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Impact Boko Haram Insurgency on Socio-Demographic Characteristics and Agricultural Practices of Small-Scale Farmers in Jere Local Government Area, Borno State, Nigeria

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Abstract

The study examined the Impact of Boko Haram Insurgency on Socio-Demographic Characteristics and Agricultural Practices of Small-Scale Farmers in Jere Local Government Area, Borno State, Nigeria. Survey research design was used in this study. The objectives of the study were to examine; the socio-demographic characteristics of small scale farmers and the types of agricultural activities engaged in by small scale farmers in Jere local government area. The target population for the study were all the small scale farmers in Jere local government of Borno State. The populations sample was 150 respondents selected using rule of thumb by Nwana, (1981). The instrument for data collection was questionnaires. Interviews were also conducted using questions that were complementary to the questionnaire to strengthen arguments and issues raised. Data collected were analysed using Descriptive statistics of frequencies, percentage and graph. Findings from this study shows that, the small-scale farming population in Jere Local Government Area are predominantly middle-aged, male, and primarily educated through Qur'anic/Islamic schooling, with most farmers having 1-10 years of farming experience. It also shows that, the insurgency has led to a notable reduction in the practice of highly diversified mixed farming (crop/livestock/vegetable), with farmers likely shifting towards simpler, less resource-demanding combinations. Based on the findings from this study, the following recommendations were made; government and non-

governmental organizations (NGOs) should implement agricultural extension programs that are culturally sensitive and tailored to the educational background of these farmers. Government, NGOs and other agencies should also provide targeted support for farmers to rebuild and diversify their farming activities.

Keys; Impact, Boko Haram Insurgency, Agricultural Productivity, Small Scale Farmers.

Introduction

Basic human needs are directly linked to agriculture, which is an engine of growth and agent of development. Agriculture is adversely affected by environmental degradation, resource scarcity and inter/intra group violent conflict among other factors. Failure of development, poverty, deprivation, and dysfunctional political processes breed violent conflicts. In the 'zone of conflict' a vicious cycle of poverty, deprivation, poor governance, and violence exist with stunted economic growth and development as a hallmark of the negative repercussion of the conflict. On the contrary, in a conflict free zone, prosperity, democracy, and peace prevails accompanied by numerous stimulus that guaranteed savings, wealth creation, provision of agricultural and social infrastructure (Soysa and Gleditsch,1999). A peaceful environment also ensures near absence of infant mortality, poverty, hunger, malnutrition and diseases, substituted with improved conditions of living necessary for rapid agricultural and economic developments for the benefit of the rural poor. The Boko Haram insurgency has had profound and far-reaching impacts on various sectors in Nigeria, particularly in the northeastern region, where the group has been most active. Among the most severely affected are small-scale farmers, whose agricultural productivity has drastically declined due to the violence and instability caused by the insurgency. The displacement of communities, destruction of farmlands, loss of livestock, and disruption of supply chains have collectively crippled the agricultural activities that form the backbone of local economies (Adelaja & George, 2019). This decline in agricultural productivity has not only led to food insecurity in the region but has also undermined the livelihoods of countless families who rely on farming as their primary source of income.

The disruption caused by Boko Haram has created a climate of fear and uncertainty, making it difficult for farmers to engage in regular agricultural activities. Many farmers have been forced to abandon their farm land due to the threat of violence, resulting in a significant reduction in cultivated areas and subsequent crop yields (Audu, 2018).

Furthermore, the insurgency has disrupted local markets, making it challenging for farmers to sell their produce or acquire necessary inputs like seeds and fertilizers. This ongoing instability poses a significant threat to the food security and economic stability of the region, highlighting the urgent need for interventions that can restore agricultural productivity and support the resilience of small-scale farmers in the face of such adversity.

Over dependence on agriculture is linked to a 'backward' economy and this probably explains why about 80% of the world population are hungry and live in rural areas. Over 2.1-2.3 billion or 60% of the world population are involved in small holder farming with a view to reducing hunger, malnutrition, diseases and ensuring food security (Food and Agricultural Organization (FAO,2010). Attainment of food security entails food availability, food accessibility and food affordability (World Bank, 2001). It also includes physical and economic access to sufficient, safe and nutritious food to meet the dietary needs and food preferences for an active healthy life (Food and Agricultural Organization, 1996).

Agriculture contributes about 40% of GDP in Nigeria, provide food and income for rural dwellers, raw materials for industries, earn foreign exchange, provides employment, ensures social stability and guarantee food security (Adebayo, 2010; Omorogiuwa, Zivkovic and Ademoh 2014; Olayide, Akinlabi and Tijani, 2015).

Smallholder agriculture is the basic source of livelihood of the rural poor in Nigeria. Conflict usually hit small farmers the hardest; and the already poor often lose the few assets and tools they have, joining the masses of hungry population. The economic losses, social disturbance and the disruptions to food supply and access associated with conflicts can be disastrous, especially in low-income communities where there are no effective social safety nets (Carter,1999).

Statement of the Problem

The Boko Haram insurgency has significantly disrupted the lives of small-scale farmers in Jere Local Government Area, Borno State, Nigeria. Jere local government area, once known for its agricultural productivity, has been severely affected by the violence and instability brought about by the Boko Haram insurgency. The socio-demographic characteristics of these farmers, including their age, gender, education, and household composition, have been altered as many have been displaced, lost family members, or been forced to abandon their homes and farms. These disruptions have led to a decline in agricultural activities, as fear of attacks, loss of manpower, and destruction of farmland have made it difficult for farmers to maintain their livelihoods. The long-term effects of this conflict on the socio-demographic structure of farming communities and their agricultural practices remain under-researched, leaving a critical gap in understanding how to support these vulnerable populations.

The Boko Haram insurgency has drastically impacted the agricultural practices of small-scale farmers in Jere local government area. Traditional farming methods, crop choices, and land use patterns have been disrupted as farmers struggle to adapt to the new realities of insecurity and displacement. The lack of access to markets, inputs, and agricultural extension services further exacerbates the challenges faced by these farmers. As a result, food insecurity and poverty have increased in the region. However, there is limited empirical evidence on the specific ways in which the insurgency has affected both the socio-demographic characteristics and the agricultural practices of small-scale farmers in Jere. This study seeks to address this gap by examining the impact of Boko Haram Insurgency on Socio-Demographic Characteristics and Agricultural Practices of Small-Scale Farmers in Jere Local Government Area, Borno State, Nigeria

Objectives of the Study

The objectives of the study are to:

i. examine the socio-demographic characteristics of small scale farmers in Jere local government;
ii. examine the types of agricultural activities engaged in by small scale farmers in Jere local government area

Research Questions

The following research questions were answered to guide this study;

i. what are the socio-demographic characteristics of small scale farmers in Jere local government?
ii. what are the types of agricultural activities engaged in by small scale farmers in Jere local government area?

Significance of the Study

This study will be of significance to; Small scale famers, Borno state government, NGOs, researchers and students. It will offer valuable data that can assist the Borno State government in developing and implementing policies aimed at mitigating the impacts of insurgency on agriculture. Non-governmental organizations (NGOs) working in the region can use the findings to tailor their interventions and support initiatives. For researchers, the study adds to the body of knowledge on the impact of conflict on agriculture and small-scale farming. The study will also provide a detailed case study that can serve as a basis for further research on similar topics or for comparative studies in other conflict-affected regions. Students studying agriculture, conflict resolution, or development studies can benefit from this research as it offers a real-world example of how conflict affects agricultural productivity. The study

provides practical insights and data that can be used in academic projects, dissertations, or coursework, enhancing their understanding of the complex interplay between conflict and agriculture.

Literature Review

In a study conducted by Tauer, (1995) on agricultural census data, he concluded that farmer's age contributes to increase or decrease in farmers' productivity and suggested that age bracket of 35 and 45 years was the most active and productive. A decline in productivity of up to 11% was observed in farmers over 65 years of age. Demographic challenges could limit global food production because the average age of farmers is 50.3 years in the U.S and 60years in the developing countries. Although, over 60% rural population aged below 25years, the youth do not see future in Agriculture. Hence, they migrate to the urban areas for better prospects.

The term agriculture has been defined in many different ways depending on the perspective or speciality of the author. It is viewed in terms of land, geography, and business, law or farming activity. "Agriculture is defined as the art, the science and the business of producing crops and the livestock for economic purposes". It is seen as an art because it embraces knowledge of farm operation in orderly manner involving physical and mental skills; it is a science because it employs technological innovation such as improved seedling/ breeding to increase yield and reduce diseases in today's agriculture. The concept of agriculture transcends beyond production for household consumption to business aimed at maximizing net return through coordination of land, labour and capital for improved yield Chandrasekaran, Annadurai and Simasundaram (2010)

Agriculture is the main source of survival in most households in Sub-Saharan Africa. About 61.4% of the African population lives in the rural areas with 57.3% of the teeming population engaged in small holder farming and farming related activities. Although, agriculture supplies food and foreign earnings to the rural dwellers, poverty in the rural communities is high and labour productivity is low. The persistence of poverty among the rural farmers may be attributed to small farm size which is always below 5 hectares and 30% lower compared to small farm size in European Union (12.6 ha), 169ha in the US. Unfortunately, low agricultural productivity is synonymous to small farm size in sub-Saharan African Dexcon and Gollin, (2014).

Attempts have been made by successive governments in sub-Saharan countries like Nigeria, Kenya, Somalia, etc. to liberate the agricultural sector from its traditional subsistence level using a robust market oriented strategy that ensures high productivity. Some African states, enhance their agricultural capacity to absorb workers while others use agriculture to support domestic food needs. Despite the enormous contribution of agriculture to regional or national economy, it was argued

that development strategy aimed at agricultural investments may lead to wasteful expenditure of resources Dercon and Gollin (2014).

On the impact of education on agricultural productivity, Okpachu, Okpachu and Obijezi (2014) concluded that education impacted positively on the agricultural productivity of small scale farmers. In a similar study, Eric, Prince and Alfreda (2014) revealed that as level of education increases farmers output also increases, they concluded that education is vital for agricultural productivity. This view was supported by the works of Reimers and Klasen (2011) that education has a highly significant, positive effect on agricultural productivity distinguishing different levels of education that only primary and secondary schooling have significant positive impact on agriculture positivity while tertiary education remains insignificant. Similarly, Da and Sahoo (2012) reported that the relationship between levels of farmers' education and level of productivity is positive, continuous and significant.

Agriculture is classified in many different ways using some criteria that include the scale, type of crop, livestock combination intensity, means of distribution of farm product and level of mechanization.

Chandra, (2018) classified types of agriculture to include Nomadic herding where animals are reared on rational pastures moving from one place to the other. Livestock ranching is another types of agriculture where the farmer and the animals live a settled life in a large plots of land for grazing by the animals. Shifting Cultivation practice involve farming in land for a period until fertility declines or over taken by weeds or native flora which will compel the farmer to clear another land for use. Other types of agriculture are rudimentary tillage, intensive subsistence farming with or without rice dominance, commercial plantation, commercial grain farming, livestock and grain farming and subsistence crop and stock farming.

Agriculture is also classified into two different types: subsistence and industrialized agriculture. Subsistence agriculture is a self-sufficiency farming system in which the farmers focus on growing enough food to feed themselves and their entire families. The output is mostly for local requirements with little or no surplus trade. Subsistence farming is also classified into sifting cultivation, primitive agriculture, Nomadic herding, intensive subsistence farming. Industrialized agriculture is a form of modern farming that involves the industrialized production of livestock, poultry, fish and crops. It involves techno scientific, economic and political methods (http://www.newworldenclopedia.org/entry /industrial agriculture).

Agricultural activity means the cultivation of the soil, planting of crops, growing of fruit trees, including the harvesting of such farm products and other farm activities and practices performed by a farmer in conjunction with such farming operations.

Akinsanya (2010) also classified agricultural practices into two (2) groups: planting of crop and which include land preparation, planting, immigration, fertilizer application,

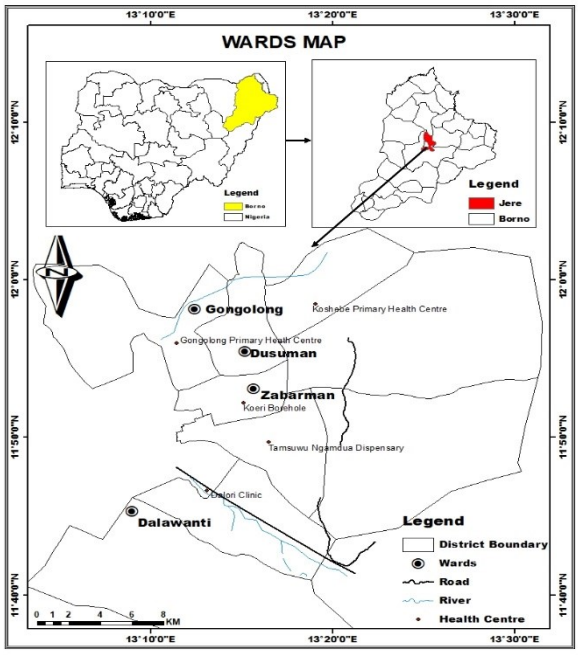
mulching, thinning, weeding, pest and control management, harvesting and all activities carried out in post-harvest processing and storage. The second type has to do with livestock production and animal husbandry including genetics and breeding, pasture management, feeding, pest management and disease control, processing of milk, eggs, meat, hides and skin etc.

Methodology

The study examine Impact Boko Haram Insurgency on Socio-Demographic Characteristics and Agricultural Practices of Small-Scale Farmers in Jere Local Government Area, Borno State, Nigeria. Survey research design was used this study. Jere local government area of Borno state, North- Eastern Nigeria was the study area. The local government was created in 1996 out of the then Maiduguri Metropolitan Council (MMC). It covers 868 km^2 with population density of 256.6 inhabitants per km^2 and an extrapolated population of 2,466,832 in 2017 at a growth rate of 2.8 % (National Population Commission, 2011).

Jere local government area is located between latitude 11° 40[1] and 12° 05 N and longitude 13° 50 and 12° 20 E. It shares borders with MMC to the North, flanked by Mafa local government on the East, and surrounded by Konduga local government on the West and South axis (Tijani, *et al., 2010*).

Map of Jere Local Government Showing Study Areas



Source: Geography Department, University of Maiduguri, 2021

The target population for the study were all the small scale farmers involved in rain fed and irrigation farming of crops and vegetables. It also includes farmers engaged in livestock rearing in Jere local government of Borno State. The populations sample was 150 respondents selected using rule of thumb by Nwana, (1981) where he advocated the use of 10% as sample size for population of few thousands and for some thousands, 5% of the sample or a smaller amount of sample can adequately represent the population. The instrument for data collection was questionnaires. Interviews were also conducted using questions that were complementary to the questionnaire to strengthen arguments and issues raised.

One hundred and fifty Questionnaires were administered. Data collected were analysed using Descriptive statistics of frequencies, percentage, graphs and charts were used to analyse the objectives of the research.

Results

Table 1 Socio-Demographic Characteristics of Small Scale Farmers in Jere Local Government Area

Socio-Demographic variables	Frequencies	Percentage
Age (years)	`	
18-35	31	20.7
36-45	37	24.6
46-55	34	22.7
56-67	35	23.3
65 and above	13	8.7
Sex		
Male	104	69.3
Female	46	30.7
Marital status		
Married	99	66
Single	22	14.7
Divorced	15	10
Widow	14	9.3
Educational Qualification		
Primary school	18	12
Qur'anic/Islamic Education	102	68
Secondary/Teachers Collage	16	10.7
Tertiary	14	9.3
Others	-	-
Household size		
1-5	45	30
6-10	57	38
11-15	26	17
16nd above a	22	15
Farming Experience (years)		
1-10	68	45.3
11-20	35	23.3
21-30	28	18.7
31-40	17	11.3
40 and above	2	1.3

Source: Field Survey, 2019.

The table above presents the socio-demographic characteristics of small-scale farmers in Jere Local Government Area, as presented in Table 1, provide a comprehensive

overview of the population engaged in farming within the region. The age distribution shows a relatively even spread across different age groups, with the majority of farmers falling between the ages of 18 and 67 years. Specifically, the largest age group is 36-45 years, comprising 24.6% of the farmers, followed closely by those aged 56-67 years with 23.3%, and 46-55 years with 22.7%. The youngest group, aged 18-35 years, represents 20.7%, while those aged 65 and above make up only 8.7% of the population. This indicates that the farming population is predominantly middle-aged, with fewer younger and older individuals involved.

The sex distribution reveals a significant male dominance in farming activities, with 69.3% of the farmers being male and only 30.7% female. Regarding marital status, a majority of the farmers were married, accounting for 66% of the population, while 14.7% were single, 10% divorced, and 9.3% widowed. Educational qualifications among the farmers show that a large proportion, 68%, have Qur'an/Islamic education, while only a small percentage have completed primary school 12%, secondary/teachers college 10.7% with tertiary education 9.3%. Household size varies, with the largest group being households of 6-10 members, representing 38%, followed by households of 1-5 members at 30%. The farming experience of the respondents highlights that nearly half (45.3%) have 1-10 years of experience, while a smaller percentage have 11-20 years (23.3%) or 21-30 years (18.7%) of experience. Only 1.3% have more than 40 years of farming experience. These characteristics provide valuable insights into the demographics and experience levels of small-scale farmers in the area, which could influence their farming practices and productivity.

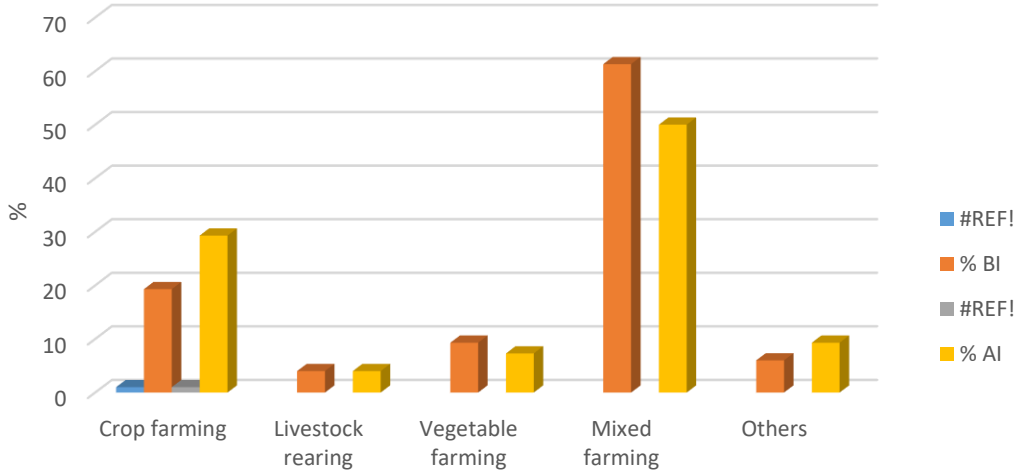


Figure 4.1: Types of Agricultural Activities Before and After Insurgency

Source: Field Survey, 2019.

The results in figure 1 above revealed that substantial proportion of the respondents 92 or 61.3% were engaged in mixed farming before insurgency. After insurgency, mixed farming practice declined to 75 or 50%. Prior to the insurgency, 19.3% practiced crop farming but the activity received a boost to 29.3% in the post – insurgency period. Livestock rearing remain unchanged during the pre and post insurgency period.

Table 2: Distribution of Farming Activities in Mixed Farming in Jere Local Government Area.

Type of Mixed Farming Before Insurgency	Frequency	Percent (%)	Type of Mixed Farming After Insurgency	Frequency	Percent (%)
Crop/Livestock	30	32.7	Crop/Livestock	31	41.3
Crop/Vegetable	17	18.4	Crop/Vegetable	18	13.3
Livestock/Vegetable	2	2.2	Livestock/Vegetable	5	6.7
Crop/Livestock/Vegetable	43	46.7	Crop/Livestock/ Vegetable	21	28
Total	92	100			

Source: Field Survey, 2019.

The table above represents the distribution of farming activities in mixed farming before and after the insurgency in Jere Local Government Area, as presented in Table 2, which illustrates notable shifts in the agricultural practices of local farmers. Before the insurgency, the most common type of mixed farming was the combination of crop, livestock, and vegetable farming, which was practiced by 46.7% of the farmers. This diversified approach likely provided farmers with a balanced and resilient farming system that could support their livelihoods through multiple income sources and food production options. Crop and livestock farming was the second most prevalent practice, accounting for 32.7% of the farmers, followed by crop/vegetable farming at 18.4%, and livestock/vegetable farming at a mere 2.2%. This distribution indicates that prior to the insurgency, farmers in Jere local government area were engaged in a variety of mixed farming practices, with a strong emphasis on integrating crops, livestock, and vegetables.

However, the data after the insurgency reveals significant changes in these practices. While crop/livestock farming has seen a slight increase to 41.3%, the percentage of farmers engaging in the more diversified crop/livestock/vegetable farming has dropped substantially to 28%. This decline suggests that the insurgency may have disrupted the ability of farmers to maintain a more complex and diversified farming

system, possibly due to the loss of resources, land, or labor. Interestingly, livestock/vegetable farming, though still the least common, has more than tripled, increasing to 6.7%, which might indicate a shift towards more manageable and less resource-intensive farming activities. The overall shifts in these practices highlight the impact of the insurgency on the agricultural activities of small-scale farmers in the region.

Findings

1. Findings from this study shows that, the small-scale farming population in Jere Local Government Area are predominantly middle-aged, male, and primarily educated through Qur'anic/Islamic schooling, with most farmers having 1-10 years of farming experience.
2. It also shows that, the insurgency has led to a notable reduction in the practice of highly diversified mixed farming (crop/livestock/vegetable), with farmers likely shifting towards simpler, less resource-demanding combinations

Discussion

The finding that the small-scale farming population in Jere Local Government Area is predominantly middle-aged, male, and primarily educated through Qur'anic/Islamic schooling, with most farmers having 1-10 years of farming experience, is consistent with patterns observed in other regions of Nigeria and similar developing contexts. Studies such as those by Olaniyi and Adewale (2019) have shown that middle-aged individuals tend to dominate farming activities because they are in their most economically productive years, balancing physical ability with the experience necessary for effective farm management. This trend is critical because it indicates a stable yet aging farming population, with potential implications for the future sustainability of agricultural practices, particularly if younger generations continue to migrate to urban areas in search of better opportunities, as noted by Olarinde and Kuponiyi (2020).

The gender imbalance, where men predominantly engage in farming, reflects broader socio-cultural norms in Nigeria, where men typically control land ownership and agricultural decision-making, as supported by the findings of Adebayo et al. (2018). This male dominance often leads to the marginalization of women in farming, limiting their access to resources, training, and decision-making power, which could otherwise enhance agricultural productivity. The prevalence of Qur'anic/Islamic education among farmers highlights the need for agricultural extension services and training programs that are tailored to the educational backgrounds of these farmers. Research by Ibrahim and Suleiman (2021) suggests that farmers with religious education may have different learning needs and preferences compared to those with formal

education, necessitating culturally sensitive approaches to agricultural education. This finding underscores the importance of context-specific strategies in addressing the unique challenges faced by small-scale farmers in regions like Jere local government area

The finding that the insurgency in Jere Local Government Area has led to a notable reduction in the practice of highly diversified mixed farming, with farmers shifting towards simpler and less resource-demanding combinations, is consistent with the impact of conflict on agricultural practices observed in other regions. Studies have shown that insecurity and violence disrupt traditional farming systems, forcing farmers to adapt by reducing the complexity of their agricultural activities. For example, a study by Adamu and Umar ,(2019) on the impact of Boko Haram in northeastern Nigeria found that many farmers abandoned crop/livestock/vegetable farming due to the destruction of farmlands and the loss of livestock. This shift towards simpler farming practices, such as focusing solely on crop or livestock production, is often a survival strategy, as farmers aim to minimize risk and reduce the dependency on resources that may be scarce or vulnerable to theft and destruction.

Additionally, the reduction in diversified farming practices can be attributed to the limited access to markets, inputs, and labor, which are common consequences of prolonged insurgency. A study by Ismaila and Okunola, (2020) on conflict-affected regions in sub-Saharan Africa similarly found that farmers tend to revert to subsistence farming, concentrating on the most essential crops or livestock that can be easily managed with limited resources. This trend leads to a decrease in agricultural productivity and income, as diversified farming systems are often more resilient and capable of providing multiple streams of income and food security. The shift to simpler farming combinations, therefore, highlights the profound impact of the insurgency on the livelihoods of farmers in Jere local government, necessitating targeted interventions to restore and support diversified agricultural practices as part of the region's recovery efforts.

Summary

The findings of this study revealed that there are more male than females small scale farmers in the study area. They are mostly married, educated in Qur'anic schools and largely above the age of 35years. Agricultural activities practiced in the study area include cereal cropping, vegetables and rearing of livestock. Farm output of cereal crops, vegetable and livestock production declined slightly in the post insurgency period.

Conclusion

The Boko Haram insurgency has significantly disrupted the agricultural productivity of small-scale farmers in Jere Local Government of Borno State, leading to widespread economic hardship and food insecurity. The violence and instability caused by the

insurgency have forced many farmers to abandon their land, resulting in reduced cultivation areas and lower crop yields. The destruction of farmlands, loss of livestock, and disruption of local markets have further exacerbated the challenges faced by these farmers, undermining their livelihoods and threatening the food supply in the region. This situation has left small-scale farmers struggling to maintain their productivity and sustain their families in an environment marked by fear and uncertainty.

In conclusion, the impact of the Boko Haram insurgency on agricultural productivity in Jere has been profound, highlighting the urgent need for targeted interventions to support the recovery and resilience of small-scale farmers. Restoring agricultural activities in the region will require not only improved security but also investment in rebuilding infrastructure, providing access to essential farming inputs, and supporting farmers with training and resources to adapt to the new challenges posed by the conflict. Addressing these issues is crucial for ensuring food security, promoting economic stability, and supporting the long-term development of the region.

Recommendations

i. it is recommended that government and NGOs should implement agricultural extension programs that are culturally sensitive and tailored to the educational background of these farmers.

ii. it is recommended that government, NGOs and other agencies should provide targeted support for farmers to rebuild and diversify their farming activities.

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