and disruption	INS-DIS	Fear, attacks, displacement, restricted movement and disruption of normal activities
Farm access	FARM-ACC	Difficulty or inability to reach farmland safely
Reduced production	PROD-RED	Reduced cultivated area, yield, harvesting or livestock production
Market/transport disruption	MKT-DIS / TRANS-DIS	Market closure/attacks, roadblocks, transport restrictions and difficulty moving produce
Poverty/purchasing power	POV-INC	Loss of income, reduced household purchasing power and inability to afford food

Unemployment/livelihood loss	UNEMP / LIV-LOSS	Loss of jobs, farming opportunities, businesses and informal livelihoods
Nutrition	NUTR	Reduced quantity/diversity of food, hunger and malnutrition
Disease/health access	DIS / HEALTH-ACC	Disease exposure and difficulty accessing health facilities or services
Coping strategies	COPE	Reduced meals, relocation, alternative work, borrowing, family/community support
Recovery/policy	RECOV	Security improvement, farm access, inputs, markets, health services, employment and dialogue

Source: Field survey, July, 2026.

APPENDIX C: SEMI-STRUCTURED INTERVIEW GUIDE

Target participants include traditional rulers, community/opinion leaders, farmers and other knowledgeable stakeholders in Katsina-Ala and Ukum.

1. How would you describe the nature and level of insecurity in this community in recent years?
Probe/notes: _____
2. What changes have you observed in farming and food production since insecurity increased?
Probe/notes: _____
3. How has insecurity affected access to farmland, farm inputs, labour and markets?
Probe/notes: _____
4. What has happened to the movement and marketing of agricultural produce?
Probe/notes: _____
5. How has insecurity affected employment and livelihood opportunities in farming, trading, transport and small businesses?
Probe/notes: _____
6. How has loss of livelihood affected household poverty and purchasing power?
Probe/notes: _____
7. What changes have you observed in food access, food prices and dietary diversity?
Probe/notes: _____
8. What changes have you observed in malnutrition or nutrition-related problems?
Probe/notes: _____
9. Has insecurity affected access to health facilities, health workers, medicines or other essential services?
Probe/notes: _____
10. What coping strategies are households using to manage food shortages, loss of income or displacement?
Probe/notes: _____
11. Which groups are most vulnerable to the food-security effects of insecurity, and why?
Probe/notes: _____
12. What government/community/development interventions have been implemented and how effective are they?
Probe/notes: _____
13. What additional measures would you recommend for restoring security, livelihoods, agricultural production and food security?
Probe/notes: _____
14. Is there anything else about insecurity and food security in Katsina-Ala or Ukum that should be considered?
Probe/notes: _____

APPENDIX D: INFORMED CONSENT SCRIPT

You are invited to participate in a study on insecurity and food security in Katsina-Ala and Ukum Local Government Areas. Participation is voluntary. You may decline any question or stop at any time. Information will be used for academic research and treated confidentially. Your name is not required on the questionnaire.

Consent statement: I have been informed about the purpose of the study and voluntarily agree to participate.

Respondent/participant code: _____ Date: _____

Signature/thumbprint (where applicable): _____

Researcher/interviewer: _____

APPENDIX E: RESPONDENT CODING SHEET

Respondent code: _____

LGA: ☐ Katsina-Ala ☐ Ukum

Category: ☐ Public/civil servant ☐ Small-scale business ☐ Student ☐ Traditional/community/opinion leader ☐ Farmer ☐ Taxi/motorcycle operator ☐ Other

Questionnaire completed: ☐ Yes ☐ No

Interview conducted: ☐ Yes ☐ No

Data entry checked: ☐ Yes ☐ No

Remarks: _____

APPENDIX F: QUESTIONNAIRE CODING AND SCORING GUIDE

For the four-point items, code Very High = 4, High = 3, Low = 2 and Very Low = 1. Higher scores indicate a higher reported level of the condition measured. Negatively worded food-security items should be reverse-coded where necessary before creating a composite score.

Recommended constructs are: insecurity exposure; food production/availability; poverty/food access; unemployment/livelihood disruption; malnutrition/disease; and overall food security. Reliability should be assessed using the raw respondent-level dataset before inferential analysis.

Important: the unemployment and malnutrition/disease tables measure respondents' assessments. They should not be reported as official unemployment rates or clinical prevalence unless supported by objective labour-market or health data.

APPENDIX G: FIELDWORK CHECKLIST

- i. Administrative/ethical approval obtained where required.
- ii. Research assistants trained on questionnaire and interview procedures.
- iii. Respondent informed about study purpose and voluntary participation.
- iv. Consent obtained before participation.
- v. Questionnaires checked for completeness.
- vi. Interview notes/recordings securely stored and anonymized.
- vii. Respondent codes used instead of names in the dataset.
- viii. Raw respondent-level data preserved for verification and statistical analysis, and



ix. Data entry independently checked for errors.