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Effect of Insecurity on Livelihood of Rural Farmers in Donga Local Government Area, Taraba State, Nigeria

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ABSTRACT **Original research paper**

This study assessed the impact of insecurity on the livelihoods of rural farmers in Donga Local Government Area of Taraba State, Nigeria. The research focused on three primary objectives: evaluating the socio-economic profiles of respondents, identifying the consequences of insecurity on household livelihoods, and examining the broader effects of insecurity in the area. The study adopted a random sampling method to gather data across different communities, resulting in 97 valid responses. Findings revealed that a majority (61.85%) of the respondents had households comprising 4–9 members, followed by 22.68% with 10–12 members, and 15.46% with 1–3 members. The average household size was seven, indicating a high proportion of married individuals. Key effects of insecurity included increased rural poverty (68.04%), land dispossession (65.98%), crop destruction (64.95%), social injustices (62.89%), income decline (60.82%), fatalities (55.67%), loss of life (54.64%), and household displacement (46.39%). These outcomes contribute to food shortages, rising food prices, and disruptions in livelihood systems. Socioeconomic variables influencing insecurity indicators accounted for 89.1% of the variability in outcomes (R^2 = 89.1%). The study recommends the implementation of appropriate land tenure systems and government-led security initiatives, particularly at communal borders, to mitigate conflicts. Provision of designated grazing areas is also advised to prevent clashes between herders and farmers and enhance food production.

Keywords: Insecurity, Livelihood, Effect, Rural Farmers, Donga.

Introduction

Prior to the discovery of petroleum, agriculture stood as the cornerstone of Nigeria's economy—serving as the primary source of rural employment, food sufficiency, fiber production, and export earnings (Towobola et al., 2014). The sector currently contributes around 40% of the national GDP and engages nearly 70% of the workforce, including approximately 37% of the youth, with an average age of 27 years (comprising 48% males and 52% females) [National Bureau of Statistics (NBS) and Nigerian Federal Ministry of Youth Development, 2013]. However, rising insecurity, particularly in northern Nigeria, has severely disrupted agricultural and socio-economic activities (Ezema, 2013).

This instability has led to sharp price increases for key crops grown in insurgency-affected regions, which are major suppliers to other parts of Nigeria and neighboring countries such as Chad, Niger, and Cameroon. The output of essential crops like cowpeas, maize, millet, rice, and sorghum has decreased by approximately 40%, largely due to reduced labor availability caused by fears of attacks during farm visits

(Kegna et al., 2014). Consequently, labor shortages in agriculture have significantly reduced farmer productivity. Given the critical role of smallholder food crop farmers in narrowing the food supply gap, examining the influence of insurgency on their productivity is imperative. This study, therefore, seeks to evaluate the effect of insecurity on the livelihoods of farmers in Donga Local Government Area (LGA).

The core aim is to analyze how insecurity affects local livelihoods and to propose actionable recommendations to enhance agricultural productivity while addressing the insecurity challenges. The study specifically aims to: (i) examine the socio-economic characteristics of respondents, (ii) determine the impact of insecurity on household livelihoods, and (iii) investigate the underlying factors or indicators of insecurity in the area. The significance of this research lies in its potential to highlight the detrimental effects of insecurity on agriculture in Donga LGA, propose strategies to improve productivity, and suggest viable solutions to mitigate future risks to household livelihoods and food security in the region.

Paraphrased Methodology

Study Area Description

The research was carried out in Donga Local Government Area (LGA), situated in the southern zone of Taraba State, Nigeria. This zone comprises five LGAs—Wukari, Takum, Ussa, Ibbi, and Donga—and one designated development area known as Yangtu. Geographically, it lies between latitudes 8º30'N and 9º30'E and longitudes 8º30'N and 10º30'E. As per the 2006 population census, the area had a population of approximately 704,900, which was projected to grow at an annual rate of 3.5%, reaching an estimated 729,572 people by 2015. The total land area spans 14,099 square kilometers (Taraba State Government, 2015).

Donga LGA shares boundaries with Takum and Wukari LGAs to the south, Bali and Gassol LGAs to the north, Benue State to the southwest, and the Republic of Cameroon to the southeast. The region features a tropical climate with distinct wet and dry seasons. The dry season lasts roughly from December to March, while the wet season extends from early March to late November. Annual average rainfall is around 1,800 mm. The area's well-drained alluvial soil and varied vegetation—ranging from savannah to rainforest—support agricultural activities.

Predominantly rural, approximately 80% of the population engages in rain-fed agriculture. The ecological conditions favor the cultivation of various food crops such as yam, maize, cassava, guinea corn, soybeans, and rice. Additionally, the region supports livestock grazing, freshwater fishing, and forestry. The major ethnic group is the Jukun, including subgroups like Kuteb, Wapan, Wanu, Kpanzun, and Ichen. Other ethnic communities include Tiv, Chamba, and Hausa.

Data Sources

Primary data served as the foundation for this study. Information was gathered directly from respondents using structured questionnaires administered through oral interviews. These interviews allowed for clarification and translation where necessary to ensure accurate responses from local farmers.

Data Collection Procedure

Data collection focused on gathering information about rural household assets across various sampled communities. Respondents provided insights into socio-economic characteristics, perceived causes of insecurity, and its impact on food security and household well-being. Community leaders and literate individuals assisted in interpreting the questionnaire for respondents in local dialects. The questionnaire was structured in a tabular format to enhance comprehension and ease of response.

Sampling Method and Sample Size

A multistage sampling approach was utilized. First, Donga LGA was purposively selected due to its predominantly rural composition and frequent episodes of communal conflict. In the second stage, five rural wards within the LGA were randomly selected. Finally, from each ward, 25 households were randomly chosen, leading to a total sample size of 125. Out of these, 97 questionnaires were successfully retrieved and analyzed.

Analytical Tools

To address the study's objectives, the following analytical tools were employed:

Descriptive Statistics:

Frequency distributions, percentages, means, and standard deviations were used to analyze respondents' socio-economic characteristics and assess the impact of insecurity in the study area (Objectives 1 and 2).

Multiple Regression Analysis:

To examine factors contributing to insecurity (Objective 3), multiple regression models were utilized. The best-fitting model was selected based on the following criteria: the adjusted coefficient of determination (R^2), F-statistics for overall model significance, T-statistics for individual coefficients, and whether the coefficients conformed to expected theoretical signs.

The general model specification was:
Y=f(X1,X2,X3,...,X9,u)Y = f(X_1, X_2, X_3, ..., X_9, u)Y=f(X1,X2,X3,...,X9,u)

Where:

- Y= Insecurity indicators
- X_1= Age
- X_2 = Gender
- X_3 = Marital status
- X_4 = Family size
- X_5 = Educational level
- X_6= Farming experience
- X_7= Farm size
- X_8= Members of cooperative
- e = Error term.

Four functional forms were tested—linear, semi-log, double-log (Cobb-Douglas), and exponential—to identify the most appropriate model for analyzing the factors influencing insecurity in the area.

Results and Discussions

Socio-Economic Characteristics of Respondents

The age distribution of respondents, as shown in Table 1, indicates participation in farming across diverse age groups. A notable proportion (36.08%) were within the 31–40 age range, with an average age of 37.82 years. This reflects a youthful, active farming population. According to Adesiyan (2015), gender significantly influences farmers' capacity to adopt improved farming strategies and plays a vital role in agricultural productivity.

In terms of gender composition, male respondents comprised 60.82%, while females accounted for 39.18%. This suggests that farming in the study area is predominantly male-driven. Cultural expectations, such as men being primary providers, likely contribute to this disparity. The findings align with Atibioke et al. (2012), who emphasized male dominance in agricultural labor. Furthermore, research has suggested that female-headed households are often more vulnerable to poverty and food insecurity due to limited access to resources and labor, whereas male-headed households tend to have better livelihood outcomes. Nevertheless, studies by Hebinck and Lent, as well as Halperin et al. (2007), recognize women as central figures in household decision-making and income generation, despite men's broader participation in formal initiatives.

Marital status results show that 54.64% of the respondents were married, 22.68% widowed, 13.40% single, and 9.28% divorced. Marriage among household heads tends to enhance agricultural productivity due to the availability of family labor, which is critical for farm operations.

Household size findings (Table 1) show that 37.11% had 7–9 members, 24.74% had 4–6, 22.68% had 10–12, and 15.46% had 1–3 members. The mean household size was approximately seven persons. Larger households provide greater labor availability, which is essential in settings with limited mechanization. This supports the findings of Gwandi and Adetuyi (2022), who observed that larger family units improve labor efficiency and reduce the need for hired labor. As Chedchuchain et al. (2006) noted, household size reflects human capital and significantly influences participation in income-generating activities, especially where modern farm equipment is scarce.

Education levels indicate that 83.51% of respondents had formal education, while only 16.49% had none. This relatively high literacy rate may enhance respondents' ability to comprehend and implement agricultural innovations. Chima et al. (2007) emphasized that educational attainment increases farmers' access to and effective use of information, influencing income generation and livelihood strategies. This corroborates Gwandi and Adetuyi's (2022) assertion that education boosts productivity and contributes to poverty alleviation.

Regarding farming experience, the data reveals that 31.96% of respondents had 11–15 years of experience, with a mean farming experience of 7.09 years. This implies a generally experienced farming population. Adebisi (2017) observed that experienced farmers are more inclined to adopt improved practices that enhance productivity and food security.

On landholding, 42.27% of respondents cultivated 1–2 hectares, 29.89% managed 3–4 hectares, while 27.84% had more than 4 hectares. Farmland size is a vital resource that influences households' decisions regarding agricultural and livelihood diversification.

Cooperative membership data shows that 59.79% belonged to cooperatives, while 40.21% did not. Cooperative groups offer benefits such as credit access, input supply, and knowledge sharing. This finding aligns with Idiong et al. (2007), who emphasized cooperatives' role in facilitating modern farming practices and supporting agricultural development.

Table 1: Socio-economic Characteristics of Respondents

Variables	Frequency	Percentage (%)	Mean
Age			
21-30	18	18.56	
31-40	35	36.08	
41-50	20	20.62	
51-60	13	13.40	
>60	11	11.34	
Total	**97**	**100**	**37.82**
Gender			
Male	59	60.82	
Female	38	39.18	
Total	**97**	**100**	
Marital status			
Married	53	54.64	
Single	13	13.40	
Divorced	9	9.28	
Widowed	22	22.68	
Total	**97**	**100**	
Family size			
1-3	15	15.46	
4-6	24	24.74	
7-9	36	37.11	
10-12	22	22.68	
Total	**97**	**100**	**7.01**
Educational level			
No formal	16	16.49	
Primary	18	18.56	
Secondary	25	25.77	
Tertiary	38	39.18	
Total	**97**	**100**	
Farming experience			
1-5	12	12.37	
6-10	20	20.62	

11-15	31	31.96	
16-20	18	18.56	
>20	16	16.49	
Total	**97**	**100**	**7.09**
Farm size			
1-2	41	42.27	
3-4	29	29.89	
>4	27	27.84	
Total	**97**	**100**	**9.03**
Cooperative			
Yes	58	59.79	
No	39	40.21	
Total	**97**	**100**	

Source: field survey, 2024

Consequences of Insecurity in The Study Area

able 2 illustrates the major impacts of insecurity on the livelihoods of rural farmers within the study area. Key consequences include rising poverty levels (68.04%), loss of agricultural land (65.98%), destruction of crops (64.95%), perceived injustices (62.89%), reduced income (60.82%), fatalities (55.67%), loss of life (54.64%), and household displacement (46.39%). These results suggest that insecurity poses a serious threat to food production, as it disrupts household livelihoods, limits food supply, and contributes to hunger and inflation due to the resulting scarcity.

These findings support Berhanu et al. (2019), who found that cattle rustling and acts of banditry severely compromise safety and security in Nigeria's Northwest, resulting in population displacement, injuries, fatalities, and extensive livestock losses. Similarly, Chikaire et al. (2018) reported that in Nigeria's Southeast, poor rural households are disproportionately affected by insecurity since their livelihoods depend directly on farming. Ariya, Omale, and Ezeala (2016) also emphasized the significant toll insecurity and terrorism have taken on Nigeria over the years—leading to severe economic setbacks, loss of lives, and destruction of property.

Table 2: Consequences of insecurity in the study area

Consequences	Frequency	Percentage (%)	Mean
loss of lives	53	54.64	7
destruction of crops	63	64.95	3
hinder innovating	27	27.84	10
reduced income	59	60.82	5
displacement of households	45	46.39	8
loss of land	64	65.98	2
Death	54	55.67	6
Injustices	61	62.89	4
Disrupt supply of input and out put	34	35.05	9
Increase rural poverty	66	68.04	1

Source: field survey, 2024

Socioeconomic Factors Influencing Insecurity Indicators

As presented in Table 3, the regression analysis highlights the socio-economic factors significantly associated with insecurity in the study area. The R-squared value (R^2 = 0.891) indicates that 89.1% of the variability in insecurity indicators is explained by the independent variables included in the model.

Age displayed a positive and statistically significant coefficient, indicating that older household heads tend to experience fewer security threats, likely due to greater wisdom, conflict avoidance, and negotiation experience. Conversely, younger farmers may be more prone to confrontations with herders or other threats, consistent with Adebayo (2013), who reported a higher incidence of conflict among younger male farmers in Northern Nigeria.

Household size was negatively and significantly related to insecurity. This suggests that larger households may be better able to withstand or deter insecurity, possibly due to increased labor or defense capacity. This supports Chamo et al. (2020), who found that households with more members often experience less severe impacts from conflict.

Farm size was positively and significantly associated with reduced vulnerability to insecurity. Households cultivating larger plots may possess more resources for self-protection or be better positioned to assert land rights during conflicts, thereby experiencing fewer disturbances.

Educational level exhibited a significant negative relationship with insecurity. Higher educational attainment among farmers correlates with reduced susceptibility to conflicts, possibly due to improved understanding of peaceful conflict resolution and better adaptation strategies. This aligns with prior expectations that education mitigates insecurity.

Gender showed a positive and significant relationship, indicating that male farmers are more likely to be affected by or involved in conflicts. This may be due to their dominant role in farming and resource competition, especially over land and water. Male involvement in confrontations over Fadama lands and other rural resources has historically contributed to conflict escalation.

Marital status was negatively significant at the 1% level. This indicates that unmarried individuals are less affected by insecurity compared to their married counterparts, possibly because married individuals are more invested in agriculture and household protection.

Cooperative membership demonstrated a significant negative relationship with insecurity. Farmers who are members of cooperatives tend to be less affected by rural insecurity, possibly due to increased access to support networks, information, and communal problem-solving. This finding supports Adesina (2013), who emphasized the role of cooperatives in managing conflicts and improving agricultural productivity.

Farming experience was also negatively significant, indicating that more experienced farmers are less prone to the effects of insecurity. This may be due to their ability to navigate community dynamics, avoid high-risk zones, or employ strategies that minimize conflict exposure.

Table 3:Socioeconomic factors affecting insecurity indicators in the study area

Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value
	B	Std. Error	Beta	
(Constant)	-4.916	0.711		-6.909***
Age	0.230	0.011	0.969	20.844***
Gender	0.161	0.095	0.043	1.700*
Marital Status	-0.171	0.057	-0.076	-3.020***
Family Size	-0.014	0.038	-0.009	-0.361
Educational level	-0.291	0.072	-0.113	-4.017***
Farming Experience	-0.062	0.028	-0.106	-2.170**
Farm Size	0.001	0.018	0.001	0.053**
Cooperative Membership	-0.325	0.086	-0.090	-3.771***
F-Value				199.769***
R-Square (R^2)				0.891 (89.1%)

Source: field survey 2023

*****Significant at 1% level, ** Significant at 5% level and *Significant at 10% level**

Conclusion and Recommendations

Conclusion

The findings from this research establish a clear link between rural insecurity and reduced agricultural productivity in Donga LGA. All identified consequences—ranging from economic hardship to food shortages—underscore the severity of insecurity's effects on rural households. Furthermore, individual characteristics such as gender, marital status, education, and age significantly shape farmers' exposure to and experience of insecurity. These insights affirm that tackling insecurity is essential not only for safeguarding lives and property but also for restoring food security and enhancing rural livelihoods

Recommendations

Based on the study's outcomes, the following recommendations are proposed:

1. **Implementation of Effective Land Tenure Policies:**
   Authorities should enforce land use regulations that ensure equitable access and reduce disputes. A clear and functional land tenure system would contribute to long-term stability in agricultural zones.
2. **Strengthening Border Security:** Government should deploy security forces at community boundaries to prevent conflict, particularly between farmers and herders or armed groups. Ensuring safe farming environments will encourage food production and reduce migration.
3. **Provision of Grazing Reserves:** The establishment of designated grazing areas for herders will reduce pressure on arable land, minimize farmer-herder conflicts, and facilitate peaceful coexistence, thereby supporting consistent food supply.

References

1. Adebisi S. A., Azeez O. O., and Oyedeji R. (2017).Appraising the effect of Boko Haram insurgency on the agricultural sector of Nigerian business environment. Journal of Law and Governance, 11(1): 14-25.
2. Adesiyan, A. T. (2015). Economic analysis of maize production in Osun State: A Case Study of IlesaEast and West of Osun State Journal of Economics and Sustainable Development, 6(9):268-279.
3. Awodola, B. And Oboshi, A. (2013). Terrorism in Northern Nigeria: A Threat to Food Security Maiduguri, Mediterranean Journal of Social Sciences, 2 (6):11-16.
4. Achumba, I., CIghomereho, O. S. and Akpor-Robaro, M. O. (2013). Security challenges in Nigeria and the implications for business activities and sustainable development. Journal of Economics and Sustainable Development, 4(2): 80-99.
5. Adebayo, A. A. (2013). Youth unemployment and crime in Nigeria: A nexus and implications for national development. International Journal of Sociology and Anthropology, 5(8): 350-57.
6. Adebisi, A., Azeez, M. and Oyeduji, O. A. (2017).The problems and challenges of insecurity in Nigeria. Journal of Economics and Sustainable Development, 6(3): 160-72.
7. Adesina, O. S. (2013). Unemployment and security challenges in Nigeria. International Journal of Humanities and Social Science, 3(7): 146-56.
8. Berhanu, M. and Wolde, A.O (2019) 'Review on Climate Change Impacts and its Adaptation strategies on Food Security in Sub-Saharan Africa', AGRISE, (19:3), pp.145-154.
9. Chima, I. E., Clinton E. A., and Patrick O. O. (2007). Determinants of technical efficiency in arable crops production and policy implications in Imo State, Nigeria. International Journal of Bioflux Society, 1(8):239-244.
10. Ezema O.O. (2013). The socio-economic implications of the "Boko Haram" insurgence in Nigeria: 2009-2013. International Journal of Innovation and Scientific Research.
11. Halperin, S. and Heath, O. (2007) *Political Research- Methods and Practical Skills* (Oxford: Oxford University Press).
12. Kegna, A., Djire, M., Adibe, J. AndJirgi, A.J. (2014).The impact of conflict and political instability onagricultural investments in Mali and Nigeria.African Growth Initiative 2014 at Brookings. Pp. 4-27
13. World Bank, (1986), Poverty and Hunger: Issues and Options in Developing Countries, A

WorldBank Policy Study, Washington, D.C: World Bank.
14. World Bank, (1996), Nigeria Poverty in the Midst of Plenty: The Challenge of Growth with Inclusion A World Bank Poverty Assessment. Population and Human Resources Division.