

## Incessant Conflict between Farmers and Hausa/Fulani Herdsmen: Implications on Food Security in North Central Nigeria. 2013-2018

<sup>1</sup>Ocholi .A, <sup>2</sup>Atim .T, <sup>1</sup>Nyiatagher, Z.T.

<sup>1</sup>Department of Agribusiness, Federal University of Agriculture Makurdi

<sup>2</sup>Department of Political Science, Benue State University, Makurdi

---

**ABSTRACT:** The study examined the implication of frequent conflict between farmers and Hausa/Fulani herdsmen on food security in North Central Nigeria. Multistage Sampling Technique was employed to select 399 respondents from where herdsmen attack on farm households have been severe in the study area. Primary data were collected using well-structured questionnaire administered to respondents. Data were analyzed using descriptive statistics, food security index and logistic regression. The study revealed that the average age of the heads of the farm households was 43 years. 61% of them were males, 73% were married with mean household size of 8 members. The annual farm and non farm income were ₦416,101.50 and ₦156,421.05 per household respectively. The food security line of the farm households was ₦4,814.20. About 42.1% of them were food secure while 57.9% were food insecure. The logit regression revealed that the food security status of farm households were significantly affected by sex, marital status, size of farm lands destroyed, attack on farmers homes by herdsmen and migration of people away from communities. The study recommended the establishment of grazing reserves, prohibition of open grazing and creation of awareness to encourage agricultural production.

**KEYWORDS:** Hausa/Fulani herdsmen, Farm households, Conflict, Food security

---

Date of Submission: 04-04-2020

Date of Acceptance: 19-04-2020

---

### I. INTRODUCTION

Resource ownership and utilization have directly and indirectly defined the dimensions of most conflicts involving man in the history of Mankind. Nyong and Fiki (2005) pointed out that resource related conflicts are responsible for over 12 percent decline in per capita food production in sub-saharan Africa. Herdsmen have maintained symbiotic relationship with local farmers for many years but in recent times, the relationship has turned sour resulting in killing and destruction of property (Yahaya 2013).

Competition over land resources has become common occurrence between farmers and herdsmen in every part of Nigeria; the conflict which is raging in the middle belt region has spread to other parts of the country. There have been attacks in Rivers, Enugu, Ekiti, Oyo, Ogun, Edo and Ondo State in the south West (Adetula 2016, Amaza 2016). Recently in the North Central Nigeria, the issue of cattle's destroying crops in the farm has become a frequent occurrence. Farm lands have been under severe attack by the activities of herdsmen. There have been cases of cattle killing, rustling and destruction of farm lands in many parts of the region.

Food security remains a daunting challenge for the region as majority of her populace are largely food insecure. Food security represents the absence of hunger and malnourishment. It exists when all people, at all times have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 1996).The frequent conflicts between herdsmen and farmers over the ownership control and use of land and land resources such as grasses and water constitute a major obstacle to the path of food security in the country. Security is the bedrock of development as no meaningful agricultural production activity can take place in the midst of feuds and conflict.

The conflicts between herdsmen and farmers have resulted in the reduction of labour force for agricultural activities and consequently affected the quality and quantity of food production availability, distribution, and accessibility. This simply indicates the high propensity of food insecurity in North-Central Nigeria in particular and Nigeria at large. The conflict has therefore become a major internal threat to Nigeria's food security. From 2014 when the herdsmen and farmers conflict took a dangerous dimension, it has been reported that most farmers and herdsmen have either been killed or displaced from their homes and several heads of cattle killed/rustled and farm produce destroyed, thereby making it difficult to effectively carry out farming and grazing activities to feed their households and the nation. The rising competition turned conflict between the two agricultural land users has in recent times, demonstrated a high potential to exacerbate the nation's food security challenge. This is because the conflict deters food production, commercialization and

stock management. As a direct consequence of the conflict, crops cannot be planted, weeded or harvested. In like manner, a lot of government investment has been to security rather than agriculture, thereby decreasing drastically the levels of agricultural production. In conflict situations, food producing regions experience seizing or destroying of food stuffs, livestock and others assets, interrupting marketing and supply of food not only in these region but also in neighboring regions. These predatory activities diminish food availability and food access directly, because both militias and regular armies in the field tend to subsist by extorting the unarmed populations for food and any other productive resources.

Herdsmen and farmers conflicts in Nigeria have grown, spread and intensified over the past decade and today poses a threat to national survival. Thousands of people have been killed, communities have been destroyed and so many farmers and pastoralists have lost their lives and property in an orgy of killings and destruction that is not only destroying livelihoods but also affecting national cohesion. This has affected the availability of both human and material resources as well as the motivation needed for agricultural productivity that will make Nigeria a food secure nation.

It is against this background that the research sets out to investigate the implications of herdsmen-farmers' conflict on food security in the North Central Nigeria.

The specific objectives are to:

1. describe the socio-economic characteristics of farming households in the study area.
2. estimate the food security status of farming households in the study area
3. examine the factors affecting food security especially those arising from herdsmen attack;

## **II. LITERATURE REVIEW**

### **Conceptual Framework**

#### **The Concept of Food Security**

One of the most important objectives of man at all times has been the question of how to obtain food to feed the entire family, communities, nations and indeed, the whole world (Stamoulisk and Zecsa, 2003). Food security in its most basic form is defined as the access to all people to the food needed for a healthy life at all times (Ojo & Adebayo, 2012). A country is food-secure when majority of its population have access to food of adequate quantity and quality consistent with decent existence at all times (Idachaba, 2004). What is implied in this definition is that food must be available to the extent that will meet some acceptable level of nutritional standard in terms of calorie, protein and minerals which the body needs; the possession of the means by the people to acquire (i.e access) and reasonable continuity and consistency in its supply. For a country to be food secure according to Abdullahi (2008), the following indices must be present:

- i. Adequate aggregate national food supply
- ii. Accessibility of supplies by citizens
- iii. Affordability
- iv. Nutritional needs of various segments of the population
- v. Food safety considerations
- vi. Strategic reserves for emergencies
- vii. Environmental preservation/protection

In other words, food security can be taken to mean access by all people at all times to sufficient food for an active, healthy life (Otaha, 2013). This definition is further stated as a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2002).

The central elements in the above definition are the availability of food and the possession of the ability for it's acquisition.

At the 1974 world food conference the term "food security" was defined with an emphasis on supply. Food security is the "availability at all times of adequate world food supplies of basic food stuff to sustain a steady expansion of food consumption and to offset fluctuations in production and prices" (United Nations, 2013). Food insecurity, on the other hand, is a situation of limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways. According to the United States Department of Agriculture (USDA) (2008), food security incorporates a measure of resilience to future disruption or unavailability of critical food supply due to various risk factors including droughts, shipping disruptions, fuel shortages, economic instability and wars (Boeing, 2016). The United Nations (UN) recognized the Right to Food in the Declaration of Human Right in 1948 (United Nations, 2015) and has since noted that it is vital for the enjoyment of all other rights (United Nations, 2015).

### **Theoretical Framework**

The study adopts the theory of eco-violence. Homer-Dixon (1999) articulated the theory and argues that large population in many developing countries are highly dependent on four key environmental resources that are very fundamental to crop production: fresh water, cropland, Forest and Fish; Scarcity or shrinking of these resources as a result of misuse, over-use or degradation, population growth, climate change and resources access lead to competition over the scarce ecological resources among groups, and may under some certain circumstances trigger off conflicts (Homer-Dixon, 1999). In this perspective, resource scarcity is the product of an insufficient supply, too much demand or an unequal distribution of a resource due to political, economic, social and environmental factors. This forces some groups of a society into conditions of deprivation, competition and violence over the limited resources. In effect, resource scarcity raises the competitive stakes and premium that the various societal groups place on available resources, which may engender violent conflicts among groups (Dixon, 1999).

By applying the theory to North Central Nigeria, the conflicts have been driven mostly by the scarcity of land as a result of increase in population and economic activities where land remain the key resources, and competition between the farmers and the Fulani herdsmen to ensure their viability in the area. The scarcity of land is due to the degradation and shrinking ecological space, human and cattle population explosion, and resource depletion. Therefore, the farmers need the land for cultivation, while the herdsmen need the land for grazing and rearing of cattle.

Another theoretical explanation to the farmer-herder conflict in North Central Nigeria is the theory of eco-survivalism. The crux of this theory is that, the desperate quest of groups to protect and advance their livelihood in a competitive and resource-scarce ecological sphere is likely to precipitate violent conflict. The theory draws the relationship between resource scarcity and survival. Further, the theory holds that, the militant posture of the herdsmen and the farmers must be understood in relation to survival (Okoli, et al 2014). To the farmer in North Central Nigeria, his/her survival depends on the cultivation and harvesting of crops. Therefore, any damage caused to the crops threatens the livelihood of the farmers and in the same way for the average herdsman, pastoralism is a way of life and any threat to his herd amounts to a threat to his survival and destiny. Abbas (2000) captured it in this manner: Our herd is our life, because to every nomad, life is worthless without his cattle. What do you expect from us when our source of existence is threatened? The encroachment of grazing field and routes by farmers is a call to war.

By applying this theory to North Central Nigeria, the aggression among the farmers and the herdsmen is motivated by a do-or-die struggle for a living in a territory that is competitive, and hostile to each other's collective means of sustenance. In effect, the move by the locals to expel or eject the Fulani herdsmen from some parts of North Central Nigeria farmlands has been adjudged as a threat on the livelihood of the latter, resulting in organized attacks and reprisal attacks.

### **III. METHODOLOGY**

#### **Study Area**

The North Central zone is one of the six geopolitical zones created by the Abacha regime in 1995. The north Central zone comprises Benue, Kogi, Niger, Nasarawa, Kwara, Plateau and the Federal Capital Territory (FCT) in a contemporary Nigerian Federation. The zone is also known as Middle Belt of Nigeria. Generally speaking the North Central region comprises people that existed in Nigeria with a consciousness, identity and culture that is different from the Hausa/Fulani and the Kanuri of the far North. The North Central region is located within latitude 6<sup>o</sup>.24 to 11<sup>o</sup>.30 North of the Equator and longitude 2<sup>o</sup>.42 to 15<sup>o</sup>.00 East of the Greenwich meridian. Geographically the North Central region covers a total land area of about 242, 416 km<sup>2</sup> (NPC 2006). The area occupies about 36.14% of the total land area of Nigeria.

The North Central zone is a multi-ethnic and multi-religious area. It is populated largely by minority ethnic groups including Tiv, Nupe, Angas, Idoma, Igala, Birom, Igede, Jukun and Mumuye. The total population of the region is 24, 437, 467 (National population Commission 2006). The population constitutes about 17.34% of the total population of Nigeria and evenly distributed within the study area. Agriculture is the mainstay of the region. Agriculture is the dominant economic activity in terms of employment and linkages with the rest of the economy. Roughly 75% of the zone's land is arable of which about 40% is cultivated. Despite two major Rivers; the Niger and the Benue, agriculture is predominantly rain-fed. Yam, Cassava, Rice, Maize, Sorghum and millet constitute the main food crops. The export crops are sesame, groundnuts, soya beans etc. The zone can boast of a great deal of livestock resources like goats poultry, sheep, pigs and cattle.

#### **Population and Sampling Technique**

The study covered all the six states and the Federal Capital Territory of North Central region. The states are: Kogi, Kwara, Nasarawa, Niger, Plateau, Benue. A multistage selection procedure involving purposive and simple random sampling techniques was employed to select respondents. In the first stage 3 states were selected from the states of the region because of the frequency and severity of Hausa/Fulani herdsmen attack on the

farming communities relative to other states as shown in table 1. In the second stage three Local Governments Areas were selected randomly from each of the states. The Local Government were Agatu, Guma and Logo in Benue State, Keana, Awe and Obi in Nasarawa state and Riyom, Barki Ladi and Jos South in Plateau State. Based on the frequency and severity of herdsmen attack of the State 180 respondents were selected from Benue State. 60 respondents were sampled from each of the three Local Government Areas. While in Nasarawa State 27 respondents were sampled from each of the selected Local Government Areas giving a total of 81 respondents and in Plateau 46 respondents were sampled in each of the selected Local Government Areas making a total of 138 respondents. These Local Government Areas were selected because they are predominantly agrarian in nature and the prevalence of conflict.

**Table 1**

States	LGA	Sample Size
Benue State	Logo	60
	Guma	60
	Agatu	60
Nasarawa State	Awe	27
	Keana	27
	Obi	27
Plateau State	Barkwi ladi	46
	Jos	46
	Reyon	46
<b>Total</b>		<b>399</b>

**Data Collection and Analysis**

Data for the study were obtained from primary sources with the use of well-structured questionnaire administered on household respondents. The data collected for this study were analyzed using both descriptive and inferential statistics. The descriptive statistics such as mean, frequency and percentages was used to analyze the socio-economic characteristics of the household respondents, while the food security index and binary logit regression were used to estimate the food security status across households and the implication of herdsmen and farmers' conflict on food security.

**Models Specification**

**Food Security Index**

The food security index is specified below:

$$F_i = \frac{\text{Per capita food expenditure for the } 1^{th} \text{ house hold}}{2/3 \text{mean capital food expenditure of all household}} \quad (1)$$

Where:

$F_i$  = Food security index ( $F_i \geq 1$  = food secure  $i^{th}$  household;  $F_i < 1$  = food insecure  $1^{th}$  household)

This method has been widely applied in determining the food security status of farmers (Irohibe & Agwu, 2014; Oyebanjo, Ambali, & Akerele, 2013). A household is food secure when its monthly food expenditure is equal to or above two-third of the mean of per capita food expenditure of all household in the study area. The household is food insecure when the household's monthly food expenditure is less than two-third of the mean monthly food expenditure of all the households in the study.

**The Binary Logit Regression Model**

The binary logit regression is specified as follows;

$$\Pr [Y_i = 1/X_i] = \frac{1}{1 + (\exp (-\beta_0 - \beta_1 X_i))} \quad (2)$$

$$\Pr [Y_j = 0/X_j] = 1 - \Pr [Y_j = 1/X_j] \quad (3)$$

Where:

$F_i$  = 1, if household is food secure, 0 if otherwise

$X_1$  = Sex (1 if male, 0 if female)

$X_2$  = Marital Status (1 if married, 0 if otherwise)

$X_3$  = Age (years)

$X_4$  = Household size (number)

$X_5$  = Level of Education (years)

$X_6$  = Farm experience (years)

$X_7$  = Farm income (₦)

$X_8$  = Non – farm income (₦)

$X_9$  = Size of farmland destroyed (ha)

- X<sub>10</sub> = attack on farmers' home by herdsmen (1, if attacked, 0 if otherwise)  
 X<sub>11</sub> = Number of household members who have migrated out of the village in the last 2 years as a result of herdsmen attack.  
 X<sub>12</sub> = Loss of interest in farming (1, if yes, 0 if otherwise)  
 X<sub>13</sub> = Contamination of water sources (1 if yes, 0 if otherwise)  
 X<sub>14</sub> = Lack of access to market (1 if yes, 0 if otherwise)

The parameters of the logistic regression model were estimated using the maximum likelihood approach. The use of logistic regression in explaining the determinants of farmers food security status has found wide acceptance and application (Abdullahi, Hassan, & Ayanlere, 2015: Irohibe & Agwu, 2014: Otunaiya & ibudunni, 2014: Oyebanjo *et al.*, 2013)

#### IV. RESULTS AND DISCUSSION

##### Socioeconomic Characteristics of the Farm Households

The socioeconomic characteristics of the farm households as shown in table I revealed that 62% of the respondents were headed by male while 38% were females. This result is not unconnected with the cultural and religious inclination that confers household's leadership to males and most importantly, the responsibility of sustaining the household economy. 31% of the respondents were within the age range of 41-50 years. This means that the respondents are in their active work life and can engage in diverse income generation opportunities. The result further revealed that only about 26% of the farmers were single compared to 74% who were married, while about 50% of the respondents had between 9-12 persons per household. Increasing family size could exert more pressure on the level of consumption since food requirements tend to increase with the number and composition of persons in the households. This implies that as the household size increases the probability of food security decreases. The average annual farm income of the household was 416,101.50 from all their farm holdings with majority of them 34% having an annual farm income range of ₦451-600 from all their holdings. As the monthly income of households increase and households invest in more income generating activities, purchasing power of households is expected to improve and probability of household food security also increases. Consequently, increased household income could positively influence food production and access to food in quantity and quality.

**Table 2: Distribution of the respondents according to their socioeconomic characteristics**

Socioeconomic variables	Frequency	Percentage	Mean`
<b>Gender:</b>			
Male	247	61.9	
Female	152	38.1	
<b>Age:</b>			
<20 years	22	5.5	
21-30 years	57	14.3	
31-40 years	72	18.0	43.29
41-50 years	124	31.1	
51-60 years	84	21.1	
>60 years	40	10.0	
<b>Marital Status:</b>			
Single	104	26.1	
Married	294	73.9	
<b>Household size:</b>			
1-4	60	15.0	
5-8	88	22.1	
9-12	203	50.9	8.90
>12	48	12.0	
<b>Education level:</b>			
No formal education	80	20.1	
Primary education	148	37.1	
Secondary education	117	29.3	
Tertiary education	54	13.5	
<b>Farming experience:</b>			
<10 years	50	12.5	
11-20 years	207	51.9	
21-30 years	81	20.3	19.96
31-40 years	36	9.0	
>40 years	25	6.3	
<b>Primary occupation:</b>			
Agriculture	364	91.2	
Non-agriculture	35	8.8	
<b>Annual farming income:</b>			

<₦150000	60	15.0	
₦150000 – ₦300000	48	12.0	416101.50
₦301000 – ₦450000	93	23.3	
₦451000 – ₦600000	137	34.3	
₦601000 – ₦750000	44	11.0	
>₦750000	17	4.3	
<b>Annual non-farm income</b>	Frequency	Percentage	Mean
<₦750000	104	2.6	
₦76000 - ₦150000	61	15.3	
₦151000 – ₦225000	152	38.1	156421.05
₦226000 – ₦300000	63	15.8	
₦300000	19	4.8	

Source: field survey, 2019

### Food Security Status of Farm Households

Food security status of farming households are shown in the table 3. The result revealed that the food security line of the farm households was ₦4,814.20 per month. This implies that farm households whose mean per capita food expenditure was less than ₦4,814.20 per month were food insecure, while those with mean per capita food expenditure greater than or equal to ₦4,814.20 per month were food secure. The result further revealed that 42.1% of the households were food secure while a greater majority 57.9% were food insecure. The result also revealed that the mean per capita food expenditure of food secure households was ₦12,023.94 per month, compared to ₦2,462.58 per month for food insecure households. The implication of this is that mean per capita food expenditure of food secure households per month was 4.88 times more than those of food insecure households. This is similar to the findings of Ibok *et al.* (2014). It reflects high rate of income inequality, contrary to the expectations that income distribution in rural areas should be more even compared to urban centers.

**Table 3: Distribution of the farmers according to their level of food security.**

	Frequency	Percentage	Mean monthly expenditure
Food secure	168	42.1	₦12,023.94
Food Insecure	231	57.9	₦2,462.58
Food Security line		₦4814.20	

Source: Computed from field survey, 2019

### Factors affecting food security of farm households

The maximum likelihood estimate of factors affecting the food security status of farm households was shown in table 4. The result showed that the food security status of the farm households was predicted with 90.0% accuracy. The log-likelihood ratio (LR) statistic (-97.70) was significant. This implies a strong explanatory power of the model. The Pseudo R<sup>2</sup> was 0.705 which implies that about 70% of the likelihood of a household being food secure was strongly explained by the independent variables. Furthermore, sex, marital status, household size, non-farm income, size of farmland destroyed by herdsmen, frequency of herdsmen attacks on farmers, and migration due to herdsmen attack were the factors that significantly affected the likelihood of a household being food secure in the study.

#### Sex

The coefficient for gender is significant at 1% and shows a positive relationship with household's food security status. This means that male-headed households had higher probability of being food secure compared to female-headed households. The odds ratio in favor of food security increases by the factor 0.972. This means that the likelihood of households to be food secure increases by 97.2% for every unit increases in male-headed households. This is expected bearing in mind that in developing economies like Nigeria, male have more access to productive resources such as land and capital. Also, the strong physical built of males confer on them some advantages over their female counterparts, especially in agricultural production, which is highly labor intensive.

#### Marital status

Marital status has a positive coefficient which was significant at 5% level. It implies that married-headed households are more likely to be food secure than unmarried-headed households. The odds ratio in favour of food security increases by the factor 0.095. This means that a unit increase in married-headed households increases the probability of households to be food secure by 9.5%. In African societies, marriage confers a lot of rights and privileges on people. This could increase the access of married-headed households to productive resources, especially land thereby affecting their food production, productivity and security. With growing commercialization, there will be a division of labour in married households unlike single households where all the work is being left for one particular person. In addition the division of labour and specification of

duties within the farmer's households has the effect of increasing effectiveness, labour maximization and overall productivity which increases the likelihood of the farmer being food secure. This also confirms the results of Ojiekoko and Ogbukwa (2012) in which marital status had significant positive correlations with food security. However, this is at variance with Aiddo *et al* (2013) which indicated that married-headed houses were less likely to be food secure than households headed by unmarried people in Sekyere Afram Plains District of Ghana.

#### **Household size**

Household size has a positive coefficient which was significant at 10% level. This implies that households with larger sizes have higher chances of being food secure than households with smaller sizes. The odds ratio in favour of food security increases by the factor 0.990. Hence, a unit increase in household size increases the likelihood of food security by 99%. This result is against expectation because large-sized households imply more mouths to feed and hence, decreased food security. However, the households may have had more adult member than children, who contribute productively to household food security, and as such, may have been responsible for the result of this study. This finding is in disagreement with Aidoo *et al.* (2013), and Leza & Kuma (2015) which reported negative coefficient of household size with the probability of being food secure, respectively.

#### **Non-farm Income**

Non-farm income has a positive coefficient which was significant at 5% level. This means that the likelihood of being food secure increases with increase in non-farm income. The odds ratio in favour of food security increases by the factor 1.015, which implies that one unit increase in non-farm income increases the likelihood of households' food security by 101.5%. This result is expected because rural households have very diversified livelihood portfolios from where they generate income to support their households.

#### **Size of Farmland Destroyed by Herdsmen**

The size of farm land destroyed by herdsmen has a negative coefficient which was significant at 1%. This means that the likelihood of being food secure decreases with increase in the size of their farmlands destroyed by herdsmen. The odds ratio in favour of food security decreases by the factor 0.163, which implies that a unit increase in the size of farmland destroyed by the herdsmen, decreases the likelihood of a household being food secure by 16.3%. Land is a very important factor in agriculture, upon which farmers grow their crops. As such, the destruction of farm lands deprives rural households of their primary sources of livelihood.

#### **Frequency of Attacks on Farms by Herdsmen**

Frequency of attacks on farmers by herdsmen has a negative coefficient which was significant at 10%. This means that the likelihood of being food secure decreases with increase in the frequency of attacks on farmers by herdsmen. The ratio in favour of food security decreases by the factor 0.052 which implies that for every unit increase in the frequency of attacks on farmers by herdsmen, the likelihood of being food secure decreases by 52%. Farmers are the primary victims in herdsmen-farmers conflicts and attacks, which results in tremendous loss of life and property. These attacks affect the socioeconomic life of the farmers, disrupt agricultural production activities thereby contributing to food insecurity.

#### **Migration due to Herdsmen Attacks**

Migration away from communities due to herdsmen attacks has a negative coefficient which was significant at 5%. This implies that the probability of being food secure decreases with increase in migration. The odds ratio in favour of food security decreases by the factor 0.954 which implies that there are about 95.4% decrease in the likelihood of a household being food secure for every unit increase in migration away from the communities due to herdsmen attacks. One would have expected that such migration should increase food security since the migrants could be sending remittances home. However, these migrants may not have been well established in their new environments to start sending remittances within two years, since the onset of herdsmen attacks. This therefore is a huge economic loss to the farmers whose household members constitute the major source of labour for agricultural production.

#### **Lack of access to Market**

The effect of lack of access to market on the likelihood of a household being food secure was negative and significant at 1%. This infers that lack of access to market decreases the likelihood of a household to be food secure by 290.9%. Lack of access to market serves as a disincentive for agricultural production as market provides the medium for effective demand and supply of agricultural inputs and products. Given the pace of insecurity in the rural communities arising from herdsmen attacks, the market structures and institutions would

have been considerably destroyed, imputing palpable fears in the minds of people. This will affect the ability potential customers to access the rural communities to demand for the agricultural produce of the farmers, which worsens the farmers' food security.

**Table 4: Factors affecting the food security of farm households**

Variable	Coefficient	Standard errors	Z-value	Odd ratio
Constant	0.6249	1.1572	0.51	
Sex	1.1401	0.3508	3.09***	0.972
Marital status	0.0039	0.0019	1.94**	0.095
Age	0.9076	0.6982	1.24	1.191
Household size	1.9010	1.0802	1.67*	0.990
Level of education	0.7884	0.9168	0.82	0.121
Farming experience	1.7341	6.1933	0.27	1.159
Farm income	0.4965	0.3065	1.54	0.824
Non-farm income	0.0046	0.0023	1.89**	1.015
Size of farm land destroyed by herdsmen	-0.00029	0.000053	5.39***	0.163
Attack on farmers homes by herdsmen	-0.5952	0.3217	1.76*	0.052
Migration away from villages due to herdsmen attack	-2.8718	1.1396	2.39**	0.954
Loss of interest in farming	5.2440	58.2663	0.09	0.447
Contamination of water sources	0.0366	0.0732	0.48	2.435
Lack of access to market	-2.2049	0.5225	4.01***	2.9098

Base Category	Food Secure
Total Number of Cases	399
Number of cases correctly predicted	359(90.0%)
Log-likelihood ratio	-97.701
Pro>x <sup>2</sup>	0.000
Pseudo R <sup>2</sup>	0.705
Average Marginal effect	0.42
Key: ***, **, *, 1, 5, and 10%	

**Source: Computed from field Survey, 2019**

## V. CONCLUSION

The study examined the implication of herdsmen-farmers' conflict on food security in north central, Nigeria. It was revealed that 42.1% of the households were food secure while 57% were food insecure. It was further revealed that size of farmland destroyed, attack on farmers home by herdsmen, migration away from villages due to herdsmen attack and lack of access to market had a negative co-efficient and significant determinants of household's food security status in the study area. This means that the likelihood of being food secure decreases with increase of these variables.

Farmer-herder conflicts have been a common feature of this region for sometime but became more pronounced between the year 2013-2018. This menace has succeeded in slowing, retarding and even stopping some major economic activities. The loss of life and properties, reduction in agricultural produce has unleashed fear, animosity and hatred among the people thus retarding economic developments in the region.

## VI. RECOMMENDATIONS

In view of the above analysis and conclusion, the following recommendations are made in an attempt to improve the food security status and bring an end to the conflict.

1. Laws should be enacted by the government to provide for the establishment of ranches (restricted grazing) so as reduce herdsmen-farmers crises that threaten food sufficiency in north central, Nigeria.
2. Public enlightenment campaigns, seminars and symposia should be initiated by the government to sensitize the farmers and herdsmen on the negative effect of the crises as it hampers access to nutritious food in the region. This will also create awareness in farmers and herdsmen to see themselves as brothers in agricultural business.
3. The nomadic educational system should be revived, strengthened and modernized with agricultural technical skills
4. The federal government's fight against corruption should be extended to cover activities of traditional rulers who are the first level of authorities to whom cases of herdsmen-farmers conflicts are reported, because corruption by some traditional rulers further fuels the menace of such conflicts.



## REFERENCES

- [1]. Abdullahi, A. (2008). Food security in Nigeria, how close are we? Being Federal Radio Corporations Annual October lecture held on 9<sup>th</sup> October, 2008, Abuja
- [2]. Abdullahi, M., Hassan, A.H., & Ayanlere, A. F. (2015). Determinants of food security status among rural farm households in North-Western Nigeria. *Journal of poverty, investment and development* 14, 9-14
- [3]. Adutula D. (2016) Understanding the Fulani herdsman crisis in Nigeria: Here is everything you need to know. Accessed from [www.venturesafrica.com](http://www.venturesafrica.com) on 25 May, 2017.
- [4]. Aidoo, R., Mensah, J.O., & Tuffour, T. (2013). Determinants of household food security in the Sekyeree-Afram Plains District of Ghana. Proceedings of the 1<sup>st</sup> Annual International Interdisciplinary Conference held from 24-26 April in Azores, Portugal.
- [5]. Amaza M. (2016). Nigeria's Next Security Challenge is at Tipping point and could be as deadly as Boko Haram. Accessed from <https://qz.com/670768/nigerias-next-security-challenge-is-at-a-tipping-point-and-could-be-as-deadly-as-boko-haram/> on May, 2017.
- [6]. FAO (1996). Rome Declaration on world food security and world food summit plan of action. World food summit 13-17 November, 1996 Rome.
- [7]. FAO (2002). The state of food insecurity in the world. 2000, Rome
- [8]. Food and Agriculture Organization [FAO] (2005). Regional overview of food insecurity: African food security prospects brighter than ever. Accra: FAO
- [9]. Homer-Dixon, T.F (1999). *Environmental Scarcity and Violence*. Princeton University Press, 1999.
- [10]. Ibok, O. W., Bassey, N. E., Ataire, E.A. & Obot, O.J. (2014). Food security determinants among urban food crop farming households in Cross River State, Nigeria. *Asian Journal of Agricultural Extension, Economics & Sociology*, 3 (1), 76-90.
- [11]. Idachaba F (2004). Food security in Nigeria: Challenges under democratic at . Paper presented at ARMTI Lecture, Illorin March 24, 2004, pp. 1-23.
- [12]. Irohibe, I. J. & Agwu, A. E., (2014). Assessment of food security situation among farming households in rural areas of Kano State, Nigeria. *Journal of Central European Agriculture*, 15(1), 94-107. DOI: 10.5513/JCEA01/15.1.1418.
- [13]. Leza, T., & Kuma, B. (2015). Determinants of rural farm household food security in Boloso Sore District of Wolaita zone in Ethiopia. *Asian Journal of Agriculture Extension, Economics & Sociology*, 5(2), 57-68.
- [14]. National Population Commission (2006). Annual Statistical abstract on Nigeria Population Census.
- [15]. Nyong and Fiki (2005). Farmer herdsman Conflict. *Journal of human ecology*, 1:1-9.
- [16]. Ojiakor, I.A and ogbukwa, B.C. (2012). Economic analysis of loan repayment capacity of smallholder cooperative farmers in Yewa North Local Government Area of Ogun State, Nigeria. *African Journal of Agricultural Research* 7(13):2051-2062.
- [17]. Ojo, Adebayo. P (2012). Food Security in Nigeria: An overview. *European Journal of sustainable Development* 1(2).
- [18]. Okoli, A & Atehe C. (2014). Nomads against natives: A Political Ecology of herder/farmer Conflicts in Nasarawa State, Nigeria. *American Journal of Contemporary Research* (4(2)). *Journal of Contemporary Research* 4(2)
- [19]. Otaha I. (2013). Food insecurity in Nigeria: Way forward: An International Multidisciplinary Journal, *Ethiopia* 7(31)
- [20]. Otunaiya, A. O. & Ibidunni, O. S. (2014). Determinants of food security among rural farming households in Ogun State, Nigeria. *Journal of sustainable Development in Africa*, 16(6). ISSN:1520-5509.
- [21]. Oyebanjo, O., Ambali, O. I, & Akerele, E. O. (2013). Determinants of food security status and incidence of food insecurity among rural farming households in Ijebu Division of Ogun State, Nigeria. *Journal of Agricultural Science and Environment*, 13, 92-103.
- [22]. Stamoukisk and Zezza R. (2003). Conceptual Framework for nations, agricultural and rural development and food security strategies and policies; Rome: Food and Agricultural organization.
- [23]. United Nations (2013). Goal 1 2013 Factsheet. We can end Poverty- Millennium Development Goals and Beyond 2015. <http://www.un.org/millenniumdevelopmentgoals> 1-1f.pdf (accessed 13 January, 2015).
- [24]. Yahaya, H.N (2013), Fulani Herdsmen and local communities: Ensuring Peaceful relationships, Kwara State council of chiefs proceedings of the 1<sup>st</sup> Royal Summit on Peace and Security in Kwara State.

Ocholi .A. " Herdsmen-Farmer Conflicts: It's Implication on Food Security in North Central Nigeria. 2013-2018." *International Journal of Business and Management Invention (IJBMI)*, vol. 09(04), 2020, pp 16-24.