

IMPLICATION OF PASTORALIST CROP-FARMERS CONFLICT ON FOOD SECURITY IN PLATEAU STATE

BY

**DR AKPAN, E. EBENEZER, FCICN, AP
CORPORATE INSTITUTE OF RESEARCH AND COMPUTER SCIENCE
140 IKOT EKPENE ROAD
UYO, AKWA IBOM STATE.**

ABSTRACT

This study examined the implication of pastoralist crop-farmers conflict on food security in Plateau state. One specific research objective was formulated to guide the study. The research design was descriptive survey research design and 150 respondents, made up of farmers and nomadic pastoralists were used for the study. The respondents were selected using simple random sampling technique before being used for the study. The instrument known as “Pastoralist – Crop Farmers Conflict and food security Questionnaire (PCFCFSQ)” was used to collect the data from the respondents. The instrument (PCFCFSQ) was subjected to reliability test, using Cronbach Alpha method and it produced high reliability coefficient of 0.92 to justify the use of the instrument. The findings revealed that farmer-nomadic pastoralist conflict has significant implication on food security in Plateau State. One of the recommendations was that government should ensure that those involved in the allocation of land for farming should imbibe responsibility and not allocate along cattle route or over grazing lands to avoid encroachment by nomadic herdsmen. Support for agricultural development through incentives will facilitate availability of food for the teaming Nigeria population.

KEYWORDS: farmer-nomadic pastoralist conflict, food security, Plateau State

INTRODUCTION

Agricultural production in any country requires an enabling environment to reach its maximum potential. Sustainable development in agriculture, among other things, demands a peaceful co-habitation of producer communities. Okoli and Atelhe (2014) assert that it is only through cooperation that local communities could implement sustainable common pool of resource conservation and management strategies. In addition, stable and harmonious communities are the only ones that can be resilient and creative to respond to environmental stress and sustain their livelihoods, rather than those which are frustrated by the circumstances in their localities. However, an important but somewhat overlooked challenge facing agriculture and rural development in Nigeria is the problem associated with farmer-pastoralist conflicts on arable land. Increasing frustration and impoverishment of farmers occasioned by perennial and extensive farm plot destruction and the ensuing bitter conflicts are eroding the gains of agricultural and rural development interventions.

According to Obioha (2005), agriculture provides the means of livelihood and economic sustenance for the majority of the population of Nigeria. Farmers and pastoralists are the main agricultural practitioners. They make significant contributions in meeting the nutritional needs of the country and thus contribute to food security (Obioha, 2005). They are almost wholly dependent on crop production to sustain their vocations. In recent times, access to water and grazing land has become more competitive and has led the farmers and pastoralists into conflicts on a regular basis. This is a worrisome trend because both have coexisted inter-dependently for centuries, sharing the same fields for farming and grazing with a manageable level of tolerance

and accommodation (Oyetade, 2007). In recent years, Nigeria has witnessed series of violent communal clashes arising from the activities of the nomads who move about on a daily basis with their cattle in search of water and green pastures. They are on the streets in most of the cities and could also be found operating in the remotest villages in various states of the country. Nigeria is under a severe internal security threat, with political, economic and environmental dimensions. Each of these dimensions has critically affected the stability of the nation and can be traced to many factors in which the Fulani herdsmen appear to be the major factor. Most worrisome in the present development is the pillaging, raping, killing and kidnapping by the so called Fulani herdsmen. Stories are found in the national dailies on daily basis of how these shepherds strategically attack several communities and houses, with sophisticated assault guns, such as AK-47 (Nweze, 2005).

Food security is in three folds. These are food availability, food accessibility and food affordability. Food availability for farming households means ensuring sufficient food for the households through production. However, it should be noted that simply making food available is not enough; one must also be able to purchase it, especially the low income households (World Bank, 2001). Hence, food security connotes physical and economic access to adequate food for all household members, without undue risk of losing the access. The idea of food security has expanded beyond the strict biological requirements of sustenance for survival. Rather it entails consuming at a level adequate for physical and mental health and also includes the right to cultural preferences. It also includes obtaining the food in appropriate proportion (Robertson, 1990). In recent times, the killings recorded from the Fulani herdsmen and farmers clash has affected most communities displacing them of their farmlands and their major source of livelihood. This is becoming unbearable with the Fulani herdsmen always having their ways leaving the farmers at their mercy.

This recent wave of violence in Nigeria as observed by Kasarachi (2016) has disrupted socioeconomic, religious and educational activities, political instability and threatened the national unity of Nigeria. These extra judiciary killings have forced thousands of people to abandon their homes and farmlands for safety. Okereke (2012) asserts that this unfolding violence have become so alarming that there is no gainsaying the fact that Nigeria is at a crossroad and gradually drifting to a conflict society.

Statement of the Problem

The overall implication for sustainable food security in Nigeria is farming (subsistence and commercial) and that seems to be fast deteriorating. Also, a substantial part of the country's budget has been spent on the compensation of families who lost their relations to the Fulani herdsmen and farmers crisis. Huge amount of money is being spent on weapons and ammunition acquisition so as to equip the military to handle the situation on ground. All these seem to have affected Nigeria's economy.

Incessant farmer-herders conflicts in Nigeria have claimed many lives and properties. In spite of the efforts of the Federal government to curb incessant conflicts between farmers and the herdsmen, the conflicts remain unabated. Farmers/herdsmen conflicts in Nigeria have demonstrated a high potential to exacerbate insecurity and food crisis. The bloody clashes between the herdsmen and farmers continue to occur in several parts of the country. The invasion of north-central states by herdsmen has forced farmers to abandon their fertile farmlands, rendering several communities deserted and reduced farmers to tenants in internally displaced persons (IDPs) camps. A number of works have been done on the prevalence of farmers-herdsmen conflicts in Nigeria, while numerous studies have been conducted on the socio-economic, financial and political implications of farmers-herdsmen conflicts on national development in Nigeria. Also, there exist some works on food security in Nigeria. These works are plausible in their own merits, while the discourse on farmers-herdsmen conflicts in Nigeria

has largely been done without giving adequate emphasis on its implication on food security. This study, therefore, focuses on the farmer-nomadic pastoralist conflict on food security in Plateau State.

Research question

1. What are the implications of farmer-nomadic pastoralist conflict on food security in Plateau State?

Research Objectives

1. To examine the implication of farmer-nomadic pastoralist conflict on food security in Plateau State.

Statement of Hypothesis

1. Farmer-nomadic pastoralist conflict has no significant implication on food security in Plateau State.

Conceptual framework

The Concept of Pastoralist

Pastoralism is a conventional occupation among certain groups in Nigeria including the Kanembu, Kwoya, Manga, Fulani and the Shuwa Arabs (Blench, 2010; Muhammed, Ismaila and Bibi, 2015). However, the Fulani are the most prominent herding group, owning over 90 percent of the country's livestock (Abass, 2012). The fact that no other pastoral group is as numerous and expanded as the Fulani could be presumed a reason for the pervasive stereotypes about the occupation of the Fulani pastoralists and why they are the herding group mostly involved in disputes with farming communities (Olayoku, 2014). Yet, under that surface of seeming stability, a variety of pressures of the modern time, like human population growth, rapid urbanization, the growing demand for livestock products, land use changes, and climate change all seem to accumulate to put the sustainability of the pastoralist production system to a serious test. For example, globally about 70% of the range lands in dry lands can be considered degraded, according to FAO (2006a) estimates. Pressure on the natural resources that are used by pastoralists will further increase because, as a result of population growth and changing lifestyle patterns, the demand for meat is projected to double from 229 million tons in 1999/2001 to 465 million tons in 2050 (FAO 2006b).

Cohen (1974) describes pastoralism as "a system of production devoted to gaining a livelihood from the care of large herds of animals based on transhumance, an adaptation to a particular habitat: semi-arid open country or grasslands, in which hoe or digging-stick cultivation apparently cannot be sustained." Drawing on this description, Thornton (2009) defines pastoralism as a production system that involves livestock raising using mobility to adapt to a dry land ecology that is not suitable for sedentary crop cultivation. Other definitions sometimes restrict pastoralism to subsistence systems, but we acknowledge that pastoralists earn incomes by selling their livestock or livestock products such as milk (Spooner, 1971). In addition, pastoralists may engage in crop cultivation, if the land and available water allow them to do so; and this makes them so called agro-pastoralists.

The Concept of Crop-Farmers

Crop farmers refers to persons who work on the land to produce high quality and high yielding vegetables, fruits, grains, cotton, nuts, sod, sugar cane, flowers and other necessities that grow from the earth. They ensure that their fields are well maintained and the soil and plants are healthy. Ukwuji (2004) explains that crop farmers use an up-to-date technology in agriculture to

aid industrialized production of crops. The crop farmer uses innovative methods which include but are not limited to agricultural machinery, farming methods, genetic engineering technology, techniques for achieving economics of scale of production and the creation of new markets for consumption.

The Concept of Conflict

Conflicts are generally defined as situations in which two or more entities or parties perceive that they have mutually incompatible goals (Mitchell, 1981). For Gbogbo (2010), conflict is a situation of tension in which two or more parties who are dependent on each other and are aware of their opposition and diversities try by pressure or force to realize their personal interests or action plans which are apparently irreconcilable. Idrissoul (2016) clarifies this by saying that the notion of conflict expresses the fact that one party wants to impose its positions, contrary to the expectations or interests of the other party. This definition reinforces the use of this concept to judge sometimes the strained relations between crop farmers and pastoralists in many parts of the world. According to Salihou (2016), most conflicts between farmers and pastoralists are linked to access to natural resources (land, pastures, watering points, etc.). According to the literature, conflicts between crop farmers and pastoralists are quite complex and can be explained by structural and processional reasons and can create adverse effects on food security, (Moritz, 2010). These conflicts are manifested by tensions between farmers and pastoralists over access to water points, land, pasture areas and animal resting parks. Some of the conflicts give rise to violence but others are solved with partiality. The reasons for this difference in conflict resolution can be found in analyzing the sequences of interactions (Kriesberg, 2007).

The Concept of Food Security

Food security is a broad concept which cuts across many dimensions. The United States Agency for International Development (USAID) Bureau for Africa (2006) defines food security as a situation when all people at all times have physical, social and economic access to sufficient food to meet their dietary needs for a productive and healthy life. Food security exists when all people at all times, have physical and economic access to sufficient, safe and nutritious food to achieve a balanced diet and food preferences for an active and healthy life (Fantaw, 2007). The definition combines stability, access to food, accessibility of nutritionally adequate food and the biological utilization of food.

According to Fantaw (2007), food availability is one of the constructs that measures food security as the amount of food within the immediate reach of households, and this largely depends on domestic food production and storage. Access mainly refers to the ability of a household to obtain food from the market, and depends on its purchasing power which varies in relation to market integration, prices and temporal market conditions (Fantaw, 2007). Another element of food security is food utilization. This is seen as food culture, food preparation and the actual consumption of accessed food. This dimension is related to food being nutritious, safe to eat and properly prepared. Food utilization is also interconnected to nutritional health outcomes which are determined by numerous factors like water systems, sanitation and health, to mention but a few.

Haman (2002) reveals that the pastoralists suffer from material damages when the crop farmers inflict physical injuries on the cattle by using cutlasses, spears or guns or by poisoning the cattle. In a related development, Ngoufo (1992) observes that open confrontation results in rural insecurity and subsequent migration. To him, in the event of a conflict, properties and lives are destroyed leading to misery and hardship. The socio-economic consequences of agro-pastoral conflicts at the social level lead to misunderstandings between the crop farmers and nomadic farmers, creating mistrust, tension and open confrontations between the opposing groups.

The attacks by Fulani herdsmen have in recent years taken many dimensions with the use of new and sophisticated types of weapons and communication devices such as AK 47 rifles. As a consequence, the sedentary agrarian communities have resorted to self-defense through local vigilante groups (Abass 2012). This has further aggravated violence, with attendant destruction of lives and properties (Fasona and Omojola, 2005). Conflicts resulting from cattle grazing actually accounted for 35% of all reported crises between 1991 and 2005 in Nigeria (Adekunle and Adisa 2010). Crop farmers across the country are increasingly becoming apprehensive over the negative attitude of the nomadic herdsmen who release their herds on crops, destroying them to points of no redemption. As a result, farmers of cassava, rice, maize, guinea corn and groundnuts now incur extra cost to put hedges around their farms to fend off the marauding cattle.

Theory

Securitization Theory by Weaver (2004)

This theory is an analytical framework intended to increase understanding about how traditional and non-traditional security threats are perceived and managed chiefly by states. The main argument of securitization theory is that security is an (illocutionary) speech that acts solely by uttering 'security' and something is being done. Weaver (2004) asserts that it is by labeling something a security issue that it becomes one and also attracts the attention of the populace. By stating that a particular object is threatened in its existence, a securitizing actor claims a right to extraordinary measures to ensure the object's survival. The issue is then moved out of the sphere of normal politics into the realm of emergency politics, where it can be dealt with swiftly and without the normal (democratic) rules and regulations of policy-making. For security this means that it no longer has any given (pre-existing) meaning but that it can be anything a securitizing actor says it is. Security is a social and inter-subjective construction.

According to Buzan (1998), to actually prevent 'everything' from becoming a security issue, a successful securitization consists of three steps. These are:

- (1) Identification of existential threats;
- (2) Emergency action;
- (3) Effects on inter-unit relations by breaking free of rules (Buzan, 1998).

To present an issue as an existential threat is to say that: 'If we do not tackle this problem, everything else will be irrelevant (because we will not be here or will not be free to deal with it in our own way)' (Buzan, 1998). The first step towards a successful securitization is known as securitizing move. A securitizing move is an option open to any unit because once an actor has convinced an audience (inter-unit relations) of its legitimate need to go beyond otherwise binding rules and regulations (emergency mode) we can identify a case of securitization. In practice, securitization is thus far from being open to all units and their respective subjective threats. Rather, it is largely based on power and capability and therewith the means to socially and politically construct a threat. In this way the study of security remains wide, but with restrictions pertaining to 'who' can securitize; it is neither unmanageable nor incoherent.

Weaver (1998) is extremely critical of framing issues in terms of security. For him: 'security should be seen as a negative, as a failure to deal with issues of normal politics' (Buzan, 1998). Because of this, he favours a strategy of desecuritization whereby securitization is reversed and issues are moved out of 'the threat-defense sequence into the ordinary public sphere' where they can be dealt with in accordance with the rules of the (democratic) political system. Although this is clearly a normative statement on the part of Weaver, it is important to note that it has no bearing on what securitization theory can do. While for normative theorists being political lies at the very heart of their approach to security, in Weaver's securitization theory being political (intended or unintended) is only of secondary importance. This is because being political can never replace the political act that is securitization or desecuritization

(Weaver, 2000). Securitization or desecuritization is a political choice by a securitizing actor, which the analyst seeks to uncover by means of using securitization theory.

The application of this theory to the study draws on the analytical strength of this approach which is based on the ability to situate a community at the heart of food security. By application, this means that the welfare of the people are affected by the pastoralist/crop-farmer conflict, in that where there is conflict in a zone, there is bound to be scarcity of food. Hence, food security is affected.

METHODOLOGY

Methodology

A descriptive survey design was adopted which enabled the researchers to collect and analyze data from a sample of the entire population as they naturally appear. The population for the study was made up of farmers and nomadic pastoralists in Plateau State. The sample consisted of 150 respondents from the study area, (Plateau State) via simple random sampling technique.

A well-constructed and self-developed questionnaire titled “Pastoralist Crop-Farmers Conflict and Food Security Questionnaire (PCFCFSQ)” was used to gather the information needed in this study. PCFCFSQ was divided into two sections namely section A, and B. Section A sought for the personal data of respondents, while section B elicited information on the extent of pastoral crop-farmer conflict and food security in the state. Likert 4 – point rating scale was adopted to help in rating response options which are Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD).

The face and content validity was ascertained by giving the designed questionnaire (PCFCFSQ) to experts of Tests and Measurement and evaluation for vetting before distributing it to the respondents. The instrument (PCFCFSQ) was subjected to reliability test, using Cronbach Alpha method and it produced high reliability coefficient of 0.92 to justify the use of the instrument. The data generated through the instrument were analyzed using the descriptive statistics to answer the research question while the hypothesis was tested using regression analysis. All hypotheses were tested at 0.05 level of significance.

Model Specification:

Research question (using percentage analysis)

$$\% = \frac{CF}{TF} \times \frac{100}{T}$$

Where CF is the Cell Frequency

TF is the total frequency

100 is a constant value

Hypotheses:

Hypotheses (using Simple Regression Analysis)

The null hypothesis states that farmer-nomadic pastoralist conflict has no significant implication on food security in Plateau State.

$$Y = f(X) \quad (1)$$

The variables will be treated independently and jointly,

Where Y = food security

X = farmer-nomadic pastoralist conflict

$$\text{Therefore } Y = a + bX + e \quad (2)$$

Where a and bare coefficients and e is error term.

**Discussion of the finding
Answering the Research Questions**

Research Question One

The research question sort to find out the implications of farmer-nomadic pastoralist conflict on food security in Plateau State. In order to answer the question, percentage analysis was used. (See table 1).

**TABLE 1
Percentage analysis of the implications of farmer-nomadic pastoralist conflict on food security in Plateau State**

| Implications | FREQ | % | Remark |
|---------------------------|-------------|-------------|--------------------|
| Food inaccessibility | 42 | 28 | 2 nd |
| Non food Utilization | 12 | 8 | 5 th * |
| Food Instability | 17 | 11.33 | 4 th |
| Food Unavailable | 53 | 35.33 | 1 st ** |
| High price of commodities | 26 | 17.33 | 3 rd |
| Total | 150 | 100% | |

**** The highest percentage analysis**

*** The least percentage analysis**

From the result of the above table 1, it was observed that the highest implications of farmer-nomadic pastoralist conflict on food security in Plateau State was “Food Unavailable” with 53(35.33%), seconded by Food inaccessibility with 42(28%). The third in the list was high price of commodities 26(17.33%), the fourth was “Food instability” 17(11.33%) “while the least was Non food Utilization 12(8%).

Hypotheses testing

Hypotheses One

The null hypothesis states that farmer-nomadic pastoralist conflict has no significant implication on food security in Plateau State. In order to test the hypothesis regression analysis was performed on the data, (see table 2).

**TABLE 2
Regression Analysis of the implication of farmer-nomadic pastoralist conflict on food security in Plateau State.**

| Model | R | R-Square | Adjusted Square | RStd. error of the Estimate | R Square Change |
|--------------|-------------------|-----------------|------------------------|------------------------------------|------------------------|
| 1 | 0.89 ^a | 0.79 | 0.79 | 1.59 | 0.79 |

***Significant at 0.05 level; df= 148; N= 150; critical R-value = 0.197**

The table shows that the calculated R-value (0.89) was greater than the critical R-value of 0.197 at 0.5 alpha level with 148 degree of freedom. The R-Square value of 0.79 predicts 79% of the implication of farmer-nomadic pastoralist conflict on food security in Plateau State. It was also deemed necessary to find out the extent of the variance of each case of the independent variable

(farmer-nomadic pastoralist conflict) on food security in Plateau State as responded by each respondent (see table 3).

TABLE 3

Analysis of variance of the implication of farmer-nomadic pastoralist conflict on food security in Plateau State.

| Model | Sum of Squares | Df | Mean Square | F | Sig. |
|------------|----------------|-----|-------------|--------|-------|
| Regression | 1419.90 | 1 | 1419.90 | 562.74 | .000b |
| Residual | 373.43 | 148 | 2.52 | | |
| Total | 1793.33 | 149 | | | |

The above table presents the calculated F-value as (562.74) and the P-value as (.000). Being that the P-value (.000) is below the probability level of 0.05, the result means that farmer-nomadic pastoralist conflict has significant implication on food security in Plateau State.

Discussion of the Findings

The result of the data analysis in table 2 was significant due to the fact that the calculated R-value 0.89 was greater than the critical R-value of 0.197 at 0.05 level with 148 degree of freedom. The result implies that farmer-nomadic pastoralist conflict has significant implication on food security in Plateau State. The result therefore is in agreement with the findings of Moritz, (2010) who stated that conflicts between crop farmers and pastoralists are quite complex and can be explained by structural and processional reasons and can create adverse effects on food security. The significance of the result caused the null hypotheses to be rejected while the alternative one was accepted.

Conclusions

Based on the result of the finding, it was concluded that farmer-nomadic pastoralist conflict has significant implication on food security in Plateau State. More broadly on the national level, greater attention in the agricultural sector of Nigerian economy is needed to address food security as one of the basic needs of her citizens in general and in particular. This attention could be translated to further studies to establish the prevalence of food insecurity across country and to assess the impact of food insecurity on populace of Nigerian society.

Recommendations

1. Government should ensure that those involved in the allocation of land for farming imbibe social responsibility and not allocate along cattle routes or over grazing lands, to avoid encroachment by nomadic herdsmen. Support for agricultural development through incentives will facilitate availability of food for the teaming Nigeria population.
2. Government in partnership with agricultural related NGOs should come up with strategies to create grazing reserves and dams for pasture and water in regions that are predominantly Fulani so that they do not stray long distances in search of pastures.
3. From the findings of the research, it is recommended that laws should be made to guard against tampering of the nomadic pastoralists with the farmers' lands in order not to cause destruction of crops and other food items in the farmland.

REFERENCES

- Abbass, I. M. (2012). "No Retreat, No Surrender.' Conflict for Survival between Fulani Pastoralists and Farmers in Northern Nigeria." *European Scientific Journal*, vol. 8, No. 1, pp 337-352.
- Adekunle, O. & Adisa, S. (2010). An Empirical Phenomenological Psychological Study of Farmerherdsmen Conflicts in North-Central Nigeria. *Journal of Alternative Perspectives in the Social Sciences*, 2(1): 1-27.
- Adeoye, N. O. (2017). Land use conflict between farmers and herdsmen in parts of Kano, Yobe and Borno States of Nigeria: Nomads' viewpoints. *Ghana Journal of Geography*. 9 (1) 127-151
- Al-Chukwuma, T. & Atelhe, F. (2014) "Contributing to Global Security: GEF Action on Water, Environment, and Sustainable Livelihoods." *The Global Environment Facility*, <http://www.theGEF.org>
- Aliozor, G. (2004). Economic Analysis of Rice Farming in Ogun State of Nigeria and the Implications for Agricultural Extension Service. *Journal of Agricultural Extension*, 5: 54-66.
- Alubo, O. (2008). *Ethnic conflicts and citizenship crises of in central region*. Ibadan: PEFS.
- Blench, R. (2010). *Conflict between Pastoralists and Cultivators in Nigeria*: Review paper prepared for DFID, Nigeria. 9th August, 2010
- Blench, R. M. (2003). The transformation of conflict between pastoralists and cultivators in Nigeria. Paper in press for a special issue of the *Journal Africa.ed.M.Montz*. Retrieved From [http://www.rogerblench.infor/Development/Nigeria Livestock survey.pdf](http://www.rogerblench.infor/Development/Nigeria%20Livestock%20survey.pdf) on December 19, 2012.
- Bureau for Africa, (1986). Nomads against Natives: A Political Ecology of Herder/Farmer Conflicts in Nasarawa State, Nigeria. *American International Journal of Contemporary Research*, 2(4), 76-88.
- Buzan, T. (1998). "Mechanisms to Enhance Effective Popular Participation." In *Desertification Control and Renewable Resources Management in the Sahelian and Sudanian Zones of West Africa*, ed. Francois Falloux and Aleki Mukendi, 28-40. Washington, D.C.: World Bank, Technical Paper No. 70.
- Cohen, A. (1974). "Resource Scarcity, Climate Change and the Risk of Violent Conflict." *World Development Report 2011 Background Paper*.
- Ebonugwo, M. (2016). Another herdsmen invasion of Enugu Community: Stop the killings now! *Vanguard*, p. 4.
- Eme, O., Onyishi, A. O., Uche, O. A. & Uche, I. B. (2014). Food insecurity in Nigeria: A thematic exposition. *Arabian Journal of Business and Management Review*. 4 (1) 1-14

- FANTA, (2007). Identity Dynamics and Conflict in Collaborative Processes: The Case of Participatory Management of Protected Areas in Benin. *Journal of Environmental Protection*, 7, 1981-2008. <http://dx.doi.org/10.4236/jep.2016.713154>
- Fantaw, F. (2007). Determinants of food insecurity in Amhara Region, University of Addis Ababa, *Ethiopia*.
- FAO (2006a) *Urban and Peri – Agriculture*.
- FAO (2006b) Farmer –Herder Conflict in Volta region of Ghana. *Journal of Social Sciences*.2(1),6-10.
- Fasona, M. & Omojola, A. (2005). Climate Change, Human Security and Communal Clashes in Nigeria. Paper presented at the International Workshop on Human Security and Climate change, *Holmen Fjord Hotel*, Oslo Oct. 21-23, 2005.
- Food and Agricultural Organization (FAO) of the United Nations (2012) t pp 1923. Retrieved 19 January, 2013 from *Integrated Regional Information*.
- Gbogbo, P. A. (2010). *Prévention et gestion des conflits*. Manuel de formation des formateurs. 27p.
- Haman, U. (2002). Land use patterns and conflicts between the pastoralists and crop farmers. Case of Mezam division, North-West Region, Cameroon. *Monograph University of Dschang-Cameroon*. pp. 15-25.
- Idrissou, L., Aarts, N., Leeuwis, C. & Van Paassen, A. (2016). Identity Dynamics and Conflict in Collaborative Processes: The Case of Participatory Management of Protected Areas in Benin. *Journal of Environmental Protection*, 7, 1981-2008. <http://dx.doi.org/10.4236/jep.2016.713154>
- Igbo, D. (1997). Factors Influencing Adoption of Improved Cowpea Technologies in Nigeria. *Journal of International Agricultural and Extension Education*, 11(1): 79-86.
- Kasarachi, N. P. (2016). Institutionalizing peace education for sustainable development in public secondary schools in Delta State. *Niger Delta Journal of Education*, 8(1), 194-196.
- Kriesberg, L. (2007). *Constructive Conflicts: From Escalation to Resolution*. 3rd edition. Lanham, MD: Rowman & Littlefield.
- McGregor, A. (2014). Alleged Connection between Boko Haram and Nigeria’s Fulani Herdsmen Could Spark a Nigerian Civil War. *Terrorism Monitor*, 12(10): 8-10.
- Mgbeahurike, F. (2000) *Farmer-Pastoralist Conflict in Core-states of the National Fadama Project*. Abuja: FACU, pp. 11-27.
- Mitchell, C. R. (1981). *The Structure of International Conflict*. Palgrave macmillan.
- Moritz, M. (2010). *Understanding Herder-Farmer Conflicts in West Africa: Outline of a Processual Approach*. Society for Applied Anthropology: in Human Organization, Vol. 69, No. 2,

- Muhammed, R. S., Ismaila, J.O. & Bibi, M. A. (2015). Perceived effectiveness of conflict resolution methods for improved Farmer-Pastoralist relationship in Chikun Local Government Area of Kaduna State, Nigeria. *The Nigerian Journal of Rural Extension and Development*, 3:54-58.
- National Board for Technical Education (NBTE) (2001) *Approaches to Interaction Effects in Multiple Regressions*. Thousand Oaks: Sage Publications
- Nchi, S. I. (2013). *Religion and politics in Nigeria: The constitutional issues*. Jos: Greenworld Network, IRIN, (2010, April 30). Nigeria: Farmer-pastoralists' clash leaves 32 dead. IRIN News.
- Ngoufo, G. (1992). "The Tragedy of the Commons". *Science* 162 (3859): 1243–1248. Available at <http://www.sciencemag.org/cgi/reprint/162/3859/1243.pdf>
- Noorduyn, R. (2005). *The assertion of rights to agro-pastoral land in North Cameroon: a cascade to violence?* Leiden: African Studies Centre Research Report 76.
- Nwalie, T. (2017). "Environmental Scarcities and Violent Conflict: Evidence from Cases." *International Security*, Vol. 19, No. I (Summer 1994), pp. 5-40.
- Nweze, N. J. (2005). Minimizing farmer-herder conflicts in Fadama Areas through Local Development Plans: Implications for increased crop/livestock productivity in Nigeria. *Paper presented at the 30th Annual Conference of the Nigerian Society for Animal Production*, held 20th – 24th March.
- Obioha, E. E. (2005), Climate Change, Population Drift and Violent Conflict over Land Resources in North Eastern Nigeria. *A paper presented at the International Workshop on Human Security and Climate Change*, Oslo, June 21-23.
- Odu, O. K. (2001) Droughts-Related Conflicts, Management and Resolution in the West African Sahel. *Human Security and Climate change International Workshop*. Oslo: GECHS, CICERO and PR20, pp. 5-16.
- Ojo, E. O. & Adebayo, P. F. (2012). Food security in Nigeria: An overview. *European Journal of Sustainable Development*. 1 (2) 199-222
- Okereke, D. (2012). The remote immediate cause of crimes, insecurity, terrorism and instability in Nigeria and solution. Retrieved from <http://www.nairand.com/1027585/remote-immediatecauses-crimes> on January 19th, 2018.
- Okoli, A. I. C. & Atelhe, G. A. (2014). Nomads against Natives: A Political Ecology of Herder/Farmer Conflicts in Nasarawa State, Nigeria. *American International Journal of Contemporary Research*, 4(2).
- Okolie, A. & Ugwu, A. C. (2011). *Indigene-Settler rivalry and nation-building in Nigeria: Lessons from the Jos Crises, 1999-2011*. Research Paper in press.
- Okolo, C. V. & Obidigbo, C. (2015) Food security in Nigeria: An examination of food availability and accessibility in Nigeria. *World Academy of Science, Engineering and Technology International Journal of Economics and Management Engineering*. 9 (9) 2015

- Okorie, H. & Ezeji, T. (1988) *Applied Factor Analysis Evanston*. Ill.: Northwestern University Press.
- Okorie, J. (2000) *Quantitative Techniques in Urban Analysis*. Ibadan: Kraft Books Ltd.
- Olaitan, G. (1996) *Silent Violence, Food and Peasantry in Northern Nigeria*. California: University of California Press, pp. 15-25.
- Olayoku, U. (2014). Management of Conflicts Over Pastures and Fields Among the Baggara Arabs of the Sudan Belt. *Nomadic Peoples*, 4(1): 37-49.
- Olobatoke, R. & Omowumi, A. (2017). Effect of Fulani herders' intrusion on the economic livelihood of crop farmers in Yagba East Local Government Area of Kogi State, Nigeria. *International Journal of Agricultural Policy and Research*. 5 (3) 80-85
- Otaha, I. J. (2013). Food insecurity in Nigeria: Way forward. *African Research Review: An International Multidisciplinary Journal, Ethiopia*. 7 (4) 26-35
- Oyetade, L. (2007). "Farmers in Northern Nigeria Suffer Effects of Desertification." <http://www.africanagricultureblog.com/2007/03/farmers-in-northern-nigeria-suffer.html>
- Robertson, R. (1990). *The assertion of rights to agro-pastoral land in North Cameroon: a cascade to violence?* Leiden: African Studies Centre Research Report 76.
- Salihou, J. M. I. (2016). Pastoralists in a changing environment: The competition for grazing land in and around the W Biosphere Reserve, Benin Republic. *Ambio*, doi:10.1007/s13280-017-0942-6.
- Sen, C. (1981). *Nigeria Second Fadama Development Project (SFDP)*, Project Preparation Mission Report, Livestock Component, World Bank. Pp113.
- Smith, J., Weitz, R. & Miz, D. (2009). *The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change*, Center for Strategic and International Studies (CSIS) and Center for a New American Security (CNAS).
- Spooner, J. (1971) Estimating policy and program effects with observational data: the differences-indifferences estimator. *Practical Assessment, Research and Evaluation*, Vol. 8 No. 24. Available online: <http://PAREonline.net/getvn.asp?v=8&n=24>.
- Thornton, K. M. (2009) The future of small farms in reducing poverty. Retrieved in April 2008 from <http://www.id21.org/nr/links1.html>.
- Ukwuji, A. (2004). "Pastoral Maasai and Tropical Rural Development." In *Agricultural Development in Africa: Issues of Public Policy*. Edited by R. Bates, and M. Lofchie. New York: Praeger Publishers.
- Weaver, D. (2000). The remote immediate cause of crimes, insecurity, terrorism and instability in Nigeria and solution. Retrieved from <http://www.nairand.com/1027585/remote-immediatecauses-crimes> on January 19th, 2018.

Weaver, M. (1998). "The Truth about Water Wars." *Seed Magazine*. http://seedmagazine.com/content/article/the_truth_about_water_wars

Weaver, S. (2004). "Water Wars in Arid North Nigeria." <http://news.bbc.co.uk/2/hi/africa/6569057.stm>

World Bank (2001) Farmer-herdsmen conflict: A factor analysis of socio-economic conflict variables among arable crop farmers in North Central. *Nigeria Journal of Human Ecology*. 30(1):1-9.