

FARMERS' PERCEPTION OF IMPACT OF BOKO HARAM INSURGENCY ON RICE CULTIVATION IN JERE BOWL, JERE LOCAL GOVERNMENT AREA, BORNO STATE, NIGERIA

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Abstract

This study analyzed farmers' perception of impact of Boko Haram Insurgency on agricultural activities in the Jere bowl Borno State, Nigeria. Multi-stage sampling procedure was used in selecting two hundred and fifty-three in five communities. Data were collected through personal interview. The Data were analyzed using descriptive statistics such as frequency, tables and pie charts. Findings indicated that 82% of the respondents were male, 64% aged 21-40 years old, 65% had 6-15 household members and 56% had no formal education. Result on agricultural activities affected by insurgency indicates that 41.5% of the respondent's reported inaccessibility to farmland and 30% agreed that insurgency destroyed farmland. The study observed that farmlands, market places and households suffered the most from Boko Haram insurgency attack among the variable studied. It was observed that respondents flee to neighboring communities as IDPs (60%), hide in their houses (27%) and pay taxes to the insurgents to save their lives and properties (13%) as safety coping strategies to insurgency during insurgency period. Result on livelihood coping strategies indicated that 27% of the respondents came back to their community and continued with their farming activities, 15% of the respondents went to other communities to cut down trees for charcoal business, 19% of the respondents opted for meat selling in abattoirs and in towns. Based on the findings, it is recommended that the government should empower insurgency-stricken communities to strengthen coping activities, provide more security presences to contain their fear and strengthen their confidence of farming, establish agricultural assistance programmes through Agricultural Development Banks and other financial lending institutions to support farmers with soft loans, fertilizers, insecticides etc in an attempt to boost agricultural practices in the affected areas.

KEYWORDS: Boko Haram, Insurgency, Rice, Jere Bowl

INTRODUCTION

Agriculture is the principal source of food and livelihoods in Nigeria. Agricultural performance in Nigeria is greatly impaired by the low level of development of social infrastructure in the rural areas, where majority of the smallholders operate; land tenure problems; lack of access to formal credit to finance their operations (Nwajiuba, 2012) and conflict. In Nigeria today, conflict exists in almost all the regions of the country. These conflicts include armed banditry, cattle rustling, farmers/herders clash, kidnapping and terrorism among others.

Among all forms of violence in recent history of Nigeria, is the *Boko Haram* (BH) insurgency. The Northeastern part of Nigeria is facing a serious security threat from series of BH insurgency attacks, the most vulnerable State where the BH insurgency emanated and currently facing attacks is Borno State.

The Boko Haram activities have affected the socio-economic activities in the north-east region of Nigeria. These conflicts directly and/or indirectly are affecting agricultural sector (Oladmeji & Olusegun,

2012). It has reduced the rate at which crops are grown in the region especially in Borno, Adamawa and Yobe (BAY) States; destroy infrastructures and limit market interaction between individuals. The business of transporting cattle, goats and sheep from the region to the south and neighboring countries has been affected as well. More than 1.5 million people, mostly farmers, have been forced to flee their homes as *Boko Haram* intensified its insurgency in the past years according to the United Nations High Commissioner for Refugees (2014).

Jere is one of the 27 local government areas of Borno State that is well known for its agricultural activity. The area is fertile and suitable for the production of grains and cash crops which attracted farmers from different parts of Nigeria to reside in the area. Jere Bowl is very suitable for the production of different types of crops, although rice is one of the major crop Jere Bowl farmers produce. The insurgency has therefore, impacted the production of rice in the area.

Although, many researches (Bukar and Zanna 2016, Nayuya, Mubi & Jimme, 2018, Wakil *et al.*; 2018) were conducted in the study area. Bukar and Zanna (2016) investigated and explored the conflicts over access to natural resources between farmers and pastoralist specifically, the existing mechanisms of access to land and water, the kind of events that trigger conflicts and the effectiveness of conflict resolution mechanisms. In a similar study Ojo and Wilson (2010) investigated dry season irrigation vegetable farming as a tool for poverty alleviation in the dry season onion production in Jere Bowl. Equally, a study was conducted by Abubakar *et al.* (2017) that studied pesticides usage, awareness, practices and health effects among farmers in Jere bowl, Borno State, Nigeria. While, Nayuya, Mubi & Jimme, 2018 applied the Geospatial Techniques in Flood Vulnerability Mapping for estimating elements at Risk of Landuse/Landcover at Jere Bowl. However, none of these studies investigated the perception and impact of the insurgency on Agricultural activities particularly rice production in the study area. It is against this background that, this study looked at the farmers perception on the impact of the insurgency on agricultural activities in the *Jere Bowl*, specifically rice production as the most

affected sector of the economy in the area. The implication of this violence resulted to agricultural paralysis, giving rise to collapse of interest in agriculture in the zone. Therefore, this study was designed to provide answers to the following research questions:

- I. What are the socio-economic characteristics of the respondents?
- ii. What are the effects of Boko Haram insurgency on rice cultivation and other agricultural activities?
- iii. What was the nature of Boko Haram insurgency attack on households?
- iv. What are the farmers coping strategies to insurgency?

Study Area

Jere bowl is located between latitudes 11°48'-11°58'E and longitudes 13°06'-13°20'N (Fig. 1). It lies on an elevation of 305m above mean sea level north of Maiduguri. *Jere Bowl* covers an area of about 22,000ha, out of which a gross area of 15,850ha was identified as suitable for irrigated agriculture (Jibrin, 2010). *Jere Bowl* is located in Jere local Government Area (LGA). The LGA shares boundaries with some LGAs, to the northeast shares with Nganzai and Mafa, while to the southeast shares with Maiduguri and Konduga and to the northwest shared with Maiduguri and Konduga. Climate condition of the area is hot and dry for a greater part of the year. The period of wet season varies due to the influence of various climate factors such as direction of the rain bearing, wind and topography. Generally, the rainy season is normally from June to September and sometimes from May to October with mean relative humidity ranging between 13°C to 25°C in October to February, while March to May is 35°C to 39°C. In May to June before rainy season it raises to 45°C (NIMET, 2016). Soils are partly brown and reddish brown alleviate soil of the Borno region (Daura 2001). The area is therefore well suited for irrigated rice production (Shettima, 2000). The area has an undulating terrain of about 320m above sea level and is drained by river *Ngadda* in to the *Ngadda Delta* or *Jere Bowl*. Population of the Jere Local Government Area is about 309,002 (NPC, 2006). The major socio-economic activities taking place in the study area are farming and fishing. Both rainfed and irrigation farming system are

commonly practiced in the Jere Bowl. The rainfed farming takes place during June to October, the crop cultivated include Millet, Sorghum, Bambaranut, Guinea Corn and Cucumber(Nayuya,

Mubi & Jimme, (2018). While the irrigation farming takes place all year round, producing Rice, Pepper, Tomatoes, Cucumber, Onion, Rossel, Spinach, Salad, and Okro(Bukar& Zanna, 2016).

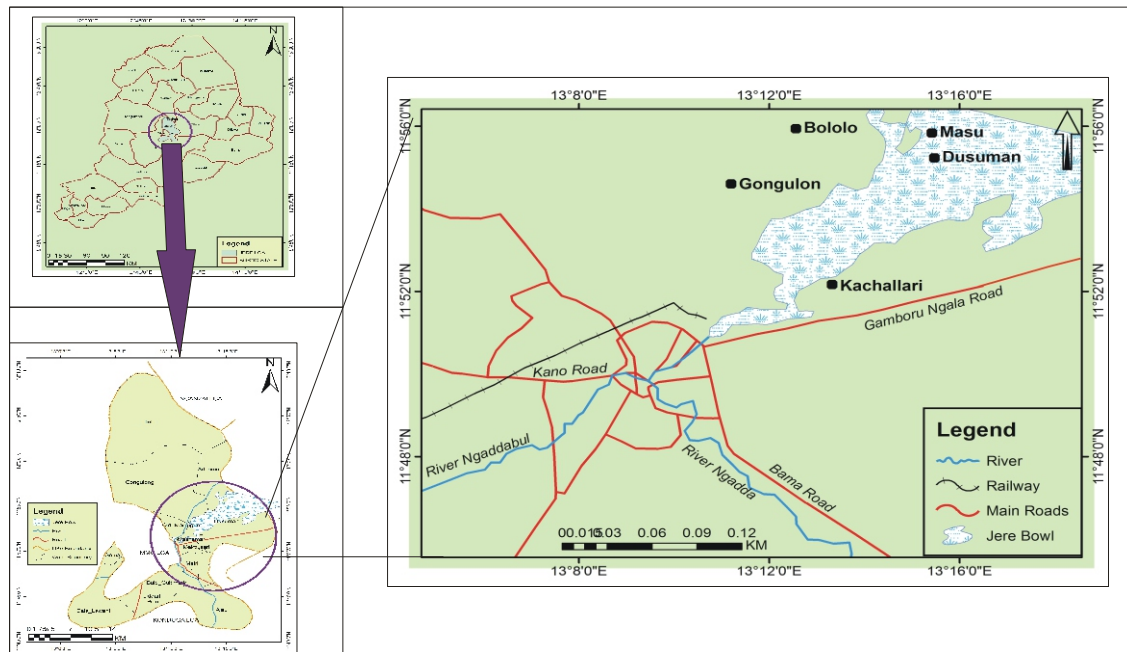


Figure 1: Jere Bowl (Study Area)

Methodology

Primary data were mainly used for the study. Secondary information were also used. Primary data collected includes socio-economic losses; the farmers' awareness on the insurgency and the perceived effects of insurgency on rice production. Secondary information used were the output of rice produced before and in the years of the insurgency. Primary data were obtained through interview schedule. The population of the study are the irrigation and

rainfed farmers in *Jere Bowl*, communities, Jere LGA. Multi-stage sampling procedure was employed. In the first stage, five communities were purposively selected based on agricultural potentials. These include *Bololo*, *Masu*, *Gongulon*, *Dusuman*, and *Kallari*. In the second stage, lists of farmers were obtained from farmers' associations to form sampling frame for the study. A proportionate selection of 37% was carried out from each community to give the total number of farmers sample (253).

Table 1: Distribution of sample according to communities

S/N	Community	Sampling Frame	No. Selected from frame (37%)
1	<i>Bololo</i>	140	52
2	<i>Masu</i>	95	35
3	<i>Gongulon</i>	168	62
4	<i>Dusuman</i>	162	60
5	<i>Kachallari</i>	120	44
	Total	690	253

Source: Computed by the Researchers, 2019.

Analytical Techniques

Data were analyzed using simple descriptive statistics such as mean, percentage, and charts in order to achieve the specific objectives of the study.

RESULTS AND DISCUSSION

Demographic Characteristics of Respondents

Table 2 presents demographic characteristics of the respondents. The result on gender of respondents revealed that majority (82%) of the respondents were male, while female constitutes 18% of the respondents. The result on gender implies that farming population in the area were dominated by male. This is perhaps as a result of the tedious nature of rice production couple with the fact that male respond on behalf of the household in the study area. This study is in conformity with the finding of Furler *et al.* (2012). The result on age of respondents reveals that majority (64%) of the respondents aged 21-40 years old and 24% aged 41-60 years old. The result implies that rice production in the study area was dominated by active youth

population, who take farming seriously. Result on household size reveals that 31% had the household size of <5, 47% had household sizes of 6-10, 18% had 11-15 household size. The result implies that majority (65%) of the respondents had 6-15 households' members. Large household size is important in labour supply for farming activities. Result on education level of the respondents reveals that majority of the respondents (56%) had non-formal education such as Qur'anic education, while 44% had various form of formal education. Results on farming experience reveals that 25% of respondents had <5 years of farming experience and 44% had 6-10 years of experience. Better education and more farming experience improve awareness of potential benefits and willingness to participate in modern farming practice and local natural resources management and conservation activities (Mohammed *et al.*; 2020). Result on farm size shows that 51% of respondents had <5 acres of land and 37% had 6-10 acres of land. Forty-two (42%) of the sampled farmers were irrigated farmers while 58% were rain-fed farmers.

Table 2: Demographic Characteristic of Respondents (n=253)

Demographic Variable	Frequency	Percentage
Gender		
Male	208	82
Female	45	18
Age (yrs)		
<20	22	9
21-40	162	64
41-60	62	24
60 above	7	3
Household Size (no.)		
<5	80	32
6-10	119	47
11-15	46	18
16 above	8	3
Level of Education		
Non-formal	141	56
Adult education	20	8
Primary education	21	8
Secondary education	36	14
Tertiary education	35	14
Farming Experience (yrs)		
<5 years	64	25
6-10	112	44
11-15	44	18
16 above	33	13
Farm Size (acre)		
<5	128	51
6-10	93	37
11-15	28	11
16 above	4	1

Source: Field Survey 2019

Agricultural Activities affected by *Boko Haram* insurgency

Result on agricultural livelihoods affected by *Boko Haram* insurgency is presented in Table 3. The result revealed that majority (41.5%) of the respondent indicated that the insurgency results into inaccessibility of farms, 30% respondent reported that insurgency destroyed farmlands and 18.6% of the respondents reported that insurgency

reduces their farm income and 13.5% indicated dead of farmers. Aside of the activities of the insurgents deterring farmers access to farm land, military and civil authorities also deterred farmers access to farm land in order to protect the farmers from attack. In fact, some crops mostly cereals such as maize, sorghum, millet were banned from cultivation at a point in the study area so as to allow visibility from distance.

Table 3: Agricultural Activities affected by Insurgency (n=253)

Variable	Frequency	Percentage
Destroyed farmland	76	30.0
Farmland cannot be accessed	105	41.5
Decrease in income	47	18.6
Dead of farmers	25	13.5

Source: Field Survey, 2019

The results in Table 4 revealed the stage at which the farming activities were affected. Result revealed that (38.3%) of the respondents reported that farming was affected mostly when they have already planted. Farming activities were also affected before planting, during planting and at harvest as reported by 19.8%, 19% and 19% of the

respondents respectively. Food and Agricultural Organization (FAO, 2016) observed that the food industry in the northern region of Nigeria has experienced enormous set-back over reasons associated with human mobility. This is due to the restriction of movements of the farmers with protection over fears of heightened insecurity.

Table 4: Stages Farmland Affected by Insurgency

Variable	Frequency	Percentage
Before planting	50	19.8
After planting	97	38.3
During planting	50	19.8
At harvest	48	19.0
After harvest	8	03.2
Total	253	100

Source: Field Survey, 2019

The results in Table 5 on land ownership revealed that 107 (42%) of the farmers inherited their farmlands from their parents, 38% of the farmers rented their farmland, 14% purchased their farmlands and 5.5% of the farmers leased their

farmlands. Land ownership status is important in agricultural production particularly in an insurgency ravaged areas. Inheritance will ensure that farmers have absolute right over the use of land during and after insurgency.

Table 5: Land Ownership Status

Variable	Frequency	Percentage (%)
Inheritance	107	42.0
Lease hold	10	5.5
Rent	99	38.5
Purchase	37	14.4
Total	253	100

Source: Field Survey, 2019

The results in Table 6 on varieties of rice cultivated, revealed that 37% of the farmers cultivated 'Doguwa' type of rice, followed by

21.4% cultivated *Dan-Sarki*, 16% of the farmers cultivated *Zamfara* type, 8.6% of the farmers cultivated *Faro* 44 type of Rice

Table 6: Varieties of Rice Cultivated

Variable	Frequency	Percentage (%)
Faro 44	22	8.6
Dan sarki	55	21.4
Doguwa	95	37
Zamfara	41	16
Others	40	15.6
Total	253	100

Source: Field Survey, 2019

Nature of Boko Haram attack on the communities of Jere Bowl

Figure 2 shows the nature of *Boko Haram* insurgency attacks in the study area. In *Bololo* community, the study revealed that farmlands, market places and households suffered the most from *Boko Haram* attack as reported by 37%, 23%, 25% of the respondents respectively. In *Masu* community, farmlands, market places, and households suffered the most as indicated by 32%, 40% and 21% of the respondents respectively. The result further revealed that in *Gongulon* community, farmland, market places and households suffered the most as reported by 49%, 32% and 10% of the respondents respectively. In *Dusuman* community, farmlands, market places and households

suffered the most as reported by 29%, 25% and 37% of the respondents respectively. In a similar manner, in *Kachallari* community, farmlands, market place and households suffered the most as reported by 35%, 35% and 25% of the respondents respectively. This study observed that in all the communities studied, farmlands, market places and households suffered the most from *Boko Haram* insurgency attack. This perhaps as a result of the fact that farm lands are the *Boko Haram* insurgents' routes to towns and villages. They reside in the bush and when inflicting their mayhem, they come to town and villages and pass-through farmlands. Whoever they meet on the farmland becomes their first victims.

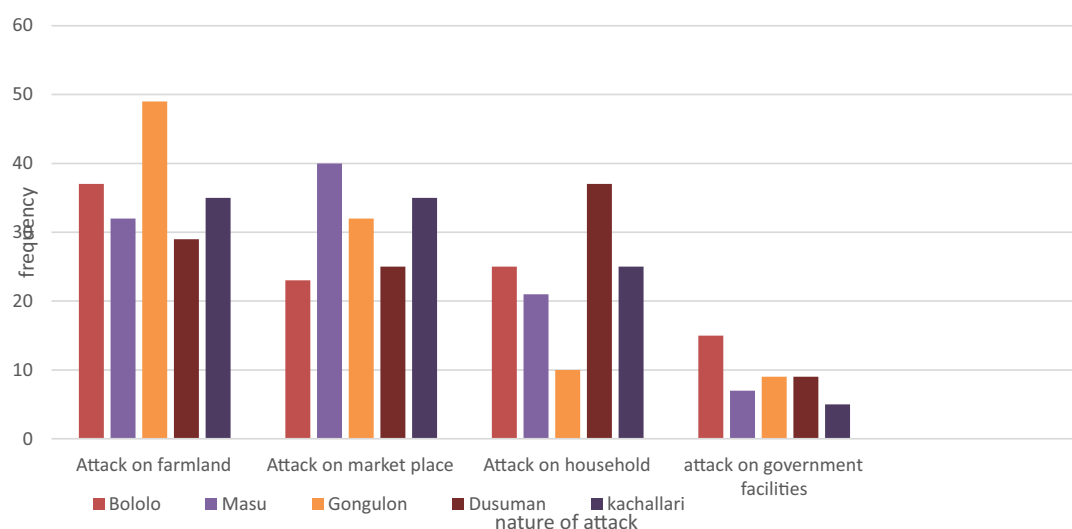


Fig. 2: Impact of *Boko Haram* on some communities of Jere Bowl

It is observed that in these communities, farmers were forced to flee from their homes, markets were closed as a result of attacks, farming activities were suspended in most of these areas, women were abducted during attacks and children were separated from their parents as a result of running for their lives.

Farmers' Coping Strategies during and after *Boko Haram* attacks

Result on safety coping strategies used by respondents during insurgency period are presented in Fig3 and 4. The result revealed that 60% of farmers flee to neighboring communities as IDPs, 27% of the farmers hide in their houses while 13% of the farmers pay taxes to the insurgents to

save their lives and properties. According to United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) 2014 report, there have been steady rise in internally displaced persons from Borno, Yobe and Adamawa States. In December, 2014, there was over 600,000 IDPs (UNOCHA, 2014). The increased activities of the *Boko Haram* sect have increased the influx of Nigerian refugees into neighboring nations over the years. It has been estimated that there are over 30,000 Nigerian refugees in Northern Cameroun, 1,000 Nigerian refugees in Chad (on Lake Chads Choua Island) and more than 50,000 Nigerian refugees in the Diffa region of South East Niger (United Nations High Commissioner for Refugees, 2014).

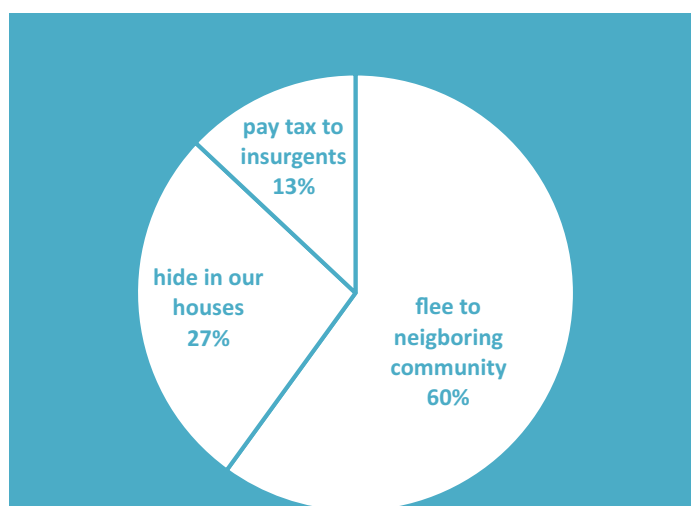


Figure 3 Farmers' Safety Coping Strategies during *Boko Haram* Attack

Result on livelihood coping strategies is presented in Fig.4. The result reveals that some farmers have permanently opted for other businesses in other communities due to frequent attack by the *Boko Haram* insurgents in their communities which have crippled agricultural business specifically rice production and marketing. During or after attack farmers temporarily or permanently relocate to a safe location. Twenty seven (27%) of the respondents came back to their community and continued with their farming activities, 15% of the respondents went to other communities to cut down trees for charcoal business, 19% of the respondents opted for meat selling in abattoirs and in towns,

11% were engaged in road side trading also known as petty trading, 13% opted for vegetable marketing in Maiduguri and other cities, while 15% of these farmers have fled and lodged in camps within Maiduguri and other cities. Shettima et al. (2020) revealed that prior to insurgency majority (77%) of the farmers in Borno, Adamawa and Yobe (BAY) States were engaged in crop production, 50% into livestock and 32% into business. As a result of insurgency however, there was change in sources of livelihoods. Only 54% of the households indicated their most preferred livelihood as crop production. This was followed by hired labour (19%) and business activities (17%).

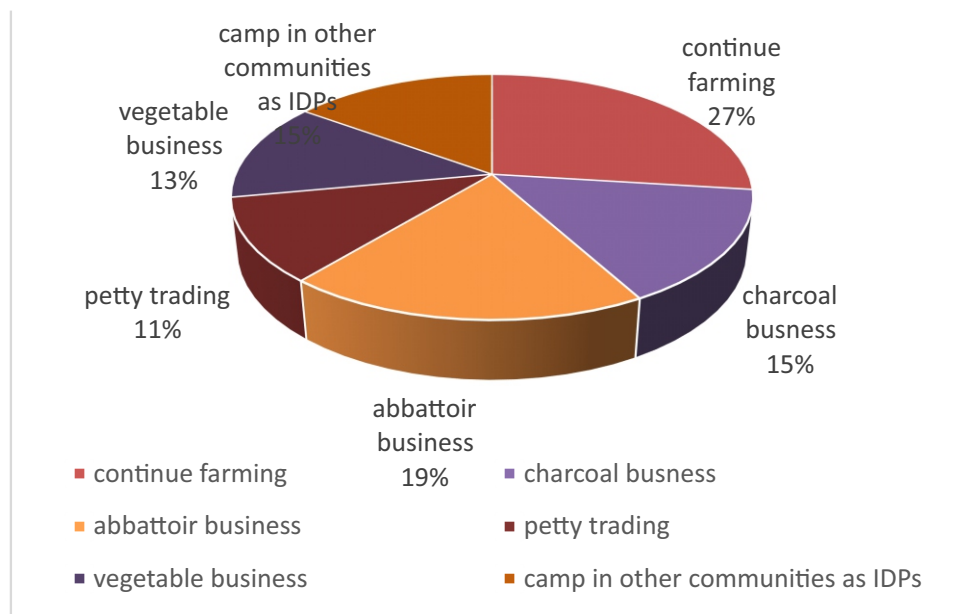


Figure 4: Livelihoods' Coping Strategies of the Respondents

Conclusion

The insurgency in the north-East part of Nigeria has relegated a lot of means of livelihoods in several aspects. The insurgency has caused a huge loss to livelihoods of farmers as a result of loss of farmlands, hence decrease in income and food security of the farmers. Majority of attacks occur on farmlands. The Boko Haram menace has a significant effect on the agricultural viz-a- viz the economic development of the study area and the State at large. Before the insurgency, farmers were able to cultivate large portions of land; stay for a long period of time in the farms, harvest was on a large scale. However, during *Boko Haram* insurgency, the reverse was the case. This constituted a great set-backs and a threat to food security of the locals and Borno State in general.

Recommendations

Based on the findings of this study, it was recommended that;

I. The government should put some policies in place in addition to its existing agricultural policies with emphasis on insurgency-stricken communities which will strengthen farming activities in the study area.

- ii. The state governments should engage in specific agricultural activities on the basis of the principles of comparative advantage. This can assist in reviving the rice production level in the area which in turn provides employment to farmers who have little or no access to their farm lands.
- iii. Capacity building of farmers is of great importance so that they can understand the impact of insurgency which can assist them in decision making for their farming activities.
- iv. The Federal government in collaboration with the state government should see the need for more security presences in Jere Bowl, Jere Local Government to contain their fear and strengthen their confidence of farming in the area.
- v. There should be a synergy and inclusive/partnership between government security and community-based security agencies to strengthen and share intelligence gathering.

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