

Determinants of Herdsmen-Crop-Farmers' Conflicts and Proposals for Mitigating the Effects in Oyo State, Southwest, Nigeria.

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Abstract

The consequences of migration to a resource limited location brings about increasing pressure on such resources, therefore migrating groups such as herders often trigger ethnic conflicts when they move to new areas to compete for limited ecological resources. The aim of the research outlined in this paper was to study the pre-disposing conflict factors between herdsmen and crop farmers and mitigation options. The Survey Sampling techniques adopted included Cluster and multistage sampling techniques for selecting respondents for the study. Snowball sampling was also used due to the large number of herdsmen residing (some illegally) in the area which may not encourage systematic random sampling. Data analyses were done using weighted mean scores (wms) for data summarization, while Pearson's Product Moment Correlation analysis was applied to determine the effects of farm invasion by herders on selected socio-economic factors.

The results revealed that conflict is precipitated by herders either deliberately or carelessly allowing their animals to feed on crops growing on farms, feeding crops stored in barns or cribs to cattle, rape and sexual harassment and water pollution by the animals drinking from usually the community's main source of water. It was also established that age, farm size; labour size, farming experience, average income from vegetables and average income from other farm enterprises had positive significant relationship (at 5%) with number of times farmers' farms were invaded.

Keywords: Conflict, Eco-violence, Herders, Crop Farmers

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1.0 Introduction

Nigeria has experienced numerous violent conflicts most especially in north central Nigeria since 1999, and this has spread to virtually all parts of the country. These crises have assumed even more dangerous dimensions in the southern and eastern parts of the country, where several lives and properties worth billions of naira had been lost. This research investigated different causes of herdsmen-crop farmers' conflicts; its implications on food security and suggested mitigation options in Oyo State, Southwest Nigeria. In the recent past, a number of developments have occurred to suggest environmental changes and social consequences affecting Nigeria's peasant oriented cattle production both in the northern and southern parts of Nigeria (Azuwike & Enwerem, 2010). The suggested cause of this includes the change in the characteristic transit orientation of northern Fulani cattle herdsmen to sedentary life styles in their new locations.

Conflicts between Fulani cattle herders and crop farmers seem to be increasing in frequency and scale in the southwestern states of Nigeria due to the increasing pressure on the grazing activities as a result of the scarcity of pasture during the dry season occasioned by scanty rains, the semi adaptation of their cattle to the tse tse fly prone southwest zone, and the nearness to market (Okeke, 2014; Eme et al, 2014, Adisa and Adekunle, 2010).

Most of the studies on herdsmen-crop farmers' conflicts in Nigeria focused on resource use, governments' biased land use policy and effects of climate change on available pastures for grazing (Okeke, 2014; Azuwike, 2010; Tenuche and Ifatimehin, 2009 and Adisa and Adekunle, 2010). It is pertinent to note that research should shift to a more all-encompassing focus of realizing that it is inevitable that herdsmen will move from drier north southwards in search of pasture for their cattle; which may lead to altercations that may not necessarily cause loss of human life.

The dimension of militancy in the conflicts is associated with the advent of the aggressive Udawa and Bokoloji pastoralists which further led to the emergence and introduction of guns and other sophisticated weapons in the conflicts as well as the use of new communication devices, accompanied with banditry. In all these areas, herders encroach on lands which are not allocated to them and the frequent straying or deliberate invasion and destruction of farms are the primary

causes of the conflicts (Agyemang, 2017). All these have produced adverse consequences in the destruction of villages, settlements, crops, and irrigation facilities, human and animal lives.

1.1 Objectives of the Study

The main objective of this research was to determine the frequency and pre-disposing conflict factors between herdsman and crop farmers' and its implications on food security in south-west Nigeria.

Specifically, the study:

1. Examined the frequency of farm invasion by herdsman in the study area
2. Examined the reasons why herdsman invade farms,
3. Investigated the reactions of crop farmers' to farm invasion by herders;
4. Investigated the herders' suggested actions necessary to mitigate the effects.
5. Determined the factors that influenced farm invasion by herders.

1.2 Hypothesis of the study. The central question of this study is; what are the predisposing factors for Herdsman - Crop Farmers' Conflicts and the proposals for mitigating the effects? The following hypothesis was therefore tested that: Certain factors influence the frequency of farm invasion by herders in the study area. The hypothesis contains the following variables: a) types and frequency of farm invasion by herdsman, b) the types and value of crops affected, c) the reasons why herdsman invade farms, and d) the actions taken to mitigate the effects. These variables were defined and operationalized as indicated below in subsequent sections.

2.0 Review of Literature

2.1 Issues and Effects of Herders-Crop farmers' Conflict

According to Adisa, (2010) resource competition-driven conflicts between arable crop farmers and cattle herdsman have become common occurrences in many parts of Nigeria. Fasona and Omojola (2005) found that conflicts over agricultural land use between farmers and herdsman accounted for 35 percent of all reported crises. Similarly, Isine(2015) further corroborates this background when he reported that some activists argued that" the frequent violent clashes between Fulani herdsman and farmers occur because some people do not respect the right of

others to own and benefit from their property “the question is do some of the herdsmen respect the rights of farmers to grow crops and harvest them in much the same way they pasture cattle and sheep and sell them to make money by killing innocent farmers who dare to challenge them for feeding their cattle on their crops.

In a similar context, Isah(2013) argues that the continuing Fulani Pastoralists’ militancy for the survival of their cattle is fueled by farmers continuous encroachment into the grazing routes. Isine(2015) argues further that even though the Nigerian constitution guarantees that every Nigerian has the right under the law to live, move freely and do business in every part of the country; that should not encourage some selfish and overzealous individuals to trample on the rights of other players in agricultural development activities.

2.2 Theoretical framework of the study

2.2.1 The relevance of Conflict and Eco-violence Theories

Pruitt and Kim (2004) identified three general models for conflict escalation: namely the contender-defender model, the conflict spiral model, and the structural change model. The contender-defender model describes conflicts in terms of the actions of one party (the contender) who seeks change and the reactions of the other party (the defender). Conflicts escalate, in this model, because the contender uses increasingly more coercive strategies to attain its goals. The process of coercion in conflict is described by Rahim (2011) as the *dominating* (or *competing*) *style*, which represents a high level of concern for self and a low level of concern for the other party. This explains the actions of herders when farms are invaded with their animals. The conflict spiral model focuses on the interaction between the two parties, in particular the vicious circle of actions and reactions of retaliation and deterrence. The structural change model focuses on psychological changes that take place in the parties as conflicts progress. These psychological changes are the result of escalation but also contribute to further escalation because they reinforce hostile behavior attitudes, perceptions, and behaviors. The psychological changes involve emotions, attitudes, perceptions, and behavior of individuals, for example, the dehumanization of the other. According to Pruitt and Kim (2004) the psychological changes leads to alterations in the social dynamics in groups, for example, the development of group goals, enhanced group identity and cohesiveness, emergence of militant subgroups and leaders.

The structural change model explains the current escalation of the crisis between herder and crop farmers in southwest Nigeria.

2, 2, 2 Eco-survivalism and Eco-violence Theory

The contender-defender model as indicated above describes conflicts in terms of the actions of one party (the contender) who seeks change and the reactions of the other party (the defender). It further indicated that conflicts escalate, because the contender uses increasingly more coercive strategies to attain its goals. This explains what transpires in the competition for ecological resources between herders and crop farmers. The Eco-violence theory developed by Homer-Dixon (1999), explains this situation further, in its central prediction that 'a decrease in the quality and quantity of renewable resources, population growth, and resource access act singly or in various combinations to increase the scarcity, for certain population groups, of cropland, water, forests, and fish. This can reduce economic productivity both for the local groups experiencing the scarcity and for the larger regional and national economies. The affected people may migrate or be expelled to new lands.' The consequences of migration to a resource limited location brings about increasing pressure on such resources, therefore migrating groups often trigger ethnic conflicts when they move to new areas, while decreases in wealth can cause deprivation conflicts (Homer-Dixon, 1999). On the other hand the eco-violence theory assumes that competition over scarce ecological resources engenders violent conflict. This trend has been aggravated in contemporary times owing to the impacts of climate change, which has exacerbated ecological scarcity across the world (Blench, 2004; Onuoha, 2007). In the case of Fulani- Crop farmers' situation, ecological scarcity presents itself in the competition for forages and water. Studies by some authors Isine(2015),Isah(2013), Adekunle & Adisa, (2010), Nyong and Fiki (2005) have reported spatial differentiation in conflict occurrence, as more violent conflicts took place more frequently in resource-rich areas like the Fadama (flood plains) and river valleys than resource-poor areas. The theory of Eco-survivalism and its analytical framework Eco-violence, help to understand the rising militancy of herders. Militancy is the belief in, and resort to the use of aggression in the pursuit of a group cause (Okoli and Atelhe 2014).

3.0 Methodology

3.1 Study area

The research was carried out in Oyo State, an inland state in south-western Nigeria. It is located 8° north and 4° east of the equator and covers approximately an area of 28,454 square kilometers. Oyo state is bounded by four states namely Kwara State in the north, Osun State in the east, in the south by Ogun State and in the west partly by Ogun State and partly by the Republic of Benin. The soils ranged between sandy loam to gravelly sub-types. The ecology is also blessed with some principal rivers such as Ogun, Oba, Ofiki, Sasa, Oni, Erinle and Osun originate in this highland. These natural resources promoted the development of more or less perennial vegetation in most part of the area.

The major crops cultivated by farmers include maize, cassava, yam, cocoyam, rice, cocoa, cashew, kola, oil palm, leafy and fruit vegetables as major crops. Local animals (Sheep, Goat, chickens and to some extent cattle) are also raised though mainly on free range system

3.2 Research Design and data collection

The research design is survey research. However the application of Geographic Information System (GIS) was adopted in order to explain the spatial distribution (clusters) of the crisis in the state. The GIS data was based on *land use/land cover (LULC) maps of Nigeria*, produced by the Nigerian Forestry Management Evaluation and Coordinating Unit (FORMECU). The map products of 1976 and 1995 have several land use classes (Mohammed et al, 2015) from which information were collected for the actual field work. The GIS was limited to crop, tree plantation and grazing related land classes; namely; rain-fed/ irrigated arable crops, fadama (flooded lands) agriculture, agricultural tree-crop plantation, intensive row crops, extensive grazing, extensive small holder rain-fed agriculture and livestock farming.

The study took place over a 12-month period in Oyo state. As a transformed derived savannah landscape and Oyo state's diversified economy offers opportunities for both the herding and marketing sectors for herdsmen and their wives. Oyo state has a high concentration of Fulani/Bororo migrants because of the availability of pastures for longer periods of the year which makes Oyo state appropriate field site for this project.

The Survey Sampling techniques included Cluster and multistage sampling techniques for selecting respondents for the study. The large number of herdsmen residing (some illegally) in the area may not encourage a systematic random sample. Snowball sampling is a common method for building a sampling frame for small populations that are difficult to find such as undocumented immigrants (Bernard 2002). Efforts were made to sample respondents independently of one another based on the compiled list and on previous encounter with herdsmen. Informants were selected using quota and purposive sampling to ensure statistical representation. Interviews were conducted to elicit information on the variables contained in the objectives of the research. Attempts were made to ensure inclusion of female respondents.

Interviewees were recruited through diverse sources; self-help groups, ethnic associations, religious, and government officials especially law enforcement agents, state ministries of social welfare and local government officials. A sample size of 450 (through proportionate sampling) respondents comprising of crop farmers and herdsmen residing in the study area were included in the research.

Actual data collection was achieved through the following steps:

- a) Snow-ball / informant rating techniques was used to locate communities and enlist the Fulani and Crop farmers for the study
- b) Observation techniques were recorded using various techniques, like field notes, camera and mapping. In addition to carefully documenting observations, conversations and informal interviews were carried out for data collection.
- c) Semi structured Interviews were further adopted to evaluate herdsmen-farmers' crisis behaviors on the bases of the degree of institutionalization of infringement activities, involvement in activities and intensity using a Likert-type scale ranging from low to high respectively.

4.0 Results and Discussion

Causes of Conflict between Crop Farmers and Herders

Findings in Table 1 indicate that herders either deliberately or carelessly allow their animals to feed on crops growing on farms. Some even go to the extent of feeding crops stored in barns or

cribs (maize, sorghum millet) to cattle. It was also reported that herdsmen when confronted result to physical brawl with crop farmers which may result to injury or even deaths when shooting was involved. Rape and sexual harassment is another cause of conflict, women, irrespective of age are attacked and raped even to the point of death. Conflict also arises over water pollution; more so when the only source of water for a community /settlement is destroyed/polluted by the animals. These findings above are supported by those of Ofem & Inyang (2014) Opoku, (2014) & Adisa and Adekunle,(2012).

Table 1: Causes of Conflict between Crop Farmers and Herders

Causes of Conflict between Crop Farmers and Herders	Ranked order
(1) Invasion of farms and crops	1 st
(2) Injuring farmers as a result of brawl occasioned by confronting herders after farm invasion	4 th
(3) Shooting and killing of famers	8 th
(4) Rape and sexual harassment	6 th
(5) Polluting the source of water available to the rural dwellers	2 nd
(6) Pilfering yam and yam setts already planted during the dry season	5 th

(7) Robbery and kidnapping	7 th
(8) Forcefully feeding our crops (maize stored in barns to animals	3 rd

Source: Data analysis 2020

Crop farmer's reaction to farm invasion by herdsmen.

Crop farmers explore various avenues to show their displeasure towards the invasion of their farms by herdsmen (Table 2). These crop farmers react and present their grievances based on the menace of the herdsmen as follow; presenting their grievances through the involvement of their traditional authority ranked as 1st (wms of 14.55). Reacting through police involvement ranked 2nd, (wms of 14.28); reporting to parents /guardian ranked 3rd (wms of 13.13); depressed by the invasion ranked 4th (wms of 12.18); being pained by the invasion ranked 5th (wms of 9.87); calling for the attention of other farmers to help ranked 6th (wms of 9.4); reporting to traditional authorities ranked 7th (wms of 9.26). Furthermore, the action of farmers to retaliate or fight back and calling for proper settlement ranked 8th (wms of 9.06); attacking the cattle and getting them wounded; arresting the cattle until necessary payments are made and employing vigilantes to arrest the herdsmen among others ranked 10th (wms of 8.92). This is further corroborated by the conflict spiral model which explains that the interaction between two parties may lead to the vicious circle of actions and reactions of retaliation and deterrence (Rubin, Pruitt & Kim, 1994). This has implications for managing crop farmers' reaction to farm invasion by herdsmen which can be effective through such avenues as involving traditional authority and involving the security agents like Vigilante groups, police, immigration and the Nigerian Army personnel. These options if seriously explored and operated will go a long way in reducing violent conflicts in Nigeria.

2: Crop farmer's claims on reaction to farm invasion by herdsmen

Crop farmer's reaction to farm invasion by herdsmen	Ranking by weighted means score (wms)
Traditional authority involvement	14.55
Police involvement	14.28

Report to their parents/guidance	13.13
I feel depressed	12.18
It pains me	9.87
call the attention of other farmers for help	9.4
Report to traditional authorities	9.26
Actions of farmers Retaliatory actions/fighting them	9.06
Call for proper settlement	9.06
Attacking the cattle and are wounded	8.92
I traced their leg till I found them	8.92
Arrest of cattle until necessary payment	8.92
Employing vigilantes to arrest them	8.92
Reporting to police officers	8.92
we scattered their cattle	8.92
Pursue them and scatter their animals	8.92
No action taken by farmers	8.92
Fine collection	8.92

Source: Data analysis 2020

Herdsmen reported farmers' reactions to the occurrence of farm invasion

The reported reactions of farmers to farm invasion are outlined in Table 3 below. The herdsmen claims of farmers' reaction to their farm invasion in the rank order include angry/fight (13.64), police involvement (11.97), reporting the case to our parents/guidance (10.84), they fine us (10.00), farmers used to pursue them and scatter their animals (9.94), traditional authority involvement (9.76) and call for proper settlement (9.47). Other claims of herdsmen concerning farmers' reaction to their farm invasion in the rank order include the act of attacking the cattle and wounding them (9.47), farmers retaliatory actions/fighting them (9.06), scattering our cattle (8.92), wounding herdsmen (8.69), arrest of cattle until necessary payment is made (8.51), call other farmers to arrest us (8.51), they call us and settle it amicably (8.51), killing cattle (8.51), no action taken by farmers (8.22), farmers fight with weapon (8.04) and our children are beating

(8.04). The findings indicated that the major claim by herdsmen in respect to farmers' reaction to their farm invasion was the fact that farmers get angry/fight when their farms are invaded therefore leading to conflict. The farmers on their part accepted the fact that, due to anger and the extent of the damage caused, some farmers attack the cattle. To them, the purpose is to scare the animals and drive them away, but not to kill them. This development may result into loss of life and valuable resources. Cases of farmers-herders conflict are widespread in Nigeria in recent times. Nweze (2005) stated that many farmers and herders have lost their lives and herds, while others have experienced dwindling productivity in their herds.

Table 3: Ranking of Herdsmen reported farmers' reactions to the occurrence of farm invasion (Kendall's W= 0.176)

Herdsmen claims of farmers' reaction to their farm invasion	Mean	Rank
Angry/fight	13.64	2 nd
Retaliatory action	10.18	5 th
Attacking the cattle and are wounded	9.47	9 th
Farmers fight with weapon	8.04	20 th
Our children are beating	8.04	20 th
Report to traditional authorities	8.69	13 th
Arrest of cattle until necessary payment	8.51	15 th
Call other farmers to arrest us	8.51	15 th
They call us and settle it amicably	8.51	15 th
Killing cattle	8.51	15 th
Wounding herdsmen	8.69	13 th
Police involvement	11.97	3 rd
Traditional authority involvement	9.76	8 th
They pursue us and scatter our animals	9.94	7 th
Report to our parents/guidance	10.84	4 th
No action taken by farmers	8.22	19 th
They fine us	10.00	6 th
Call for proper settlement	9.47	9 th

Source: Data analysis 2020

Correlation Analysis Report on number of times farmers' farms were invaded and some selected socio economic variables are presented in the table 4 below. The socio-economic variables that had significant correlation with number of times farmers' farms were invaded include: age, farm size, labour size, farming experience, average income from cassava, average income from vegetables and average income from other farm enterprises. All the significant variables had positive relationship with number of times farmers' farms were invaded. That is age, farm size; labour size, faming experience, average income from vegetables and average income from other farm enterprises had positive significant relationship (at 5%) with number of times farmers' farms were invaded.

By implication, age, the older the crop farmers, the more the number of times their farms will be invaded and this may be due to their not been able to adequately supervise their farms. The larger the farm size, the prone it is to invasion by herders since monitoring of the large area might be a bit costly to manage. In addition the significant relationship exhibited by labour size, farming experience, average income from cassava, average income from vegetables and average income from other farm enterprises imply the fact that farm invasion affected these factors. Once a crop farm is destroyed, the incomes from these enterprises are reduced. Some of the findings in this study are similar to that of Adisa & Adekunle, (2010).

Table 4: Correlation results showing relationship between socio-economic variables and frequency of farm invasion by herders

Variables tested	r-value
Age	.410**
	.000
Household size	.057
	.414
Highest level of schooling	-.021
	.760
Years spent in school	.004
	.956
Farm size	.228**
	.001
Labour size	-.107
	.122
Cost of labour/annum	.337**

	.000
Years of farming experience	.473**
	.000
Average income from maize	.079
	.250
Average income from cassava	.204**
	.003
Average income from yam	.054
	.438
Average income from vegetables	.500**
	.000
Average income from cashew	.018
	.796
Average income from cowpea	.070
	.313
Average income from others	.146*
	.034

Source: Data analysis 2020

Suggested mitigation options

Suggested mitigation options are presented in table 5. The suggestion of farmers that strangers should be forbidden from the area ranked highest. Some other suggestions include; screening and ensuring proper consent based on some rules before herders are allowed to settle in the area. The herders pleaded for the need to live in peace with people in the area where they are settled. Other suggestions were that herders should attend peace meetings regularly and the need to forbid farm invasion by herders.

Table 5: Ranked order of suggested mitigation options for conflict resolution
(Kendall's $W^a = 0.374$)

	Mean Rank
TYPE OF AGREEMENT	7.19
Forbidden stranger invasion	4.14
Proper consent before settlement	3.85
Collection/payment of tax	4.89
Some give us cattle to rear for them	3.53
We should leave in peace with people in the area	4.42
Attending peace meeting every month	3.93

Forbidden invasion of farms	4.06
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Source: Data analysis 2020

Conclusion and Recommendations

Findings in this study indicate that almost all the famers have experienced one form of conflict or the other from the herdsmen through the invasion of their farms, polluting the community's main source of water, physical assault leading to injury and sometimes death and rape of the female dwellers among others. The traditional authority and law enforcement agents in the area also confirmed this. Several reasons were advanced for this dastardly acts; such as famers encroaching on the roads, nearness of farms to the route of water sources, inability of herders to manage large herds of cattle which made them stray in to farms and self-centeredness on the part of the herdsmen. This finding corroborates those of Adeoye (2017) and Hower –Dixon (1999) which attributed crop famers' –herdsmen conflict to competition over scarce ecological resources. The mitigation options for reducing conflict include conducting proper screening consent based on some rules before herders are allowed to settle in the area, the herders need for the need for herders to live in peace with people in the area where they are settled and the need to forbid farm invasion by herders.

Policy Recommendations

The following policy recommendations are made that:

1. Herders should be properly screened and made to obey grazing areas in the settled communities
2. Herders should respect the right of crop farmers as land owners and entrepreneurs who are also engaged in economic activities by preventing farm invasion at all cost.
3. Regular surveillance should be done by security agencies in order to monitor criminal elements among both farmers and herders in order to stem the occurrence of rape and robbery in the areas,
4. Grazing reserves should be established on pay-as-you-use basis in order to ensure sustainability.

5. The influx of foreign herders should be discouraged by strict monitoring and surveillance of our border posts in order to reduce the increasing criminal elements that migrate with such movements.

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