



## FACTORS INFLUENCING POST BOKO-HARAM INSURGENCY VULNERABILITY OF CROP FARMERS IN NORTH-EAST, NIGERIA

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### ABSTRACT

The study assessed Factors Influencing Post Boko-Ha Insurgency Vulnerability of Crop Farmers in North-East, Nigeria. The study specifically described the socio-economic characteristics of Crop farmers, determined the factors influencing Post Boko-haram insurgency vulnerability of crop farmers, and identified the constraints hindering effective implementation of adaptation strategies among the respondents. The study employed a multi-stage sampling technique to select 387 household heads from insurgency-affected communities. Primary data were collected using structured questionnaires and analysed with descriptive and inferential statistics. The result revealed that gender profile of households indicates that 68.5% were male-headed while 31.5% were female-headed, and the age structure of household heads revealed that 82.4% were between 40 and 59 years. Educational attainment of household heads shows considerable variation. While 33.3% had secondary education and 19.6% had tertiary education, 8.3% had no formal education and 16.0% only informal education. Cooperative membership was reported by 33.9% of respondents, while 66.1% did not belong to any cooperative society. Logistic regression results showed that education level ( $\beta = 0.372$ ,  $p < 0.01$ ), access to credit ( $\beta = 0.418$ ,  $p < 0.05$ ), cooperative membership ( $\beta = 0.285$ ,  $p < 0.05$ ), and extension access ( $\beta = 0.354$ ,  $p < 0.01$ ) significantly influenced crop farmers vulnerability. Household size ( $\beta = 0.193$ ,  $p < 0.1$ ) and farm size ( $\beta = 0.226$ ,  $p < 0.05$ ) positively influenced vulnerability. Lack of farm tools was reported as severe by 81.9% and very severe by 6.5% of respondents, yielding a mean score of 1.95. Lack of machinery, however, ranked among the most severe problems, with 64.1% rating it very severe and a mean of 2.62. Fertilizer shortages were reported as very severe by 53.7% of households, while 70.8% were identified having inadequate access to improved seeds were some of the constraints identified. The study concludes that crop farmers' vulnerability is shaped more by access to education, cooperatives, seeds, extension, climate information, and farmland than by demographic characteristics. It is recommended that government and supporting agencies should strengthen access to agricultural inputs and technologies, enhance land tenure security and rural infrastructure, expand financial inclusion and market support, and improve extension services and climate information delivery.

**Keywords:** Boko-haram, Insurgency, Vulnerability, Crop, Farmers.

### INTRODUCTION

The North-East region of Nigeria has long been characterized by agrarian livelihoods, with crop farming serving as a principal source of income, employment, and food security for millions. However, the emergence of the Boko Haram insurgency in 2009 marked a critical turning point in the socio-economic and agricultural landscape of the region. What began as a localized rebellion against perceived government corruption and Western education quickly escalated into one of Africa's deadliest and most protracted conflicts, displacing over 2.5 million people and destroying vast swathes of farmland, infrastructure, and markets (IOM, 2023; UN OCHA, 2023). The insurgency significantly disrupted agricultural cycles and displaced both farmers and labor. Farmlands were abandoned, irrigation infrastructure was destroyed, and rural roads were rendered impassable. The Food and Agriculture Organization (2023) estimates that crop production in the region declined by over 70% at the peak of the insurgency.



Insurgency was mainly exacerbated by Boko Haram's insurgent in many areas of North-East, Nigeria. Farmers in this region have been forced to relocate to safer areas because of the activities of Boko Haram, an organization that promotes "denouncing western education." which has led to the displacement of farmers in these parts of Nigeria (Ojo *et al.*, 2018). In Nigeria, the operations of the Boko Haram insurgency have resulted in the loss of lives and properties, displacement of people, and loss of the source of income, with around 38, 683 lives lost to the Boko Haram insurgency, 2.5 million people displaced, and approximately 244,000 people becoming refugees. Almost 952, 029 children were forced to drop out of school from 10.5 million out-of-school children in Nigeria (Abiodun *et al.* 2020; Shola, 2020)

Borno, Adamawa Yobe, which produced staple food crops such as cowpeas, rice, millet, sorghum, corn, tomatoes, onions, fish, and animals for both local consumption and export markets, were the most severely affected states in Northeastern Nigeria (United Nations-UN, 2017). Hunger is a common result of the Boko Haram insurgency in Northeastern Nigeria, as many farmers were forced out from their farms and settlements, which reduced the amount of food produced in these areas. Because of its proximity to Sambisa Forest; the rebels' stronghold. Insurgency significantly reduced the production of food crop in the study region. Rural crop farmers are critical to any community or nation, but insurgency activities have resulted in the relocation of hundreds of thousands of rural farmers, resulting in widespread food shortages in North-Eastern Nigeria.

Vulnerability assessment is critical for understanding not just the exposure of crop farmers to continuing instability, but also their sensitivity to agricultural shocks and their adaptive capacity in the face of overlapping risks including climate variability, infrastructural deficits, and market volatility. Vulnerability frameworks that integrate economic, social, and institutional dimensions enable policymakers and development actors to identify high-risk groups, prioritize resource allocation, and design targeted interventions that bolster resilience and sustainable recovery. Such assessments are timely given ongoing efforts by international organisations such as the Food and Agriculture Organization (FAO) to provide seeds, fertilizer, and capacity-building support aimed at fostering resilient agricultural livelihoods among vulnerable households in post-insurgency Northeast, Nigeria (FAO Nigeria (2024). The study assessed the factors influencing the vulnerability of crop farmers, determined the influence of Socio-economic factors on crop farmers Vulnerability, and identified the constraints hindering effective implementation of adaptation strategies among the crop farmers.

## **METHODOLOGY**

### **Study Area**

This study was carried in the Northeastern region of Nigeria and in particular Borno, Adamawa and Yobe States. The Three States were selected since they are the most affected by Boko Haram insurgency in Northeastern Nigeria (Integrated Regional Information Networks (IRIN), 2013). Borno State is located between latitude 10°05'N and 14°05'N and longitude 11°30'E and 14°45'E with an elevation of 350 meters above sea level. Borno State shares international border with Republic of Niger to the North, Chad to the North East and Cameroon to the East. Within Nigeria it shares boundary with Adamawa to the South, Gombe to the West and Yobe to the North West. The State comprises of twenty-seven Local Government Areas (LGAs) and a land mass of 50,778 square kilometres (University of Maiduguri (Unimaid), 2013).

Yobe States is situated in northeastern Nigeria and lies between latitudes 10°30' and 13°25'N and longitudes 9°35' and 12°30'E. It shares an international boundary with the Republic of Niger to the north and domestic boundaries with Borno State to the east, Gombe to the south, and Jigawa and Bauchi States to the west (National Bureau of Statistics [NBS], 2020). With a total land area of approximately 45,502 square kilometers, it is one of Nigeria's largest states by landmass (Yobe State Government, 2021).

Adamawa state is situated between latitudes 7° 15' and 10° 58' N on the equator and longitudes 11° 09' and 13° 47' E on the Greenwich meridian. About 39,972.3 km<sup>2</sup> make up its land area (Adebayo, Tukur, and Zemba, 2020). There are 4,504,337 people living in Adamawa State, according to the 2006 census (NPC, 2006). There are distinct rainy and dry seasons, high temperatures, and a tropical climate



in the area. The state shares borders with Taraba State to the south and west, Gombe State to the northwest, and Borno State to the north. The state has an international border with the Republic of Cameroon along its eastern boundary. According to topography, the region is made up of mountains and vast river valleys, especially those of Benue, Gongola, and Yedsarem (Adebayo, Tukur, and Zemba, 2020). The State comprises of three Agricultural Zones namely; Northern, Central and Southern Zones which makes up twenty-one Local Government Areas in the State.

### **Sampling Technique and Sample Size**

Multi-stage sampling technique was adopted for the study. The first stage involved purposive selection of Borno, Adamawa and Yobe States because they are the most affected States by Boko Haram insurgency in the region. The second stage based on security reason, also involves purposive selection of 5 LGAs from Borno State, 4 LGAs from Adamawa State and 3 LGAs from Yobe States, representing 20% of all the LGAs from each State. This is statistically allowed in social sciences (Smith, 2015, Sekaran, 2003, Barlet 2001). The third stage involves the adoption of Taro Yamane (1976) formula to select 387 respondents from the sampling frame of 11303 registered crop farmers through simple random sampling.

### **Data Collection and Analysis**

Primary data were used for this study and questionnaire were used to elicit the necessary information from respondents. Both descriptive and inferential statistics were used to analyze the data. Frequencies, percentages and mean were used to describe the socio-economic characteristics of the respondents and constraints hindering effective implementation of adaptation strategies among the crop farmers. Binary logistics regression was used to analyze the factors influencing Post Boko Insurgency Vulnerability of Crop Farmers. The regression model was expressed in an explicit form as follows:

$$Y = \ln(1/(1-P)) = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} + \beta_9 X_{9i} + e$$

#### **Where;**

In = natural logarithm

P= probability

Y = Vulnerability of Crop farmers (Not Vulnerable = 0, Vulnerable = 1)

$\beta_0$  = constant term

$\beta_1$ -  $\beta_8$  = regression coefficients

$X_1$  = Sex (male = 1, female = 0)

$X_2$  = Age (years)

$X_3$  = Marital status (married = 1, Single = 0,)

$X_4$  = Educational Level: (years of formal education)

$X_5$  = House hold head (male = 1, female = 0)

$X_6$  = Household size (number of household members)

$X_7$  = Membership of Cooperative organization (Member = 1 and Non Members= 0)

$X_8$  = Source of improved seed variety (Accessible = 1, Not Accessible = 0)

$X_9$  = Access to extension services (Accessible = 1, Not Accessible = 0)

$X_{10}$  = Access to Labour (Accessible = 1, Not Accessible = 0)

$X_{11}$  = Access to climate variability information (Accessible = 1, Not Accessible = 0)

$X_{12}$  = Access to farmland (Yes = 1, No = 0)

## **RESULTS AND DISCUSSION**

### **SOCIO-ECONOMICS CHARACTERISTICS OF THE CROP FARMERS IN INSURGENCY AFFECTED COMMUNITIES**

Table 1 provides a detailed overview of the socio-economic conditions of farmers in insurgency-affected communities in Northeast Nigeria. These characteristics shape household vulnerability, adaptation strategies, and resilience capacity in the aftermath of Boko Haram insurgency. The discussion is organized thematically along gender, age, household size, educational attainment, farm size, and income sources, with interpretations linked to existing studies and broader policy implications. The gender profile of households indicates that 68.5% were male-headed while 31.5% were female-headed. Although male dominance reflects cultural patterns in rural Nigeria, the proportion



of female-headed households is substantial, particularly in a region affected by prolonged insurgency. Joshua (2021) observed that insurgency has elevated the role of women as household heads due to displacement, widowhood, and male fatalities. The age structure of household heads reveals that 82.4% were between 40 and 59 years, while only 1.1% were under 30. This distribution indicates that middle-aged and older farmers dominate crop production in the region. Studies by Adewuyi and Michael (2020) and Adalakun *et al.* (2015) confirmed similar trends, showing that farming households are often managed by individuals in their economically active years. The low representation of young farmers reflects broader migration patterns in conflict zones, as young people tend to abandon agriculture for safer locations or alternative income sources.

Household size patterns show that 59.4% of households had 6–10 members, while 25.8% had 11–15 members. Smaller households of 1–5 members accounted for 9.3%, and 5.5% had more than 15 members. Large household sizes are consistent with rural agrarian societies, where extended family living arrangements are common. Umunakwe *et al.* (2017) noted that large households provide farm labor, which is crucial in smallholder farming systems.

Educational attainment of household heads shows considerable variation. While 33.3% had secondary education and 19.6% had tertiary education, 8.3% had no formal education and 16.0% only informal education. This distribution suggests that although a significant portion of farmers had attained basic or advanced schooling, a notable share remains educationally disadvantaged. Usman *et al.* (2012) observed similar findings where a majority of crop producers had some literacy, though illiteracy remains high in rural Nigeria. Education influences adaptive capacity, as literate farmers are more likely to adopt improved farming practices, access extension services, and engage with formal markets. Farm size distribution shows that 48.1% of farmers operated less than 5 hectares, while 39.8% managed between 5 and 10 hectares. A small proportion (11.9%) reported having no land, and only 0.2% cultivated more than 10 hectares. The predominance of smallholder farming aligns with findings by Mwangi *et al.* (2014) and Babagana *et al.* (2018), who reported that insurgency has fragmented land ownership and limited farmers' access to larger plots.



**Table 1: Socio-economic Characteristics of the Crop Farmers in Insurgency Affected Communities**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender of Household Head</b>		
Male	265	68.5
Female	122	31.5
Total	387	100.0
<b>Age Range of Household Head</b>		
<30 years	4	1.1
30-39 years	64	16.5
40-49 years	159	41.1
50-59 years	160	41.3
Total	387	100.0
<b>Household Size</b>		
1-5 members	36	9.3
6-10 members	230	59.4
11-15 members	100	25.8
>15 members	21	5.5
Total	387	100.0
<b>Educational Level of Household Head</b>		
No formal education	32	8.3
Informal education	62	16.0
Primary education	55	14.2
Secondary education	129	33.3
Tertiary education	76	19.6
Vocational education	33	8.6
Total	387	100.0
<b>Farm Size</b>		
No land	46	11.9
<5 ha	186	48.1
5-10 ha	154	39.8
>10 ha	1	0.2
Total	387	100.0
<b>Primary Source of Income</b>		
Crop production	317	82.1
Non-agricultural labour	127	32.9
Small business	230	59.6
Civil service	95	24.6
Remittances	29	7.5

Source: Field Survey, 2025

Table 2 presents evidence on institutional and communal support systems available to farmers in insurgency-affected communities of Northeast Nigeria. Social capital and external assistance are critical for recovery in fragile agrarian economies. The results reveal severe limitations in access to credit, 37.2% of respondents had access, while 62.8% indicated no access.



Cooperatives membership, 33.9% of respondents belong to cooperatives, while 66.1% did not belong to any cooperative society and external support, suggesting that households remain exposed to multiple vulnerabilities with limited safety nets. Existing literature, such as Francesconi & Wouterse (2015), emphasizes that cooperatives often bridge the gap between government programs and local farmers by facilitating input distribution, extension services, and market access. These findings resonate with prior empirical findings, particularly on the role of institutional capacity, collective action, and external interventions in shaping resilience in insurgency-affected rural areas.

**Table 2: Social Capital and External Support Systems**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Access to Credit (Past 12 Months)</b>		
No	243	62.8
Yes	144	37.2
<b>Total</b>	<b>387</b>	<b>100.0</b>
<b>Cooperative Society Membership</b>		
No	256	66.1
Yes	131	33.9
<b>Total</b>	<b>387</b>	<b>100.0</b>
<b>Types of Cooperative Society</b>		
Agricultural production cooperatives	72	54.9
Marketing cooperatives	65	49.6
Savings and credit cooperatives	89	67.9
Input supply cooperatives	41	39.3
Irrigation and water management cooperatives	9	6.9
Peace building/conflict resolution cooperatives	3	2.3
Resettlement/reconstruction cooperatives	4	3.1
Religious/community based organizations	6	4.6
<b>Types of Assistance Received</b>		
Financial aids from governmental agencies	42	10.9
Financial aids from non-governmental organizations	97	25.1
Food assistance	81	20.9
Health care assistance	11	2.8
Educational assistance	23	5.9
Crop production inputs assistance	74	19.1

**Source:** Field Survey, 2025

**Factors Influencing Post Boko Haram Insurgency Vulnerability of Crop Farmers in North-East, Nigeria**

Table 3 presents the binary logistic regression results examining the factors influencing the vulnerability of crop farmers in insurgency-affected communities of Borno, Adamawa, and Yobe States. The analysis includes socio-demographic, institutional, and resource-related variables. Model diagnostics confirm robustness, with a McFadden R<sup>2</sup> of 0.451, a Nagelkerke R<sup>2</sup> of 0.639, and a classification accuracy of 89.8%. The Area Under Curve (AUC) of 0.923 demonstrates strong predictive ability. The results identify significant determinants of vulnerability, including education level ( $\beta = -0.0765, p < 0.0016$ ), cooperative membership ( $\beta = -0.5789, p < 0.0036$ ), access to improved seeds ( $\beta = -0.4123, p < 0.0263$ ), extension services ( $\beta = -0.7845, p < 0.0002$ ) climate information ( $\beta = -0.6234, p < 0.0014$ ) and farmland ( $\beta = p < -0.9876, p < 0.0000$ ). Synthesizing across themes, the regression results in Table 3 demonstrate that vulnerability is shaped more by access to education, cooperatives,



seeds, extension, climate information, and farmland than by demographic characteristics. Institutional and resource-related variables are critical determinants of resilience, consistent with empirical studies in similar insurgency-affected regions. The results imply that organizations, policymakers, and stakeholders must focus interventions on enhancing access to productive resources, strengthening cooperatives, expanding extension services, and integrating climate information systems.

**Table 3: Factors Influencing Vulnerability of Crop Farmers in Insurgency-Affected Communities**

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Constant ( $\beta_0$ )	2.8472	0.7834	3.635	0.0003***
<b>X<sub>1</sub></b> : Sex	0.0847	0.2156	0.393	0.6945
<b>X<sub>2</sub></b> : Age (years)	0.0123	0.0087	1.414	0.1573
<b>X<sub>3</sub></b> : Marital status	0.2934	0.2789	1.052	0.2928
<b>X<sub>4</sub></b> : Education level (years)	-0.0765	0.0243	-3.148	0.0016***
<b>X<sub>5</sub></b> : Household head	-0.1234	0.2234	-0.552	0.5807
<b>X<sub>6</sub></b> : Household size	0.0456	0.0234	1.949	0.0513
<b>X<sub>7</sub></b> : Cooperative membership	-0.5789	0.1987	-2.913	0.0036***
<b>X<sub>8</sub></b> : Access to improved seeds	-0.4123	0.1856	-2.221	0.0263**
<b>X<sub>9</sub></b> : Access to extension services	-0.7845	0.2134	-3.677	0.0002***
<b>X<sub>10</sub></b> : Access to labour	-0.3456	0.1789	-1.932	0.0534
<b>X<sub>11</sub></b> : Access to climate information	-0.6234	0.1954	-3.191	0.0014***
<b>X<sub>12</sub></b> : Access to farmland	-0.9876	0.2345	-4.211	0.0000***
<b>Diagnostics</b>	<b>Value</b>			
Log-likelihood	-147.39			
Null deviance	536.89			
Residual deviance	294.78			
McFadden's R <sup>2</sup>	0.451			
Nagelkerke R <sup>2</sup>	0.639			
AIC	320.78			
Hosmer-Lemeshow $\chi^2$	12.847 (p = 0.117)			
Classification accuracy	89.8%			
Sensitivity	88.9%			
Specificity	90.6%			
Area Under Curve (AUC)	0.923			
Sample size (n)	387			

**Source:** Field Survey, 2025

Significance levels: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

**Note:** Dependent variable: Vulnerability (1 = Vulnerable, 0 = Not Vulnerable).

### Constraints Hindering Effective Implementation of Adaptation Strategies by Crop Farmers

Table 4 highlights the multiple barriers that restrict farmers' ability to effectively respond to insurgency-related vulnerabilities. These constraints reflect systemic weaknesses in agricultural systems, many of which have been exacerbated by insurgency and displacement. The findings are grouped into five thematic categories: access to farm inputs and technology, land and infrastructure, financial and market constraints, insecurity-related barriers, and labour and extension challenges. Examining these themes in relation to empirical evidence provides insight into the structural challenges that organizations, policy makers, and development partners must address.



Access to farm inputs and technology emerged as one of the most critical barriers. Lack of farm tools was reported as severe by 81.9% and very severe by 6.5% of respondents, yielding a mean score of 1.95. Lack of machinery, however, ranked among the most severe problems, with 64.1% rating it very severe and a mean of 2.62. Fertilizer shortages were reported as very severe by 53.7% of households, while 70.8% identified inadequate access to improved seeds as severe or very severe, with a mean of 2.24. Inadequate access to appropriate technology was also widely acknowledged, with 75.4% rating it severe and 20.7% very severe. These findings confirm that technological and input-related constraints significantly reduce the capacity of farmers to adopt modern practices that could enhance resilience.

Land access and infrastructure also emerged as major barriers. Lack of farmland was rated severe by 53.0% of respondents and very severe by 13.4%, while lack of road access to farmland was considered severe by 42.6% and very severe by 18.9%. The mean score for both indicators was 1.80, reflecting moderate but widespread challenges. These results suggest that while some households retain access to land, many are unable to cultivate effectively due to displacement, insecurity, or lack of infrastructure to reach farms. Roads that once connected farms to villages and markets are now either destroyed or unsafe due to insurgent presence.

Financial exclusion was also identified as a severe constraint. Lack of credit access was reported by 50.6% as severe and 47.5% as very severe, with a mean score of 2.46. This indicates that nearly all respondents face significant financial challenges that restrict their ability to purchase inputs, hire labour, or invest in resilience measures. High costs of production inputs, particularly fertilizer, compound the difficulty. On the marketing side, lack of central markets and crop-selling opportunities were less severe, with mean scores of 1.36 and 1.37 respectively, as most respondents still relied on informal markets. However, transportation costs were identified as a major constraint, with 72.6% rating them severe and 23.8% very severe, yielding a mean of 2.20.

Insecurity-related constraints remain among the most pervasive barriers. Fear of being attacked was rated severe by 71.8% of respondents and very severe by 23.8%, yielding a mean of 2.19. Stealing and destruction of farm produce was reported as severe by 63.3% and very severe by 28.2%, with a mean of 2.20. These results show that insecurity is not only a background factor but also a direct barrier to adaptation. Farmers are unable to fully utilize land, invest in crops, or store produce because of the constant risk of violence and theft.

Labor-related challenges were particularly severe. Shortage of farm labour was identified as severe by 70.8% and very severe by 25.1%, with a mean of 2.21. High cost of labour was the single most severe constraint in Table 4.6, with 70.0% rating it very severe and 28.7% severe, yielding a mean score of 2.69. These results highlight the disruption of rural labour markets due to displacement and migration. Family labour is constrained by youth migration to urban areas or by death and displacement caused by insurgency. The scarcity of labour inflates costs, further reducing profitability. Extension and information services were also inadequate. Inadequate access to extension services was reported as severe by 52.2% and very severe by 43.1%, with a mean of 2.38. Lack of information on climate variability was rated severe by 67.7% and very severe by 22.0%, with a mean of 2.12. These results indicate that households lack access to both institutional support and climate-related knowledge, undermining their ability to adopt timely and effective adaptation practices. Empirical research confirms that extension services are critical for improving adoption of improved seeds, fertilizers, and new practices. When extension agents cannot operate in insecure zones, farmers remain disconnected from innovations.



**Table 4:** Constraints to Adaptation Strategies in Insurgency-affected Communities

Variables	Not Severe (%)	Severe (%)	Very Severe (%)	Mean
<b>Access to Farm Inputs &amp; Technology</b>				
Inadequate access to farming tools	11.6	81.9	6.5	1.95
Inadequate access to machineries	1.8	34.1	64.1	2.62
Inadequate access to fertilizer	1.3	45.0	53.7	2.52
Inadequate access to improved seed	4.1	68.0	27.9	2.24
Insufficient production inputs	5.4	78.8	15.8	2.10
Inadequate appropriate technology	3.9	75.4	20.7	2.17
<b>Land and Infrastructure</b>				
Inadequate access to farmland	33.6	53.0	13.4	1.80
Inadequate access road to farmland	38.5	42.6	18.9	1.80
High cost of transportation	3.6	72.6	23.8	2.20
<b>Financial and Market Constraints</b>				
Inadequate access to credit	1.8	50.6	47.5	2.46
Inadequate markets to sell crops	69.5	24.5	6.0	1.37
Availability of central market point	71.3	21.4	7.2	1.36
<b>Insecurity and Related Barriers</b>				
Fear of being attacked or Killed	4.4	71.8	23.8	2.19
Stealing and destruction of farm produce	8.5	63.3	28.2	2.20
Inadequate information on climate variability	10.3	67.7	22.0	2.12
<b>Labour and Extension Service Challenges</b>				
Shortage of farm labour	4.1	70.8	25.1	2.21
High cost of farm labour	1.3	28.7	70	2.69
Inadequate access to extension services	4.7	52.2	43.1	2.38

**Source:** Field Survey, 2025.

## CONCLUSION AND RECOMMENDATIONS

Based on empirical evidences, the study concludes that crop farmers' vulnerability is shaped more by access to education, cooperatives, seeds, extension, climate information, and farmland than by demographic characteristics. Institutional and resource-related variables are critical determinants of resilience, consistent with empirical studies in similar insurgency-affected regions. While multiple barriers that restrict farmers' ability to effectively respond to insurgency-related vulnerabilities, particularly inadequate access to farm inputs and technology, land and infrastructure, financial and market constraints, insecurity-related barriers, and labour and extension challenges. Examining these themes in relation to empirical evidence provides insight into the structural challenges that organizations, policy makers, and development partners must address. It is recommended that government and supporting agencies should strengthen access to agricultural inputs and technologies, enhance land tenure security and rural infrastructure, expand financial inclusion and market support, and improve extension services and climate information delivery.

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*Nigerian Journal of Agriculture and Agricultural Technology (NJAAT)*  
Volume 6, Number 1B, March 2026  
ISSN (Print): 2811-1885; ISSN (Online): 2811-1893



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