

## ENVIRONMENTAL AND SOCIO-ECONOMIC IMPLICATIONS OF PASTORALISM IN NIGERIA: A THREAT TO FOOD SECURITY

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### ABSTRACT

Pastoralism in recent time has aggravated perceived crisis and attendant threats in Nigeria. The spate of environmental degradation as a result of pastoralist movement in Nigeria have posed a major threat to food security in the country and Africa at Large; due to increasing depletion and erosion of the farm land for cultivation and its continuous deteriorating status of agro -allied climate created by these herders movement. Indiscriminate of lazing of livestock not only destroy crops, but creates other attendant extreme environmental conditions such as deforestation, drought, water pollution which increases incidence of global warming in the country. To this extent the study is poised to identify causes, dynamics and consequences of pastoralism and its attendant environmental and socio-economic implications in Nigeria. Research questions were formulated to guide the study IPSO factor, qualitative and content analysis was relied upon in evaluating the data. However, the finding revealed that the unregulated activities of herders have posed a grave danger to our eco-system, hence huge threat to food security. The study therefore recommends that stick adherence to environmental law and monitoring the activities of herders in Nigeria should be enforced to check and boast food security and other attendance crisis association with these forms of movement.

**KEYWORDS:** Pastoralism, Environment, Socio-Economic, Food security.

### 1. INTRODUCTION

The threat posed by pastoralism to food security in relation to its environmental and economic implications is evident by its ability to launch attacks on the economic development of Nigeria. Transhumance pastoralism has been a long age practice in Nigeria. It involves the movement of herders with their herds from one location to the other in search of pastures and water (Aleez, 2016). Pastoralist migration is as a result of unfavourable weather conditions necessitated by climate changes as result the activities of these herders, such as indiscriminate, unregulated and uncultured grazing habits. The trend of environmental effect as a result of pastoralist movement in Nigeria, have posed a major threat to food security in the south east and Nigeria at large. This is attributed to increasing level of degradation, depletion of the soil meant for cultivation of crops and continuous deteriorating status of agro-allied climate. Indiscriminate and unguided grazing of livestock not only destroys cash crops but creates other attendant extreme environmental conditions such as deforestation, drought, water pollution, soil erosion and depletion as a result of bush burning which increases the incidence of global warming.

Ayode (2013) argued that man is on this planet because it has conducive climate and atmosphere that can sustain life. He went further to say that climate fluctuation and climate change can impinge on human life in many diverse ways directly by influencing human health and the ecosystem. Agricultural production is a system heavily affected by climate conditions especially in emerging states like Nigeria where the impacts of climate change in agriculture have been shown to be significant for low input farming (Rosenzweig and powry 1994, Mendelsohn and Dinar 1999). Mendelsohn, Dinar and Dalfelt (2000) argued that tropical regions in developing countries are usually characterized by poor marginal soils which

make them vulnerable to potential damage from environmental factors. These factors to a large extent necessitated by the unregulated activities of the herdsmen inform the topic of discourse.

### **1.1 STATEMENT OF THE PROBLEM**

The activities of herders in recent times have assumed much threat in virtually all nook and cranny of the Nigerian State especially in the south east. With the attendant increase in the growing population, the herdsmen activities have aggravated threats to lives, properties and the environment which portend a grievous danger to food security in the south east and Nigeria at large. In most part of Nigeria especially in the south, livestock are handled intensively and, in most cases, if they are to be allowed to graze in the field, watches are kept so they don't stray away. While in the north the reverse is the case, where pastoralism is a culture, thus cattle are noted to be the most important object in Fulani society (chukwuemeka et al, 2018).

However, losing sight of the fact that culture is a way of life of a particular group of people. Nze (2015) did argued that in their culture, tradition and occupation, nomadic herdsmen have remained a migrant race who does not own lands nor have any permanent abode. In his submission land ownership or liquid acquisition do not matter to this class of people, because they always move from place to place. This is what is now known as their culture. In the past, this movement tends to be seasonal but recently extant literature revealed that unregulated, unguided and uncultured pattern of grazing in the north has resulted to climate change now affecting agricultural food production and grazing of flocks. This indiscriminate grazing of livestock not only destroys cash crop but creates attendant extreme environmental conditions, such as deforestation, erosion, drought, water, pollution of course which leads to harsh climatic condition that is detrimental to both man, animals and crops thereby leading to food insecurity. The same experience that forced the movement of herders down from the north to the south east is what is playing currently in south east. This has provoked violent clashes in several communities because people are no longer comfortable with the continuous destruction of their farm products in the name of grazing. Recently in Amokwe, Udi Local Government Area of Enugu state, a farmer lost his palm plantation to these pastoralists at the tune of 2.6 million. A young plantation was raised down by this unhealthy grazing pattern.

Scholars have written extensively on herders and farmers clashes, killings and wanton destruction of lives and properties without taking cognizance of the multiplier implications of these herders' activities on the environment and economy, which could metamorphose to harsh climate conditions that can possibly result to poor harvest, hence food shortage. Ogbuene (2001) maintained that climate is perhaps most important of natural environmental resources, which affects geographical processes such as soil formation, growth, the development and adaptation of plants, while Tileman (1999) and Blair (2002) asserted that the major essentials of life such as air, water, food and shelter are dependent on climate variables. Thus caution must be taken to check the activities of herders' unhealthy, unregulated and unguided habits. Spore (2008) supported the argument when he opined that the Lake Chad has shrunk to one tenth of original size and great shift from the shores discouraging irrigation in agriculture and leaving 20 million people who depend on the lake for survival in deep uncertainties. Hence, the shift toward the south eastern part of Nigeria where they can find water and pasture.

Succinct, to say that the increasing trend and practice of these pastoralist activities has also contributed to some of the irregularities being experience today. For instance the sudden shift in sedentary life styles of these pastoralists leaving cattle herding increasingly to young men or boys age 9 to 25 who most often lacks civility and maturity why going about their duties. Considering age, bracket it is possible for one to agree that invasion of farm, or allowing cattle to stray into farm land is common and unavoidable. Moreover, do these age bracket actually understand the value of food insecurity in a developing country like ours. However, in the time past, herders and community heads agreed on stock routes (burti or butali), it was then under the care of the local government. Moreover, adults were fully in charge of controlling cattle, this arrange went a long way to check cattle straying away into farm lands, then it controlled this trending issues of pastoralist movement vis a vis, controlled water, pollution, crop destruction deterioration etc., then there was no fear for food insecurity in the land because the environment were properly care for.

### **1.2 OBJECTIVES OF THE STUDY**

The study aims to identify

- Dynamics and consequences of environmental and socio-economic implications of pastoralism in the south east Nigeria.
- To ascertain the degree of threat, of the activities herders in boasting food security in study area.

- To examine Nigeria's environmental legislation and how it can put a check against indiscriminate and unregulated grazing pattern.

### **1.3 RESEARCH QUESTIONS**

- What are the environmental and socio-economic implications of pastoralism in the south east Nigeria?
- How have the activities of the herders affected food security in the south east?
- To what extent has the imperfection in Nigerian environmental legislation enhance food insecurity in the south east?

## **2. REVIEW OF RELATED LITERATURE**

### **2.1 Conceptual framework**

The concept of environment and pastoralism are pivotal in this discourse and therefore the way in which they are used deserves to a large extent some clarifications. The word environment is derived from the French word 'Environ' which means 'surrounding'. Our surrounding includes biotic factors like human beings, plants, animals, microbes etc and abiotic such as light, air, water, soil etc. Succinct, to say Environment is a complex of many variables, which surrounds man as well as the living organisms. Environment includes; water, air, land and the inter relationship which exist among and between water, air and land and human beings, other creatures such as plants, animals and microorganisms (Kalavathy, 2004). To that extent Environment means all the external factors, living and non-living material and non-material which surrounds man, Environment includes not only the water, air and soil that form our environment but also the social and economic conditions under which we live. Upon this explanation above (Park, 2009) divided environment into three components (i) Biological (ii) Physical and social.

Ekpeyon (2009) noted that since the birth of civilization, mankind has experienced serious changes in atmospheric environment with a recent mean global temperature rise of 0.6<sup>0</sup>c, largely due to emissions resulting from human activities which substantially increased the atmospheric concentration of major greenhouse gases such as carbon dioxide, methanol, chlorofluorocarbons (cfc) and Nitro oxide. IPCC (2007) argued that variation in rainfall, drought, flood, temperature, hurricane, excessive snowfalls, heat wave, frost bite and many others have greatly influenced the general human economic activity and well-being. The area in which something exists both animate and inanimate is regarded or referred to as environment. This environment in its entirety is fragile, hence need to be cared for as well as avoid any form of alteration or distortion. To this end, unregulated activities of these herders have actually altered this natural environment, thus resulting to low productivity in agricultural products.

Presumably, pastoralism varies in terms of purpose and focus. However, there are two basic conceptions from which pastoralism is derived (The production and live hood). From the perspective of livelihood, it is a subsistence living pattern tending herds of large animals, while the production perspective is Animal husbandry, the branch of agriculture concerned with the care, tending and use of grazing livestock in dry or cold range land areas (Blench, 2001). Hontfield and Davies, (2006) argued that pastoralism is seen as any predominantly livestock-based production system that is mainly extensive in nature and uses some form of mobility of livestock. It has been established that pastoralism is categorized according the degree of mobility. FAO, (2006) identified four broad categories of extensive livestock production system. They are nomadism, transhumance, agro-pastoralism and enclosed pastoralism/ranching. Nomadism, nomads follow seasonal migratory pattern which are largely determined by the need for pasture and water for livestock.

Transhumance is the seasonal movement of herds among fixed point in order to exploit the seasonal availability of pastures. Agro-pastoralism, this category holds land rights and keeps smaller herds of livestock. Ranching/enclosed livestock production is an extensive livestock production system under which is individually owned and usually fenced. Lastly is sedentarisation, this involves keeping livestock near farm and villages all year round without moving them to distant location (Weber and Horst, 2011). Meanwhile, the study intends to divulge two amongst the five forms of pastoralism, which forms the topic of discourse. Olaniyan (2016) argued that the Fulani pastoralists are of two major hues, the transhumance and the agro-pastoralist. In other words, pastoralism from historical records is a profession that is as old as humanity.

It is a known fact and common knowledge that the major occupation of the fulani's of Nigeria is pastoralism. Alhassom (2015) cited in Chukwuemeka et al (2018) noted that fulani owns over 90% of the nation's livestock population, which accounts for one third (1/3) of the agricultural GDP and 3.2% of the nation's GDP and, so their contributions to the local food chain and national food security cannot be over emphasized. Livestock to a large extent is the principal source of meat

as well as supplier of protein for nourishment. Despite the dominance of livestock, Nigeria has large number of livestock principally serving domestic consumption needs. Thus, livestock plays crucial role both for business and ceremonial purposes, hence cultural, traditional and religious purposes. The country is said to have an estimated 19.7 million cattle and the biggest consumer of meat in West Africa with Lagos state regarded as having the largest livestock meat in the sub-continent (Jinaidu, 2016). Since, livestock is basically the highest supplier of meat and protein for nourishment. There is the need to sustain its production, hence the fulani's felt that the means to achieve the sustainability is by freely feeding flocks indiscriminately all over the place. To a large extent, this movement of flocks is associated with such challenges as increased population, pressure on the land and fragmentation, land tenure system, climate change etc. However, research have shown that the savannah climatic zone is the most conducive area for livestock grazing, stemming from the abundance of grass and the absence of tsetse fly at some point in time.

Historically, the free movement of grazers was common between Sahel and savannah ecological zones. In Nigeria, the movement descended from the North to the South, velvet climate demarcation had made it quite difficult for the herders to transverse, this movement started in 1950's. In early 1970's there was a heavy drought in the Chad basin. This was attributed to climate change, looking at it holistically the unregulated, unguided and uncultured pattern of the herders could as well be the major reason for the dryness and shrinkage of the Chad basin. Moreover, over nine dams were cited in the northern part of Nigeria for irrigation purposes. These herders could as well leverage on that.

The national meteorological agency in 2008 reported that over the preceding 30years, the annual raining season dropped from an average of 150-to 120 days (crisis group, 2017). However, a follow up of the last six decades, over 350,000sq km of the already arid region turned to desert or desert like conditions, a phenomenon progressing south ward at the rate of 6.6km per year ( FME, 2008) in the past the then northern regional government in the 1960's established her grazing reserves to provide for cattle rearing in the North, but only 114 were formally documented or demarcated, however government failed to back these agreement with legislation guaranteeing exclusive usage or take active measure to prevent encroachment. (Crisis Group 2017).

## **2.2 Pastoralism: A Threat to food security in Nigeria**

Agriculture is the principal source of food and livelihood in Nigeria and employs nearly three-quarter of the nation's work force (Onyido, 2015). Food security exists when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life (Onyido, 2015). The basic idea behind the concept of food security is access, availability, utilization and consumption. Succinct to say that, food insecurity exists whenever the availability nutritionally adequate and safe food or the ability to acquire acceptable food in socially acceptable ways, is limited or uncertain. Assumptions on food security are that of producing adequate and enough food with nutritional value to feed its population. This practice is fundamental in emerging states like Nigeria. Onyido (2015) argued that the massive importation of food recorded 1.63 trillion naira between 2010-2015. The question a rational thinker will ask is why spending such whereas we have arable land for cultivation of food crops. However, this may not be far from the activities of pastoralist movement in Nigeria. In other words, just as herders value their cattle, so the farmers value their crops / produce and farm land. Possibly these vegetation and water is an asset to the farmer not a liability, which is capable of sustaining lives when sold or put into other good profitable use, hence possible increase in GDP. Therefore, herders should always appreciate these lofty opportunities on the part of the farmers.

## **3. THEORETICAL FOUNDATION**

The analytical tool for this study will be predicated on the Social Exclusion Theory, the theory is associated with the works of scholars such as Hills, Le Grand, and Piachand (2002), Gerda and vroom (2007), Jeon, Roy Debalwill, Noitalie and Bartels (2007) among others. The theory argued that displacement is a form of social exclusion that subjects groups or individuals to some form of discriminatory practices which exposes them to humiliations, description and insecurity. It noted that social exclusion detaches and alienates some groups of individuals from the mainstream of society with resultant negative effects on their citizens' rights. These exclusions are not just meant for materials resources but also to matters such as culture, education and social participation, necessary social services and above all political power resources. The theory was adopted to serve our purpose in this study using it as a guide in beaming searchlight on the activities of pastoralist as it relates to it implication, thus it not only graphically captures the essence and focus of the study but exposes the complexity of the powerlessness arising from systematic alienation, deprivation, disempowerment and their dynamics implication on food security as it relates to pastoralist activities.



Exclusion and security tend to find themselves at the extreme, as resource security can course violent intra-state conflict under unfavourable condition (Homer-Dickson 1999 & Kaphan, 1994). Moreover, decreasing supplies of physically controllable environment resources, such as available land, clean water would provide unhealthy behaviour on the point of the headers toward host community that might result to conflict.

### **3.1 Environmental Conservation Policy Framework-**

The Nigerian policy on conservation and sustainable land use is an integral part of the national policy on environment. However, the policy was first developed in 1989 following the promulgation of the Federal Environmental Protection Agency (FEPA) decree no 58 of 1988 which was revised in 1999. It provided the legal framework for the implementation and administration of the policies on environmental protection, natural resources conservation and sustainable development (Businessday, 2018). The aim was to integrate Biological diversity considerations into national planning, policy and decision making and secondary to enhance and conserve the sustainable use of the nation's biological diversity. With the creation of the Federal Ministry of Environment (FME) in 1999, FEPA was absorbed and the ministry became the highest policy making body that became responsible for addressing issues that borders on environment in Nigeria, as well as conservation of biodiversity. In pursuit of the policy objectives as enunciated, an overriding concern is to alleviate poverty and increase the per capita income of Nigerians (Etiosa, 2006).

Perhaps, the country has developed strategies and programs for sound and sustainable management of environment to check perceived excesses. The strategies have been designed to a large extent, to promote s adequate and sustainable levels of funding which is meant to focus on integrated human development programs, income generation, enhance local control of resources, strengthening of local institutions and capacity building as well as greater involvement of community based and non-governmental organizations, then the lower tiers of government as delivery mechanisms (Daily Independence, 2007).

The major overriding significant of Nigeria's participation in the United Nations Conference, on Environment and Development (UNCED) was the signing of the Convention. (Businessday, 2018). However, Nigeria assumed obligations under the provision of the treaty in accordance with customary international law. Though the Nigerian constitution makes fundamental provision for environmental protection, extra effort was made to clearly identify important components of the environment (Clancy and Feenstra, 2006). Section 20 of the constitution of the Federal Republic of Nigeria houses the country's environmental objectives that are meant, "to improve as well as protect the environment, safeguard the water, air, land, forest and conservation of wildlife". Recognition of these potentials, there is need to protect her resources, Nigeria has to put in place a number of legislations which borders around the Forestry Ordinance, the National Parks Decree, the Federal Environmental Impact Assessment Decree, and the Environmental Impact Assessment among others (Etiosa, 2006).

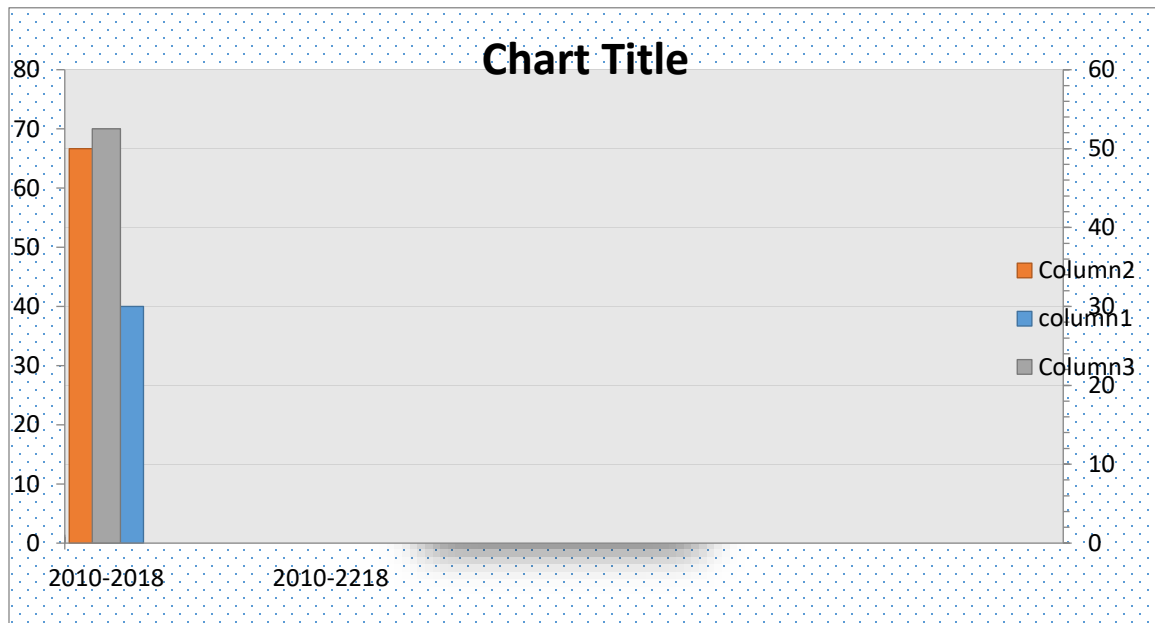
It is common knowledge that irrigation programs can as well take care of some of these issue of movement and transhumance activities in the country to reduce the cost incurred in land degradation, deforestation, soil depletion and erosion hence, severe environmental security would simultaneously increase food insecurity and destabilize prominent institutions which in turn would cause food crisis. Though to a large extent, one may perceive this form of exclusion as self-inflicted, but still lies on the part of government to always show recognition to groups that finds themselves in this category. The need for sensitization and education to put these pastoralists on the know, that Environmental Laws exists in Nigeria and must be adhered to.

## **4. IMPLICATIONS OF PASTORALIST ACTIVITIES ON FOOD SECURITY**

Emphasis have been laid more by scholars on killing, destruction of properties and other associated conflicts as a result of pastoralism in Nigeria. It is common knowledge that as result of this transhumance activities there tends to be civil strife and insurgency (Homer-Dickson, 1994). This study is poised to look at other multiplier implications of these herders in the course of their migration, thus some factors led to this assumptions, scholars though have identified such factor to include climate change, the growth of agro-pastoralism, the expansion of farming on pastures, the invasion of farmlands by cattle, the migration further south, blockage of stock routes and water points fresh water, security, burning of range land, overgrazing, deterioration on stream (Folami, 2009: Ofuoku & Isife, 2009: Adekunle & Adisa 2010: Blench 2010, Odoh & Chigozie 2012; Soleigberu 2012: Audu 2013, 2014; Belle 2013; Mc Gregory 2014; cited in Imo 2017). These excesses are a big threat to food security because for once in Nigeria, no policy or laws have been put in place to check the activities of these herders. As a result of these uncultured, unregulated and indiscriminate activities of the herders, there is a fall out on deforestation, which is the major source of earning to farmer and revenue to the country. Burning of range lands, exposing

the weather, to the detriment of agricultural products. Soil depletion and erosion of top soil majorly used for planting of staple crops, water pollution and distortion of water flow. Although researchers have linked the issue of food crisis to the theory of eco-violence (Imo, 2017), caution must be taken to address these indiscriminate grazing habit and attendant trespasses on farm land, to put a check to eco-violence.

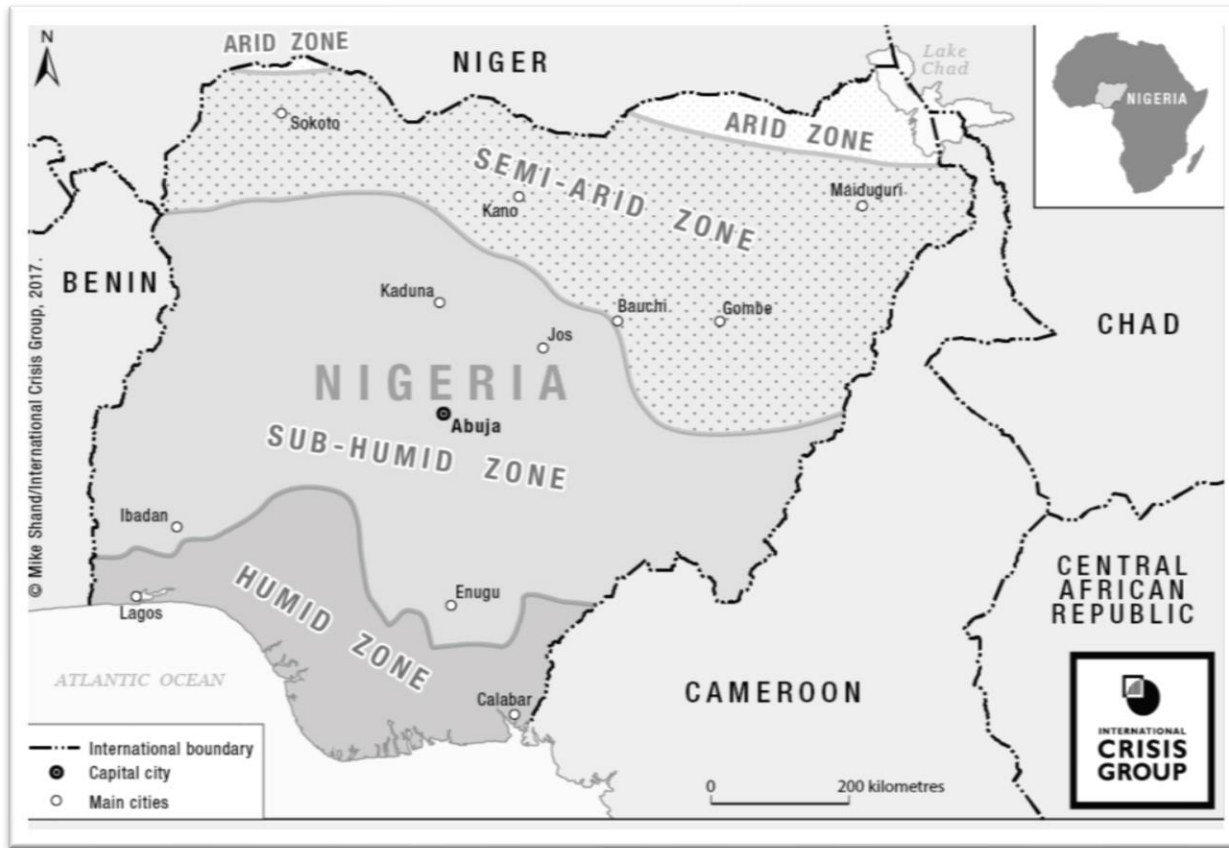
Perhaps environmental factors such as exploitation of scarce resources, unregulated glazing habit plays a key role. To this extent, the dwindling grazing resources (land, pasture, water etc.) and poor management of existing grazing reserves as culpable ( Okoli & Atelhe, 2014: Adisa, 2012 cited in Imo 2017). The activities of pastoralist are a burning national issue that is responsible for threatening food crisis in the south east and Nigeria at large. Attention has been given to these herders, with attendance to education so as to close the exclusion gap meted on them. Considering their contributions to economic growth and development in the country much is desired to be done especially now that, population of the country is growing to a point where food supply is struggling to measure up and sustain equilibrium. Malthus (1803) maintained that while food output was likely to increase in a series of twenty-five interval in the arithmetic progression and so on, population was capable of increasing in the geometric progression and so forth. The implication is that in no distant time the citizens of South East and Nigeria at large may likely not be able to find food for survival. This is as a result of decreasing supplies of physically controllable environmental resources used in enhancing food supply in the country.



**Figure 1: A Chart Representation Of Farm Land/Crops Destroyed Over Time In South East, North Central And South West Geo- Political Zones In Nigeria**

*Field Survey, 2018.*

The chart showed that the activities of the herders have increased over time as a result their movement down South since 2007. Sustained destruction of the eco-system by herders is known to be caused by both under aged (inexperienced) children of the Fulani extraction handling this cattle and lack of enforcement of environmental laws. Government has really not done much in this direction as this is a major threat to food security in Nigeria. From chart North Central which recorded 70% seems to be the most vulnerable, not only on environmental degradation but also wanton destruction of lives and properties. This is followed by South East which ranked 67% and their environment destroyed including economic trees and another farm produce. Finally, is South West, in which 40% of their farm land has been destroyed including water pollution etc.



**Figure 2: Map of Nigeria's Agricultural Belt**

Source: Crisis Group Africa Report 2017

However, a global humanitarian organization sponsored by British Department for international Development (BDID), (Mercy corps, 2013/2016), observed that the incessant attacks have drastic effects on food security and caused a loss of \$14 billion in three years. They emphasized the dangers inherent if the activities of these pastoralists guide not taken care of.

## 5. METHODOLOGY

The study employed documentary design, while data were elicited from documentary instruments from secondary sources through review of relevant materials, such as text books, journals, newspapers, official documents, internet etc., as well as observation. Content analysis was also employed wherein data collected through secondary sources were analysed. This enabled us to gain insight from the analysis of the socio-economic implication of pastoralism in the South East Nigeria. Ipso factor and content analytical technique was relied upon in evaluating the data generated in the course of the study. Perhaps, content analysis in a research is primarily adopted for the purposes of objectivity, systematization and qualitative analysis and interpretation of information.

## 6. CONCLUSION

In this attempt, the environmental and socio-economic implications of pastoralism, a threat to food security has been studied using social exclusion theory. The study identified among other things total neglect and environmental degradation, government pastoralist policy are the contributing factors that threatening food security in the south east and Nigeria at large. The study concludes that these factors are an aspect of the etiologic mosaic but very expedient in the analysis of the phenomenon.

## 7. RECOMMENDATIONS

- Address environmental factors that are drawing herders' migration to the south: This will require stepping up full implementation of programs under the Great Green project designed to restore drought & the Sahel, a trans-African environment and developing strategies for mitigating climate change impact.
- Coordinate with neighbours to stem cross border movement of non-Nigerian armed herders. Nigeria should join forces with Niger, Chad & Cameroon to check movement across boundary area.
- Establishment of grazing resources to consenting states and promotions of livestock production and management in order to minimise movement down the South East: this means developing grazing reserves in ten states already marked for this singular purpose in the Northern part of Nigeria where herders are predominantly originated.
- The ten-year national ranch development plan proposed by stakeholders' forum and facilitated by the NN food and Agriculture organization (FAO, in April 2017) should be implemented.

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