



## **ANALYSIS OF THE EFFECT OF INSURGENCY ON FOOD CROP PRODUCTION IN GAIDAM LOCAL GOVERNMENT AREA OF YOBE STATE, NIGERIA**

**<sup>1</sup>Rabiu, M. M., <sup>1</sup>Aliyu, Y. M. and <sup>2</sup>Tidy, A. S.**

<sup>1</sup>Department of Agricultural Extension Services, University of Maiduguri

<sup>2</sup>Department of Agricultural Extension Services,

Federal University of Kashere Gombe State, Nigeria

**Corresponding Author's E-mail:** haamuza@gmail.com **Tel.:** 08020663339

### **ABSTRACT**

The project assessed effect insurgency on food crop production in Gaidam local government area of Yobe State, Nigeria. Multi-stage sampling was used in drawing 100 respondents for the study. Information was collected using structured questioners. Both descriptive and inferential statistics were used to analyze the data, descriptive statistics used includes: frequencies, means and percentages. The inferential statistics used was multiple regression model. Youths dominated the food crop activities with (42%) majority with the least of (9%) above 60 years. (76%) of the food crop farmers were married. Majority of 56% of the household members had 9 to 8. Primary education had the highest percentage of (43%) which concludes that most of the farmers had only primary education. (45%) which constitute the majority had 5ha of food crop farm. (40%) earned 71,000 to 100,000 naira. The effect of insurgency on food crop production were low food crop production (96.7%) which was the highest and least were reduced income, (65%). The most utilized coping strategies were business activities (93.3%), craft making (82.5%). All the socioeconomic variables were positive and significant at  $P \leq 0.01$  level except gender which was positive and significant at  $P \leq 0.05$ . Female farmers should be given equal opportunity to engage more in food crop production. The dominance of male over the female in the food crop production should be looked into by the local government, states and federal government. Training and literacy classes should be created by the educational authority in order to educate the farmers.

### **INTRODUCTION**

Insurgency in Nigerian which began in 2009, continues to undermine food security conditions. Since the escalation of violence in 2012, poor households in North Eastern Nigeria have experienced active food insecurity related to this insurgency (Ezema, 2013). According to Amalu (2015), insurgency refers to a violent move by a person or group of persons to resist or oppose the enforcement of law or running of government or revolt against constituted authority of the state or take part in insurrection. Insecurity as constituted by insurgency in the northeastern part of Nigeria have to a large extend displaced tens of thousands of people whose major activities is farming. United Nations Development Program (UNDP) (2020) inserts that insurgency is known to constrain agriculture and in West Africa, these instability challenges come in the form of social, political and economic instability. Violent conflicts often result in complex humanitarian crises that are complicit in incidences of massive economic destruction, cyclical famine, hunger and malnutrition. A typical instance is given by Flores (2004) where conflict in Liberia and Sierra Leone during the 1990s left the two countries with very low levels of agricultural productivity. More recently, insurgency in northern Nigeria revealed a high mortality rate consisting mainly of youths most of whom make-up the main source of labour in the subsistence farming system. A lot of those surviving were captured and forced to join the insurgents while others joined the voluntary vigilante group. The insecurity has brought huge set back to food production and consumption especially among farming household whose



livelihood hinges on agricultural production (Adelaja and George, 2019). The consequence is made manifest in decreased levels of food security and malnutrition. Food security is defined as a situation that exist where all people, at all times have physical, social and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preference for an active and healthy life (Food and Agriculture Organization [FAO], 2013). Also, according to Kakwani and Son (2016) and International Food Policy Research Institute (IFPRI) (2022) food insecurity exists when people do not have adequate physical, social or economic access to food. The term food crop refers to the major food supply derived from plants; a crop assumes human intervention through agriculture. In the main, food crops consist of grains, legumes, seed, and nuts, vegetables, fruit, herbs and spices, beverages.

Agricultural production in Nigeria according to FAO (2022) is largely in the hand of poor farmers predisposing them to low productivity. The critical issues In Nigerian Agriculture are low productivity likewise the problem of declining crop productivity in Nigeria, most especially in the northern Nigeria and particularly northeastern part is compounded by insurgency. Yobe State being part of Northeast with reference to Gaidam has been affected to some extend in food crop production like maize, groundnut, beans, rice, sorghum. Iweze (2020) reveals that this has led to rural urban migration within Nigeria and the neighboring countries of Niger, Cameroun and Chad. Most of those migrating fall within the productive age group, leading to a reduction in farm labour. Adebayo (2014) discloses that farmers who engage in food crop production do so at the risk of losing their lives. This is due to unjustified malicious destruction of lives and properties. Reckless bombings, abduction and massive killing of people have also created fear and a heightened sense of insecurity in the nation. Bello, Sani, Bukar, and Rabi (2017) divulges that the development of any country is dependent on many factors which may fast-track or retard its growth, among which security is central. Security of lives and property plays a major role in the development of any country, as investors in any economy want to be assured of the safety of their investments. Since the risk of doing business increases with insecurity, investors who facilitate industrial growth and employment generation, try as much as possible to avoid such un-favorable business environment.

Combating the scourge of terrorism according to Marvelous, Anyanwu and Apochi, (2019) involves a significant drain on the nation's material and human resources. Consequently, violent insurgency has the capacity to disrupt the life of rural people, who depend largely on Agriculture for their livelihood. The specific objective of the study was to:

- i. examine the socio-economic characteristics of food crop farmers in Gaidam LGA of Yobe State, Nigeria;
- ii. determine the effect of insurgency on food crop production in Gaidam LGA of Yobe State, Nigeria;
- iii. examine coping strategies of insurgency on Gaidam Local Government food crop farmers; and
- iv. determine the effect of insurgency on socio-economic characteristics of food crop farmers in Gaidam LGA of Yobe State, Nigeria.

## **MATERIALS AND METHODS**

### **The Study Area**

Gaidam local government area of Yobe state is located at Latitude: 12°53.6634' N Longitude: 11°55.5894' E. Gaidam has a projected population according NPC (2006) of 221,000. Yobe State in northeast Nigeria is principally an agrarian state with potential to produce crops such as sesame and gum arabic on large scales. The state is also home to one of the biggest cattle stocks in the country. However, crude agricultural practices and poor



knowledge of good agricultural practices among small scale farmers, worsened by a regional armed conflict, are major challenges preventing the state from achieving optimal production (FAO, 2018). The soil type is generally sandy and the annual temperature ranges between 390C to 400C. The rainy season begins in June, with mean annual rainfall between 900 mm – 1500 mm which spread up to October, depending on the year and the hot season is between February–May. The climate favours the production of a wide variety of crops, which include legumes (groundnuts and beans); Cereals (maize, millet, sorghum and rice), solanecious crops (peppers, tomato, garden eggs). The state has the largest cattle markets in West Africa. Animals like; camel, sheep, goats, and poultry are also kept. Yobe, apart from its agricultural orientation, has a rich fishing grounds and mineral deposits of gypsum, kaolin, and quartz (YSGHP, 2012).

The data for the study was obtained from primary and secondary sources. The primary source of data was collected from the despondence through the administration of structured questionnaires. Trained enumerators assisted in the administering of the questionnaires, while secondary sources of information or data was obtained from journals, relevant website, conference proceedings and YOSADP.

**Sampling Procedure**

Gaidam Local Government of Yobe State, Nigeria consists of 11 wards as mentioned in Table 1 Multi stage random sampling was used in this study. The first stage was purposive selection of six (6) wards. Kolori, Balle/ Gallaba, Barko/Zurukuduk, Hausari, Gumsa, Shame Kura/Jororo. The reason for selecting the six wards was for convenience and accessibility. The second stage involved proportionate sampling of villages from the selected ward. The third stage involved random selection of 100 respondents from the sampling frame (Table 1).

**Table 1:** Sampling selection plan

| Ward             | Wards selected   | No. selected villages | Selected farmers |
|------------------|------------------|-----------------------|------------------|
| Kolori           | Kolori           | 5                     | 10               |
| Ashekari         |                  |                       |                  |
| Hausari          | Hausari          | 8                     | 16               |
| Balle/ Gallaba   | Balle/ Gallaba   | 9                     | 17               |
| Futchimiram      |                  |                       |                  |
| Dajina/ Fuurti   |                  |                       |                  |
| Barko/Zurukuduk  | Barko/Zurukuduk  | 7                     | 23               |
| Gumsa            | Gumsa            | 5                     | 17               |
| Ma ana/ Dagambi  |                  |                       |                  |
| ShameKura/Jororo | ShameKura/Jororo | 5                     | 17               |
| Kusur/ Damakarwa |                  |                       |                  |
| 11               | 6                | 39                    | 100              |

Source: Field Survey (2021).

**Analytical Techniques**

Both descriptive and inferential statistics would be used to achieve the objectives of this study. Descriptive statistics in the form of frequencies, mean, and percentage would be used to achieve objective (i), (ii), and (iii), while inferential statistics is the form of multiple regression will be used to achieve objective (iv)

It is thus expressed as:

$$Y = \beta_0 + \beta_{1 \times 1} + \beta_{2 \times 2} + \beta_{3 \times 3}, \dots \beta_{10 \times 10} + e \quad \dots (1)$$

Y is the independent variable the effect of insurgency on food crop production.



X is the dependent variable which is the socio-economic characteristics  
e is the error term

X<sub>1</sub> = Age (years)

X<sub>2</sub> = Gender (m = 1, f = 0)

X<sub>3</sub> = marital status (M = Married, S = Single, C = Divorced)

X<sub>4</sub> = Educational (years spent in School)

X<sub>5</sub> = Farm (ha)

X<sub>6</sub> = Income (Naira)

X<sub>7</sub> = Access to credit (access =1 otherwise = 0)

X<sub>8</sub> = Extension contacts (access =1 otherwise = 0)

X<sub>9</sub> = Farming Experience (Years Spent in farming)

X<sub>10</sub> = household Size (No. of Household Members)

## RESULTS AND DISCUSSION

### Socio-economic Characteristics of Food Crop Farmers

From the Table 2, the result revealed that majority of the respondents were male (71%). The implication of the finding found that majority of the food crop farmers in the study area were dominated by male. In addition, this finding further explained that male is more likely to be victims of insurgents than their female counterpart. Table 1 found out that the majority of those involved in food crop production in Gaidam LGA were between the ages of 31-40 years (42.0%). The implication of this result revealed that those involved were youths full of energy, zeal and enthusiasm. The implication of this findings was that the respondents are dynamic and can cope with the unfolding security challenges. Put differently, the least were between the ages of 51-60 and 60 above. The implication found that those within the ages of 51-60 and above least participate in food crop production in Gaidam LGA of Borno State, Nigeria. Table 2 found that majority of those who participate in food crop production food crop were married. The implication was that married farmers have more responsibility that is family to take care of (Hospital bills, school fees, feeding).

The study in Table 2 discovered that 56% of the respondents were having household size 5-8. The study justified that those with high number of household size participate in food crop production and were having strong to produce more food and can diversify their source of income in case of displacements by the insurgence. The Table 2 found out that insignificant majority of 43% had primary education. The implication of the study revealed that the level of education in the study area was very low. This will have negative effects on understanding Agricultural packages. The information on Table 2 found that the farm size of the respondents in the study area is 45% and had less than 5 ha of land for food crop production. This study conclude that majority of the food crop farmers were small holder farm owners which could affects their net farm income. This implies that, the study area produces at subsistence level. The study shows that majority of the respondents (54%) personally owned the land. The implication was that the food crop farmers owned the either through inheritance, buying or allocation form of the government. This could help in maximizing profit as compared to those who rent the land or hired it for food crop production.



**Table 2:** Socio-economic Characteristics of Food Crop Farmers

| <b>Socio-economic Variables</b>     | <b>Frequency</b> | <b>Percentage</b> |
|-------------------------------------|------------------|-------------------|
| <b>Gender</b>                       |                  |                   |
| Male                                | 71               | 71.0              |
| Female                              | 29               | 29.0              |
| <b>Age</b>                          |                  |                   |
| Less than 20 years                  | 2                | 2.0               |
| 21-30                               | 11               | 11.0              |
| 31-40                               | 42               | 42.0              |
| 41-50                               | 24               | 24.0              |
| 51-60                               | 12               | 12.0              |
| 60 years and above                  | 9                | 9.0               |
| <b>Marital status</b>               |                  |                   |
| Married                             | 76               | 76.0              |
| Single                              | 12               | 12.0              |
| Divorced                            | 3                | 3.0               |
| Widow                               | 4                | 4.0               |
| Widower                             | 5                | 5.0               |
| <b>Household size</b>               |                  |                   |
| less than 5                         | 10               | 10.0              |
| 5—8                                 | 56               | 56.0              |
| 9—11                                | 23               | 23.0              |
| 12—14                               | 7                | 7.0               |
| 15 and above                        | 4                | 4.0               |
| <b>Number of years in education</b> |                  |                   |
| Non formal education                | 23               | 23.0              |
| Primary education                   | 43               | 43.0              |
| Secondary                           | 14               | 14.0              |
| Tertiary                            | 20               | 20.0              |
| <b>Farm size(ha)</b>                |                  |                   |
| less than 5                         | 45               | 45.0              |
| 5—8                                 | 23               | 23.0              |
| 9—12                                | 12               | 12.0              |
| 13—16                               | 16               | 16.0              |
| 17 and above                        | 4                | 4.0               |
| <b>Ownership of farm land</b>       |                  |                   |
| Hired/Rented                        | 14               | 14.0              |
| Personal                            | 54               | 54.0              |
| Family                              | 32               | 32.0              |

Source: Field Survey (2022)



**Table 2:** Socio-economic Characteristics of Food Crop Farmers Cont'd.

| <b>Socio-economic Variables</b>          | <b>Frequency</b> | <b>Percentage</b> |
|--|------------------|-------------------|
| <b>Annual income</b>                     |                  |                   |
| Less than 50,000                         | 13               | 13.0              |
| 50,000-70,000                            | 24               | 24.0              |
| 71,000-100,000                           | 40               | 40.0              |
| 101,000 and above                        | 23               | 23.0              |
| <b>Farming Experience</b>                |                  |                   |
| Less than 4                              | 12               | 12.0              |
| 4—8                                      | 25               | 25.0              |
| 9—12                                     | 24               | 24.0              |
| 13 and above                             | 39               | 39.0              |
| <b>Membership of Farmer Organization</b> |                  |                   |
| Yes                                      | 68               | 68.0              |
| No                                       | 32               | 32.0              |
| <b>Access to Extension Services</b>      |                  |                   |
| Yes                                      | 81               | 81.0              |
| No                                       | 19               | 19.0              |
| <b>Access to Agricultural Credit</b>     |                  |                   |
| Yes                                      | 23               | 23.0              |
| No                                       | 77               | 77.0              |

Source: Field Survey (2022)

The Table 2 results revealed that annual income the respondents derived from food crop production. The farmers received 71,000 – 100,000 Nigerian naira as annual income. This justified that majority were small scale farmers at subsistence level. This study further exposed that, the respondents. This explains that in any situation insurgents attack or prevent farmers from accessing farm, hunger, food shortage and subsequent starvation.

The information on farming experience is revealed in Table 2. Farming experience is determined by number of years one spent in active food crop production. Table 2 found that majority of the 39% had 13 and above years in crop production. This justified that majority have adequate years in food crop production and experiences to know the dynamics of how insurgence attacks. The finding in Table 2 revealed the number of farmer's organization. Membership of farmer organization is a fulcrum where farmers derived various Agricultural information on either crop pest control, improved seeds or access to information. Majority of 68% were members of farmer organization. This could be an important avenue where farmers could on agronomic, practices and credit.

Access to extension services is an important avenue where farmers can get guidance, technical information from someone via extension agent. The study in Table 2 discovered that overwhelming majority of (81%) had access to extension services. The implication of this finding is that majority have adequate technical to boost food crop production. Agricultural credit is designed to help farmers in day-to-day agricultural production. Table 2 revealed that 77% had no access to agricultural credit. This clearly justified the low income of the respondent where the majority received 71,000 – 100,000 naira.

### **Effects of Insurgency on Food Crop Production**

The Table 3 above revealed the effect of insurgency in Gaidam local government area of Yobe State, Nigeria. It was discovered that low food crop production was having the highest effects of (96.7%). The implication of this finding was that insurgency had crippled the food



production in the study area which could have negative effects on food availability. This could result to food shortage and hunger. Others were; reduced income and inaccessibility to farm land (65% and 63.3%), respectively.

**Table 3:** Effects of Insurgency on Food Crop Production in the Study Area

| Effects of Insurgency on Food Crop Production | *Frequency | Percentage |
|---|------------|------------|
| Low food crop production                      | 116        | 96.7       |
| Inaccessibility of Farm Land                  | 76         | 63.3       |
| Inaccessibility of Rural Market               | 45         | 37.5       |
| Poor Nutrition                                | 54         | 45.0       |
| Unemployment                                  | 32         | 26.7       |
| Reduced income                                | 78         | 65.0       |
| Rural Urban Migration                         | 12         | 10.0       |
| Increased Social Vices                        | 32         | 26.7       |
| Increased Hunger                              | 43         | 35.8       |
| Hike in prices of commodities                 | 9          | 7.5        |
| Loss of Crop Harvested to the Insurgent       | 4          | 3.3        |
| Loss of Invested Money                        | 3          | 3.0        |

\*Multiple Responses

Source: Field Survey (2022).

These findings (Table 3) explains that as a results of insurgency farmers in Gaidam LGA of Yobe State, Nigeria experienced reduced income and accessibility to farm land. This could have negative effects on socioeconomic of the residence and they may cope negatively. Consequently, poor nutrition, inaccessibility to market and increased hunger had (45%, 37%, and 35.8%) respectively. The connotation of these findings was as a result that insurgents created havoc and prevented farmers going to farm, having access to markets in order to have transaction caused the farmers to have hunger which resulted to poor nutrition to support correct physiological performance of human lives. As a results of stagnated farming activities which prevented many from going to farm and market few resulted to social vices (26.7%). Furthermore, (26%) remained unemployed as a result of displacement by the insurgents. Others were having insignificant impact on the farmers which were; hike in prices of commodities, loss of harvested crops to insurgents and loss of money.

**Copying Strategies to the Effects of Insurgency**

The Table 4 below succinctly explains to coping strategies employed by the respondents to cushion the effects of insurgent in the study area. It was discovered that the most utilized coping strategies were (back yard farming, 96.7%, business activities, 93.3%, craft making 82.5%). The implication of this findings was that majority opted to back yard farming to rise crops in order to support households, some opted to engaging in business activities in order to alleviate the situation. Others opted to craft making, this could be an important business because the crafts made could be exported and would generate income. Others adjusted to livestock rearing (78.3%) and fishing (72.5%), the implication of these finding were that they chose rearing of livestock which could be sold to big cities. This apparently a good source of income. Fish is another source of protein which is now booming and are exported to various states in Nigeria. It is a good source of income to the farmers and revenue to the government. (81.7%) opted to riding Napep which is the only source of transport. (78.3%) opted to dry season when the insurgents most have vacated the farm land. (57.5%) opted to processing of



agricultural product and adding value to it. Others were having the insignificant percentages, (begging 58.3% and petty trading 50.0%).

**Table 4:** Copying Strategies to the Effects of Insurgency in the Study Area

| Copying Strategies                  | *Frequency | Percentage |
|-------------------------------------|------------|------------|
| Livestock Rearing                   | 94         | 78.3       |
| Fishing                             | 87         | 72.5       |
| Processing of Agricultural Products | 69         | 57.5       |
| Riding Napep                        | 98         | 81.7       |
| Craft Making                        | 99         | 82.5       |
| Poultry Farming                     | 78         | 65.0       |
| Business Activities                 | 112        | 93.3       |
| Petty Trading                       | 60         | 50.0       |
| Begging                             | 70         | 58.3       |
| Dry Season Farming                  | 94         | 78.3       |
| Back Yard Farming                   | 116        | 96.7       |

\*Multiple Responses

Source: Field Survey (2022).

### Effect of Insurgency on Socioeconomic Characteristics

Multiple regression was used to determined socioeconomic factors influencing the perceived effect of climate variability. The exhibit an R-square of 0.75 which means about 75.0% of the variation in dependent variable was explained by independent variables, this shows that the model fit the data. The results from the Table 5 revealed that the coefficient of gender was positive and significant at 5% implies that a respondent's being male has higher chance of having the effects of insurgents than female counter part. The coefficient of age 0.3064 exhibit positive and significant at 1% level which show that age significant with the effect of insurgents. The rest were at all positively significant at (\*\*\*) 5% marital status, household size, years of education, farm size, ownership of farm land, annual income, farming experience, membership of organization access to credit and access to extension services, respectively. The implication of these findings, all these variables were negatively affected. The implication of these findings was that without insurgence, the aforementioned variable could have helped in increased farmers' output.





**Table 5:** Effect of Insurgency on Socioeconomic Characteristics

| Variables                     | Coefficient | Std. error | t-value |
|-------------------------------|-------------|------------|---------|
| Gender                        | 1.0797      | 0.4390     | 2.5**   |
| Age                           | 0.3064      | 0.0172     | 17.8*** |
| Marital status                | 0.3767      | 0.0606     | 6.2***  |
| Household size                | 0.2844      | 0.1010     | 2.8***  |
| Years of education            | 0.0199      | 0.0014     | 13.9*** |
| Farm size                     | 0.4735      | 0.1421     | 3.3***  |
| Ownership of farmland         | 0.0724      | 0.0074     | 9.7***  |
| Annual income                 | 0.0345      | 0.0019     | 18.3*** |
| Farming experience            | 0.0246      | 0.0052     | 4.7***  |
| Membership of organization    | 0.0232      | 0.0056     | 4.2***  |
| Access to extension services  | 0.1544      | 0.0151     | 10.2*** |
| Access to agricultural credit | 0.2280      | 0.0160     | 14.3*** |
| Cons                          | 3.4864      | 0.6912     | 5.0***  |
| R <sup>2</sup>                | 0.75        |            |         |

Note: \*\*, \*\*\* are significant at 5% and 1%, respectively.

## CONCLUSION AND RECOMMENDATIONS

The results concluded that male dominated food crop production in Gaidam LGA of Yobe State, Nigeria. Youths dominated the food crop activities with (42%) majority with the least of (9%) above 60 years. (76%) of the food crop farmers were married. Majority of 56% of the household members had 9 to 8. Primary education had the highest percentage of (43%) which concludes that most of the farmers had only primary education. (45%) which constitute the majority had 5ha of food crop farm. (40%) earned 71,000 to 100,000 naira. The effect of insurgency on food crop production were low food crop production (96.7%) which was the highest and least were reduced income, (65%). The most utilized coping strategies were business activities (93.3%), craft making (82.5%). All the socio-economic variables were positive and significant at (1 % \*\*\*) level except gender which was positive and significant at (5% \*\*). This study the effect of insurgency on food crop production recommended that:

1. Female farmers should be given equal opportunity to engage more in food crop production. The dominance of male over the female in the food crop production should be looked into by the local government, states and federal government.
2. Training and literacy classes should be created by the educational authority in order to educate the farmers.
3. The income of the food crop farmers was very poor. Sources of credit should be made available in order to boost food crop production
4. Income generation training should be organized by non-governmental organization which will alleviate the suffering food crop loss
5. Access to rural market was one of the identified setbacks experienced by the farmers. It is therefore, recommended that market linkage training be organized to the farmers by local or state government.

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