



EFFECT OF FARMERS- HERDSMEN CONFLICTS ON FOOD PRODUCTION IN OGUN STATE, NIGERIA (A CASE STUDY OF CASSAVA FARMERS)

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ABSTRACT

The study examined the impact of farmers-herdsmen conflicts on food production among cassava farmers in Ogun State, Nigeria. A multi-stage sampling procedure was used in selecting 365 cassava farmers and 75 herdsmen for the study. Data were collected through structured questionnaires using a five-point Likert scale. Data were analyzed using descriptive statistics and Ordinary Least Squares (OLS) regression model. The study highlights a demographic predominance of older, married male farmers, indicating that these groups bear the brunt of the crisis. The effects of conflict variables—including loss of farm produce (-0.336), displacement of farmers (-0.197), and income lost by farmers (-0.094)—on food insecurity among respondents. The findings reveal that persistent conflicts have led to significant destruction of farmlands, loss of produce, displacement of farmers, and increased food scarcity, thereby undermining food security in Ogun State. The study concluded that the significant effect of farmers-herdsmen conflict in the study area were loss of farm produce, displacement of farmers and income loss by farmers, all of which undermine the livelihoods of rural households and threaten overall food security in the region. The predominance of older, married male respondents highlights the demographic most affected by these crises, while the gender imbalance in agricultural roles further complicates the socio-economic consequences of the conflict. Therefore, the study underscores the urgent need for effective conflict resolution mechanisms and policy interventions to address the root causes of farmers-herdsmen clashes in Ogun State. Without concerted efforts to foster peaceful coexistence and protect agricultural assets, the ongoing conflict will continue to erode food production capacity, exacerbate poverty, and hinder sustainable development in the region. Also, there is need for collaborative action among stakeholders—government, community leaders, and security agencies—to implement lasting solutions that ensure both food security and social harmony.

Keywords: Effect, Farmers, Herdsmen, Conflict, Production.

INTRODUCTION

Sustainable development in agriculture, among other things, demands a peaceful cohabitation of economic actors in communities. It is only through cooperation that local communities could implement sustainable common pool of resource conservation and management strategies. The nexus between farmers-herdsmen conflicts and food security is complex and dynamic. Overtime, the relationship among socio-economic, ethnic groups in Nigeria especially farmers and herdsmen have resulted in hostility and violent conflicts, largely induced by competition for scarce resources, climate change and other environmental factors. The conflicts between farmers and herdsmen in Nigeria and perennial civil unrests are exacerbating food insecurity for several millions of people in the country (Ifeoma *et al.* 2022).

Farmer-herdsmen conflict is a major challenge to food production in Africa and most especially West Africa region. Competition over land resources has become common occurrence between farmers and herdsmen in every part of Nigeria. The farmers-herdsmen conflict in the middle belt region have spread to other parts of the country. There have been reported farmers-herdsmen conflicts in Rivers, Enugu, Ekiti, Oyo, Ogun, Edo and Ondo States (Adeleke, 2018)

In Ogun State, Fulani herdsmen and farmers have been cohabiting together from time immemorial but recently, farmlands have been under severe attack by the activities of herdsmen. The



incidence occurred virtually in all the local government areas of the state. There have been cases of cattle killing, rustling and destruction of farmlands in places like Ijebu East, Ijebu North, Ijebu North east and Ijebu waterside by farmer and herdsman. All these attacks have cast a dark shadow on the harmonious relationship between farmers and herdsman in the State. Moreover, the continuous attack on farmlands posed a serious threat to food production for the people of Ogun State, given that the vast majority of the rural dwellers rely on agriculture as a means of survival (Iheoma, 2020).

Consequently, it becomes pertinent to critically examine the effect of farmers herdsman conflicts on food production in Ogun State given the obvious sparse studies conducted in this area. Edward (2022) examines the effects of the farmers-herders conflicts on food security in Plateau State. Employing eco-violence theory as a framework for analysis and qualitative research design the study examines the consequences of the farmers-herders conflicts on food security in terms of availability, access, utilization, and stability of food in Plateau State. The result revealed that the herders/farmers conflict has consequences on food production and security. This has resulted in food shortage, increase in the price of food items which limit people's access to food through the destruction of farm produce, livestock, infrastructures necessary for food production and ultimately resulting in famine. Herders/farmers crisis also lead to physical destruction and plundering of, livestock, and food reserves, which discourages people from farming activities. Furthermore, the conflict displaces farmers from their communities, reducing agricultural labour force and decrease in herds' production and dairy product increasing pressure on the urban areas as most of the able-bodied men and women who should be engaged in food production flee for safety, not having an only effect on food but at the long run affect social interaction between the two religion, which use to be cordial before, restrictions of movement to areas only where ones religion are dominant.

Christian (2021) investigated the effect of herdsman/farmers clashes on food security in Nigeria The interaction of farmers and herders has for many years not led to happy tales due to the conflict of interest over land resources which is valued by both parties for the sustenance and advancement of their trade. This appalling situation has generated heated discourses in many circles with various suggestions and strategies advanced to end this imbroglio to no avail. Such had also attracted the researcher to engage in a scholarly voyage of interrogating the consequences of these incessant conflicts between farmers and herders on agricultural production with further implications on the security conditions of farmlands. To achieve the above, the documentary evidence method of gathering data was employed while the intractable conflict theory was employed to dissect the study. The finding of the study revealed that farmers/herders crises in the country which has led to the wanton destruction of human lives and properties including livestock and farmland assets, has been the major cause of low agricultural production in the country. It was also discovered that the displacement of farmers was due to the high level of insecurity of the farmlands due to the activities of the warring parties to the conflicts which made those places unsafe for habitation.

In his study, Obi (2023) conducted a research work on the effect of farmers-herders conflict on food security in Agatu Local government, Benue. The study employed structured questionnaire and analyzed with the use of descriptive statistics. The results revealed that conflict has reduced the rate of food production which has led to loss of lives and property, displacement, poverty, and unemployment with its socio-economic consequences on sustainable development in Nigeria.

Bassey (2021) investigated food security implication of farmers and herders conflict in Nigeria. The study discussed findings based on surveys conducted in four states Oyo, Benue, Akwa Ibom and Ebonyi States in Nigeria conducted between 2020 and 2021. Farmers and herders conflict spread along the length and breadth of Nigeria; however, the constant clashes between farmers and herders who are the two main agricultural land users in the country have been on the increase. The crisis has led to destruction of lives and properties, internal displacement of persons, increase in price of foodstuffs etc. The problem is made worst by the fact that the different measures put in place by the government to manage the situation have not achieved the expected outcome. As the attacks on both sides have continued unabated, a situation many believe may cause food scarcity in the country. Many Nigerians, including security and agricultural experts, have issued similar warnings. Despite these warnings, the conflicts have continued unabated thereby threatening food security and the economy of



the country. It is against this background this study was conducted to find out the food security implication of farmers and herders conflict.

METHODOLOGY

Study Area

The focus of this study is on Ogun State, Nigeria where a number of local government areas engage in agricultural production as main occupation are facing farmers herders conflicts.

Sampling Procedure

In order to determine the effect of farmers-herdsmen conflict on food production in Ogun State, the researcher adopts the usage of multi-stage sampling procedure. At 1st stage four (4) Local Government Areas were purposively selected out of twenty (20) Local Government Areas in the state due to high incidence of crop farmers-herdsmen conflicts in the areas, that is Ijebu East, Ijebu North, Ijebu North East and Ogun water side. At the second stage five communities were randomly selected from each of the four local government areas. The selected communities are Lagam, Ilumafe, Igbaga, Odomefin and Gboju in Ijebu East. The selected communities in Ijebu North East are Atan, Imuroko, Odosenbora, Odosimadegun and Ilese. The selected communities in Ijebu North are Omen, Ehin osun, Oru and Mamu. The selected communities in Ogun water side are; Agidi, Efire, Ilushin, Makun Omi and Ibiade. In the third stage a simple random technique were used to select 356 cassava farmers from a list of 5481 registered farmers obtained from the various Local Government Areas of the study. Similarly, the researcher selected all the 75 herdsmen in the four (4) selected Local Government Areas due to the small numbers of the herders men in the study areas.

Table 1: Population Distribution of Famers

LGA	Registered farmers	Sample Size
Ijebu East	1,241	84
Ijebu North	1,656	109
Ijebu North East	1,754	117
Ogun water side	830	55
Total	5,481	365

Source: Field Survey (2024)

The population of Registered Farmers is 5481 and the sample size is 365.

Analytical Tools

In terms of sample size, the researcher used Yamane (1967) formula. The formula is

expressed as $n = \frac{N}{1 + N(e)^2}$
 $5481 / 1 + 14 = 5481 / 15 = 365$ Where:

n= Sample size

N = Total population

e = Merging of error at 5 percent

The farmers' sample was thus determined as:

$$\text{Sample size } n = \frac{N}{1 + N(e)^2} = \frac{5481}{1 + 5481(0.05)^2} = \frac{5481}{1 + 5481(0.0025)} = \frac{5481}{1 + 14} = \frac{5481}{15} = 365$$

The sample size for the population is thus 365 respondents representing 7 percent of the total population of 5481, the researcher followed the work of Iheoma (2020) and Akukwo et al., (2023) as they employed Yamane (1967). Therefore, the sample size of the population was shared between the four Local Government Areas based on the population percentage which is calculated thus,

$$\begin{array}{ll} \text{Ijebu East} & \frac{1241}{5481} \times 100 = 23 \\ \text{Ijebu North} & \frac{1656}{5481} \times 100 = 30 \\ \text{Ijebu North East} & \frac{1754}{5481} \times 100 = 32 \\ \text{Ogun water side} & \frac{830}{5481} \times 100 = 15 \end{array}$$



This therefore means that Ijebu East has 23%; Ijebu North has 30 %, Ijebu North East has 32% and Ogun water side has 15% representation from the sample size which is Ijebu

$$\text{East } \frac{23}{100} \times 365 = 84 \quad \text{Ijebu North } \frac{30}{100} \times 365 = 109 \quad \text{Ijebu North East } \frac{32}{100} \times 365 = 117$$
$$\text{Ogun Water side } \frac{15}{100} \times 365 = 55.$$

Table 2: Population Distribution of Herdsmen

LGA	Herdsmen	Sample Size
Ijebu East	22	22
Ijebu North	17	17
Ijebu North East	15	15
Ogun water side	21	21
Total	75	75

Source: Field Survey (2024)

Data Collection and Data Analysis

The data for this study were generated from primary sources by sampling the views of the respondents.

Therefore 440 questionnaires were administered to the respondents in the study areas. For the grading of the responses of the respondents, the Likert five (5) point scale questionnaire (Strongly Agree, Agree, Undecided Strongly disagree, Disagree), were adopted.

Analytical Tool

OLS Regression Model

In order to examine the effect of farmers herdsmen conflicts on food production in Ogun State, OLS estimation technique is employed and model is specify as follows:

$$= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \dots + \epsilon$$

Where:

= Access to food as measured by the food insecurity experience scale

X_1 = Loss of farm produce

X_2 = Scarcity of agricultural products

X_3 = Loss of produce in storage

X_4 = Inability to feed family

X_5 = Displacement of farmers

X_6 = Income lost by the farmers

= Stochastic Error Term

RESULTS AND DISCUSSION

Demographic Characteristics

In Table 3, the age distribution of respondents in the study on farmers-herdsmen conflicts in Ogun State, Nigeria, provides critical insights into the demographic profile of those affected by these conflicts and their implications for food production. The data indicates that most respondents fall within the 51-60 age range, accounting for 42.6% of the total, while younger age groups (21-30) are significantly underrepresented, making up only 7.5% of respondents. This demographic skew suggests that older individuals' perspectives and experiences, often more established in their agricultural practices, dominate the discourse surrounding the conflicts.

The distribution of respondents according to sex in Table 3: in the study of farmers-herdsmen conflicts in Ogun State reveals a significant gender imbalance, with males constituting 72% (316 respondents) and females making up only 28% (123 respondents) of the total 439 participants. This disparity in representation can have profound implications for understanding the effects of these conflicts on food production and the agricultural landscape in the region. In many agricultural communities, men traditionally dominate roles related to farming and livestock management, while



women often engage in supplementary agricultural activities, such as processing and marketing of food products.

The distribution of respondents according to their marital status in the study on farmers-herdsmen conflicts in Ogun State, Nigeria, provides valuable insights into the social dynamics and their potential impact on food production. The data shows that the majority of respondents (83.1%) are married, followed by divorced (7.7%), single (6.2%), and widow/widower (3.0%). The high percentage of married respondents (83.1%) suggests that this group is crucial in understanding the effects of farmers-herdsmen conflicts on food production. Married individuals often have larger households and greater responsibilities, which can influence their agricultural practices and decision-making processes. In the event of conflicts, married farmers may face additional challenges in ensuring food security for their families, as their livelihoods are directly threatened by the disruption of agricultural activities.

Table 3: Distribution of Respondents according to Demographic Characteristics

Distribution of Respondents according to Age			
Age	Frequency	Percentage	Mean
21-30	33	7.5	49years
31-40	62	14.1	
41-50	106	24.1	
51-60	187	42.6	
61-70	51	11.6	
Total	439	100	
Distribution of Respondents according to Sex			
Sex	Frequency	Percentage	
Female	123	28.0	
Male	316	72.0	
Total	439	100	
Distribution of Respondents according to Marital Status			
Marital Status	Frequency	Percentage	
Single	27	6.2	
Married	365	83.1	
Divorced	34	7.7	
Widow/Widower	13	3.0	
Total	439	100	

Source: Field Survey (2024)

Effect of Farmers-herdsmen Conflicts on Food Production

The result in Table 6 presents the Ordinary Least Square regression result on the effect of farmers-herdsmen conflicts on food production in selected local government areas of Ogun State. The coefficient of loss of produce in storage is negative and statistically significant ($P < 0.05$). This shows that the higher the loss of produce in storage, the lower the level of food production in the study area of Ogun State. The economic ramifications of Ogun State, Nigeria's produce loss in storage is extensive and have a substantial impact on the region's overall economic stability and agricultural productivity. Farmers suffer direct financial losses as a result of their heavy investment in labour, fertilizer, seeds, and other inputs. This is one of the most immediate effects. These investments don't pay off when a significant percentage of the farmers' harvest spoils because of poor storage facilities, which lowers their incomes. Their capacity to reinvest in future planting seasons is hampered by this decrease in income, which eventually lowers the region's agricultural output and productivity (Olayemi, 2018). In addition, the loss of produce that has been stored makes food insecurity worse because there are fewer food supplies available, which drives up market prices. Low-income households are disproportionately impacted by this price inflation, which makes it difficult for them to afford basic food items and keep up a healthy diet. Such price increases have the potential to cause widespread nutritional deficiencies and higher rates of malnutrition among vulnerable groups in Ogun



State, where a sizable portion of the population depends on agriculture for both sustenance and livelihood (Afolabi, 2019). Food availability and variety are declining, which affects health outcomes as well as social safety nets and public health costs. These storage losses hurt market dynamics and discourage prospective investments in the agriculture sector on a larger economic scale. Inconsistent food supply causes price volatility, which makes planning more difficult for producers and consumers and results in inefficiencies across the supply chain (Adewumi and Omotesho, 2020). Furthermore, investors may be deterred from allocating funds to agricultural development due to the perception of high risk associated with frequent losses in produce, which would halt economic growth.

Migration from rural to urban areas may also be prompted by persistent problems with agricultural productivity, as farmers move to urban areas in search of more stable employment prospects. The migration phenomenon may give rise to urban overcrowding and intensified socioeconomic strains, thereby exacerbating the challenges associated with regional economic development. Therefore, reducing storage losses is essential to raising agricultural output, guaranteeing food security, and promoting long-term economic development in Ogun State. Therefore, a unit loss in produce in storage will induce a 0.336-unit reduction in food production. This is corroborated by the findings of Adewumi and Omotesho, (2020) and Afolabi, (2019).

In the same vein, displacement of farmers has a negative effect on food production. It suggests that the higher the level of displacement of farmers in the state, the lower the food production. Hence, the relocation of farmers in Ogun State, Nigeria, has a substantial impact on the economy, particularly on food production and the sustainability of agriculture. A direct result of this is that farming operations are disrupted, which lowers agricultural productivity. Farmers who are displaced lose access to their land, equipment, and customary farming methods, all of which are necessary to sustain steady crop yields. In addition to reducing the amount of produce available for sale and local consumption, this displacement throws off the planting and harvesting cycles, further lowering the region's agricultural productivity (Adefemi, 2020).

In addition, the loss of farms contributes to food insecurity by decreasing the supply of food produced nearby, which may result in price increases. Lower production levels result in a decrease in the supply of food, which drives up the price of staple crops on the market, making it more difficult for low-income households to afford a healthy diet. In an area like Ogun

State, where many communities primarily depend on agriculture for both their means of subsistence and food supplies, this situation is especially harmful. Food shortages and price increases that follow may worsen health problems and malnutrition, putting more pressure on social services and public health systems (Adebayo and Olajide, 2019). The displacement of farmers due to the conflict has the potential to hinder regional economic progress and discourage investment in the agriculture sector on a larger economic scale. Due to repeated displacements, investors may view the agriculture industry as unstable and dangerous, which could result in a decrease in capital intake into the sector. The development of agricultural infrastructure, such as storage facilities and irrigation systems, is hampered by this lack of investment and is necessary to increase productivity and lower post-harvest losses. In addition, displaced farmers frequently relocate to cities in quest of other economic opportunities, which adds to urban overcrowding and higher unemployment rates. Ogun State's attempts to attain sustainable economic development are further complicated by the ensuing socioeconomic issues, which include increased competition for jobs and strain on urban infrastructure (Adeola, 2021). It further means that a unit increase in the displacement of farmers, will reduce food production by 0.197 unit. This result is similar to the findings of (Adeola, 2021) and Adebayo and Olajide, (2019).

Furthermore, the coefficient of income lost by the farmers is negative and statistically significant ($P < 0.05$). It shows that the lower the income lost by the farmers, the higher the level of food production. There are significant economic ramifications for the money that farmers in Ogun State, Nigeria, lose as a result of disputes between herders and farmers, especially when it comes to food production and agricultural sustainability. The major decline in farmers' income is one of the main effects of these disputes. Conflicts that occur frequently cause significant financial losses by destroying infrastructure, livestock, and crops. In addition to lowering their present income, farmers'



inability to recover their labour, fertilizer, and seed costs also limits their capacity to make additional expenditures in upcoming planting seasons. The agricultural cycle is upset by this financial burden, which lowers total food output (Adelakun, 2020). Moreover, Ogun State's food insecurity is made worse by farmers' income losses. Farmers are less able to produce enough food in the markets when they have fewer financial resources, which makes local product less accessible. Food costs rise as a result of this scarcity, making it expensive for many households—especially those with lower incomes—to afford a healthy diet. As a result, more people are at danger of malnutrition and related health problems, and the overall situation of food security gets worse. Food insecurity can result in more poverty and a lower standard of living, endangering the socioeconomic stability of rural communities even more (Olaniyan and Adeyemi, 2021). Large-scale economic expansion in the region may be hampered by the persistent hostilities between farmers and herdsmen, which can discourage investment in the agricultural sector. Reduced capital inflow for agricultural development projects may result from potential investors' perception that the agricultural landscape is excessively risky and volatile. The development of vital agricultural infrastructure, including as transportation networks, storage facilities, and irrigation systems, is hampered by this lack of funding. These infrastructure upgrades are essential for raising productivity and lowering post-harvest losses. Furthermore, farmers who migrate from rural to urban regions in search of safer and more stable livelihoods may do so as a result of ongoing hostilities. The migratory phenomenon in Ogun State complicates efforts to achieve sustainable economic development by exacerbating urban difficulties such as housing shortages, unemployment, and strain on public services (Adewuyi, 2019). Hence, a unit increase in the income lost by the farmers reduces the food production in the State by 0.094 units which is in line with the result of Olaniyan and Adeyemi, (2021) and Adelakun, (2020).

The R-squared value suggested that the model is fit and also the Durbin-Watson result suggested that the model is free from 'the problem of serial correlation which is desirable. In the light of the above result, the null hypothesis that there is no significant effect of farmersherders conflicts on food production is rejected and the alternative hypothesis is accepted as indicated by the result.

Table 4: Effects of Farmers-herdsmen Conflicts on Food Production

Variables	Coefficient	Prob. Value
(Constant)	20.468	0.000
Loss of farm produce	0.019	0.934
Scarcity of agricultural products	0.078	0.794
Loss of produce in storage	-0.336	0.007**
Inability to feed a family	0.150	0.212
Displacement of farmers	-0.197	0.040**
Income lost by the farmers	-0.094	0.022**
R-Squared	0.046	
Adjusted R-Squared	0.033	
Durbin-Watson	1.235	

Source: Field Survey (2024)

Note: *, **, and *** indicate significance at 10%, 5%, and 1% respectively.

CONCLUSION AND RECOMMENDATIONS

The study concluded that the significant effect of farmers-herdsmen conflict in the study area were loss of farm produce, displacement of farmers and income loss by farmers, all of which undermine the livelihoods of rural households and threaten overall food security in the region. The predominance of older, married male respondents highlights the demographic most affected by these crises, while the gender imbalance in agricultural roles further complicates the socio-economic consequences of the conflict. In view of the above, the study underscores the urgent need for effective conflict resolution mechanisms and policy interventions to address the root causes of farmers-herdsmen clashes in Ogun State. Without concerted efforts to foster peaceful coexistence and protect agricultural assets, the ongoing conflict will continue to erode food production capacity, exacerbate



poverty, and hinder sustainable development in the region. Also, there is need for collaborative action among stakeholders—government, community leaders, and security agencies—to implement lasting solutions that ensure both food security and social harmony.

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