

IMPACT OF INSECURITY ON FOOD PRODUCTION IN IGABI LGA, KADUNA STATE.

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Abstract

The study assessed the impact of insecurity on food production in Igabi Local Government Area (LGA) of Kaduna State, Nigeria. Agriculture contributes 42 percent of Nigeria's GDP and engages over 65 percent of Nigeria's workforce. The sector is constrained by challenges recently characterized by insecurity, leading to low output and inefficient production tools and infrastructure. A total number of 399 farmers were selected from 145,744 farmers' households using the Yamane equation. Two-stage sampling technique was used to determine the LGA where the research was conducted. Purposive sampling was used to determine the LGA out of the 23 LGAs in the state, and a simple random sampling technique was used to determine the farmers in the research area. The farmers were administered a well-structured questionnaire to collect their data on demographic characteristics and agricultural-related activities that answered questions on the impact of insecurity on food production in the study area. Data collected were analyzed using simple descriptive statistics and a chi-square analysis (at $p < 0.05$). Findings from this study reveal that insecurity resulting from kidnapping, banditry, and cattle rustling constitute 96.4 percent of the insecurity affecting the study area, which leads to food shortage, and the high price of food commodities between 63.5 percent and 34.1 percent, respectively. Also, 66.3 percent of the farmers are in extreme poverty, 28.7 percent are moderately poor, with only 5.0 percent are considered not poor. Therefore, findings from this study showed that there is a strong link between insecurity and food production in the State. Furthermore, more stakeholders from the State and LGAs should be engaged with the relevant security agencies to curtail this menace. Also, modern farming equipment should be encouraged to avoid farming only in the bushes, where kidnappers threaten Nigerians' well-being.

Introduction – Context and Rationale

Agriculture commits 42 percent of Nigeria's GDP and employs over 65 percent of Nigeria's workforce. The sector is stifled by humongous threats characterized by low output; ineffectual and antiquated production tools and infrastructure. Generally, 66 percent of Nigeria's total landmass of 92.377 million hectares is suitable for agricultural production, but unfortunately, about half is not cultivated. The technological deficiency in standardization; and quality control have dwarfed natural farm produce, making Nigeria not competitive in local and international markets (Yar'Adua, 2009). In Kaduna state, agriculture is the single largest employer of labour forces (79.6 according to KDGHS, 2015) and committed 36.69 percent of the state GDP in 2015. Its contribution by sub-sector to the GDP is; Crops (33.69 percent), Livestock (2.65 percent), Fisheries (0.24 percent) and Forestry (0.11 percent). Kaduna produces 22 percent of Nigeria's maize and 10 percent of groundnuts (peanuts), and the state trades agricultural produce to a neighbouring state.

Nigeria is putting preference in place to seek alternatives to diversify into non-oil sources of growth and away from high dependency on oil and gas. The agricultural sector is considered one of the significant sources of growth and a necessary alternative for diversification. The impediments of malnutrition can be addressed via the agricultural sector; for example, nutrient-rich varieties of staple food crops can assist in reducing malnutrition by making available micronutrients to the populace. From relevant literature, many studies have been

conducted on insecurity and food production in different parts of the country with no clear consensus based on the empirical findings. Therefore, this work seeks to contribute to the debate by presenting new evidence on the nature of this complex relationship as contributed by researchers like; Ojogho (2011), Babatunde, Omotesho, and Sholotan (2007), Ana, Bill, and Sekher (2013). The research aims at assessing the impact of insecurity on food production in Kaduna state.

Methodology

The study was conducted in Igabi LGA, Kaduna state. The LGA is one of 774 LGAs in Nigeria and one of the four that constitute Kaduna metropolitan city. It was created in 1989 out of Zaria local government, with headquarters in Turunku. The LGA has three district areas namely, Igabi, Rigachikun, and Rigasa (Igabi, 2020a). The LGA is dominated by farmers who produce crops on a commercial level, with yams, maize, guinea corn, beans, and sugar cane being the major crops. Igabi LGA is located at latitude 10° 47' 0"N and longitude 7° 46' 0"E (Igabi, 2020b). Annual rainfall is between 250 mm – 1000 mm and usually begins in early May and ends in October, with the dry season from October to April (Ishola & Olukotun, 2019). The LGA is bordered to the North by Giwa and Zaria LGA, to the East by Soba LGA, to the South by Chikun and Kaduna North LGA, and to the West by Birnin Gwari LGA. Igabi LGA is located in the central senatorial district, with 12 wards and a population of 430,753 people, of which 145,744 are mainly farmers (NPC, 2006 and KDBS, 2017). See appendix 1 for the general description of the area.

Method of Data Collection

Data were collected from primary sources by administering a well-structured questionnaire among the farmers to fill.

The Population of the Study

The study employed 145,744 farming families from Igabi LGA, Kaduna (KDBS, 2017). The choice of this target population was made because the LGA where they came from is centrally located in the state, connecting all the major LGAs that are affected by insecurity in the Kaduna state, which now has a limited number of farmers engaging in farming activities due to insecurity.

Sample Size and Sampling Techniques

Two-stage sampling technique was adopted for this study. First, purposive sampling was used to select only Igabi LGA out of the 23 in the state due to the activity of bandits, kidnapers, and Cattle rustlers. Secondly, a simple random sampling technique was used to select some 399 farmers from the LGA (Yamane, 1967). After respondents' information was received, only 322 questionnaires were retrieved. Yamane (1967) provides a simplified formula to calculate the sample size in this research, and a 95 percent confidence level and $p = 0.05$ are assumed for the sample size.

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

Where n = sample size of the population.

N = Population size.

e = Level of precision.

$$n = \frac{145744}{1 + 145744(0.05)^2} = 399 \text{ Farmers.}$$

Techniques of Data Analysis

Statistical techniques were used in analyzing the data generated from the farmers to achieve the research objectives. Simple descriptive statistics and Chi-Square analysis were employed to determine the relationship between insecurity and food production in Igabi LGA.

Chi-Square

This analysis was used to test the research hypothesis by evaluating the expected and observed outcomes between insecurity and food production in Igabi LGA (Turhan, 2020).

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where χ^2 = Chi-Squared.

O_i = Observed Value (actual result obtained from the research, which shows the relationship between insecurity and food production in Igabi LGA).

E_i = Expected Value (the anticipated outcome of the research. Whether there is a relationship or not between the insecurity and food production in Igabi LGA)

The above formula was used to determine the factors associated with food production and insecurity in the research.

Result and Discussions

Socio-Demographic Profile of the Respondents

Socio-demographic characteristics of the respondents, such as their age, marital status, primary occupation, and level of education, were recorded using descriptive statistics, as shown in Table 1. At the time of conducting this research, 24.6 percent of the respondents were within the age range of 26 to 35 years, 51.4 percent between 36 and 45 years, 19.3 percent between 46 and 55 years, and 4.4 percent between 56 and 65 years. While marital status, 73.9 percent of the respondents were married, and 26.1 percent were single. This result shows that the majority of the respondents are semi-elderly people capable of farming activities. This finding agrees with that of Liverpool-Tasie, Kuku, and Ajibola (2011), which reported that the productive age of farmers was generally in their middle age. Also, the majority of them are married with dependents; therefore, they need to engage in economic activity. The majority of the respondents, 65.5 percent, were predominantly farmers, while 33.6 percent had other occupations besides farming. The research also recorded that 4.6 percent had primary school education, 46.7 percent had secondary education, 14.7 percent had adult education, 20.9

Table 1: Socio-Demographic Profile of the Respondents

Parameters	Percentage	χ^2	p-value
<u>Age</u>			
26 – 35	24.6	263.3	< 0.001
36 – 45	51.4		
46 – 55	19.3		
56 – 65	4.4		
<u>Marital status</u>			
Single	26.1	70.6	< 0.001
Married	73.9		
<u>Farming as the main occupation?</u>			
Yes	65.5	139.5	< 0.001
No	33.6		
<u>Level of education</u>			
Primary	4.6	157.4	< 0.001
Secondary	46.7		
Adult education	14.7		
Arabic/Bible	20.9		
Tertiary	13.1		

Source: Researcher's Field Work 2021

Impact of Insecurity on Food Production

The research indicated that insecurity affects food production by 96.4 percent, with food shortage and high food prices accounting for 63.5 percent and 34.1 percent, respectively (see Table 2). Kidnapping constitutes 79.1 percent of why the farmers could not access their farms, banditry 8.7 percent, cattle rustling 7.2 percent, communal clashes 1.9 percent, and other reasons 3.0 percent. These contribute 53.6 percent of non-visit to farms between 2-3 years (see Table 3). It also showed that of the 310 individuals who indicated a lack of access to their farms, insecurity accounts for 83.2 percent of the reasons why farms are no longer visited. In contrast, 12.6 percent favoured a lack of capital, while only 2.3 percent were due to a lack of interest in farming. Most of the non-visit to farms took place within 0-3 years, accounting for 92.9 percent of cases of farm abandonment. This result indicates a surge in incidences of insecurity in the research area. Also, Kidnapping (79.3 percent; 211/266) accounts for the significant forms of insecurity, then banditry (8.6 percent; 23/266) and cattle rustling (7.1 percent; 19/266). Communal clash (1.9 percent; 5/266) was considered a minor form of insecurity recorded, as shown in Table 4. Also, 66.3 percent of the respondent are extremely poor, 28.7 percent are moderately poor, and 5.0 are not poor, as shown in Table 5.

Table 2: The Percentage Effect of Insecurity in the Igabi LGA

Does insecurity affect food production?	How insecurity affects food production			Total
	Food shortage	Food wastage	High food prices	
Yes	156	4	80	240 (96.4)
No	2	0	7	9 (3.6)
Total	158 (63.5)	4 (1.6)	87 (34.1)	249

($\chi^2 (2) = 7.556$; $p = 0.023$)

Source: Researcher's Field Work 2021

Table 3: The Percentage Number of Years Farmers Could Not Access their Farms in Igabi LGA as a Result of Insecurity

Last visit (years)	Nature of insecurity					Total (percent)
	Kidnapping	Banditry	Cattle rustling	Communal clash	Others	
0-1	77	17	10	3	2	109(41.4)
2-3	122	6	8	1	6	141(53.6)
4-5	10	1	1	1	0	13 (5.0)
Total	208 (79.1)	23 (8.7)	19 (7.2)	5 (1.9)	8 (3.0)	263

($p < 0.001$)

Source: Researcher's Field Work 2021

Table 4: The Percentage Nature of Insecurity in Igabi LGA

Reason	Nature of insecurity					Total (percent)
	Kidnapping	Banditry	Cattle rustling	Communal clash	Others	
Insecurity	208	21	8	2	7	142 (45.2)
Lack of interest	0	0	2.3	0	0	148 (47.7)
Lack of capital	2	2	1	3	0	15 (4.8)
Others	1	0	10	0	1	5 (1.6)
Total	211 (79.3)	23 (8.6)	19 (7.1)	5 (1.9)	8 (3.0)	266

($\chi^2 (12) = 132.367$; $p < 0.001$)

Source: Researcher's Field Work 2021

Table 5: The Percentage Condition of the Farmers in Igabi LGA after Lack of Access to their Farms

Last visit (years)	Situation of farmers			Total (percent)
	Extremely poor (percent)	Moderately poor (percent)	Not poor (percent)	
0-1	73	58	6	137
2-3	121	22	4	147
4-5	5	6	3	14
>6	2	1	2	5
Total	201 (66.3)	87 (28.7)	15 (5.0)	303

($\chi^2 (8) = 57.858$; $p < 0.001$)

Source: Researcher's Field Work 2021

Conclusion

Over the past decade, insecurity has been the central topic of discussion in the country as it disrupts many economic activities, including farming. Controversies exist in the literature on the connection between insecurity and agriculture. This research looks at the root cause of insecurity and its impact on food production in Igabi LGA, Kaduna State, which is the major LGA that links other LGAs affected by insecurity. The study adopted descriptive statistics and chi-square analysis to analyze the data generated from the study area. Findings from this research concluded that insecurity from kidnapping, banditry, cattle rustling and communal clashes accounted for 97 percent of the total responses, while 3 percent of responses are in favour of undisclosed reasons affecting the study area, thus leading to food shortage, food wastage, and high prices of food commodities between 63.5 percent, 1.6 percent, and 34.1 percent, respectively. Therefore, this affects food production in the state. Also, 66.3 percent of the farmers are in extreme poverty, 28.7 percent are moderately poor, and 5.0 percent are not poor, thus indicating a strong link between insecurity and poverty among the selected food producing households in the State.

Recommendations

Based on the findings from this research, the following recommendations were made:

1. There should be a collaboration between the state ministry of internal security and home affairs with the State Ministry for Local Government and Chieftaincy Affairs to have a comprehensive register in all the 23 LGAs to take note of the permanent residents and visitors for easy identification of criminals.
2. Local vigilantes should be reinforced and supported by government security agencies for routine patrol across the LGAs.
3. Artificial intelligence should be encouraged by adopting modern farming techniques in a confined place.
4. Innovation of modern technology should be employed to support farmers with the aid of extension officers.

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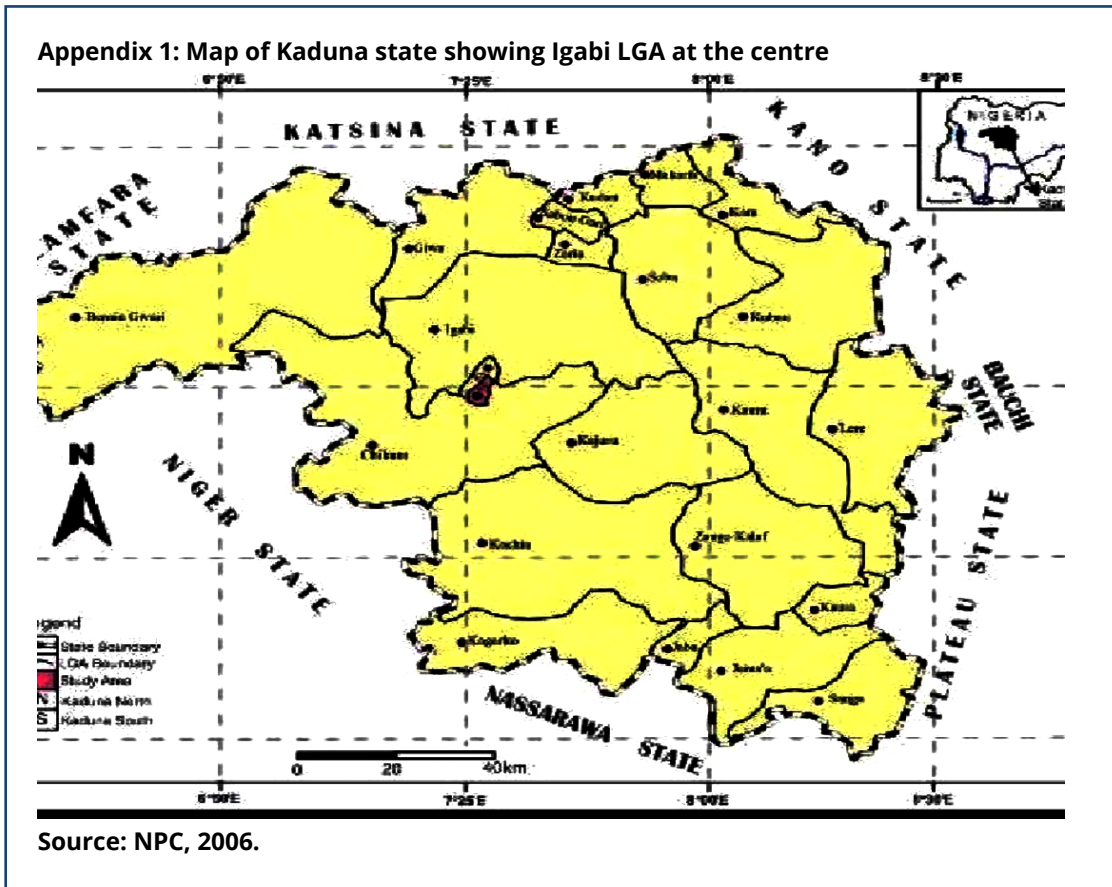
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Appendix 1: Map of Kaduna state showing Igabi LGA at the centre



Source: NPC, 2006.