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Effect of Farmer Herders Conflict on Food Security and Agricultural Output in Benue State, Nigeria

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Abstract

Land as an indispensible factor of production has been at the centre of several conflicts among men. This study analysed the conflict between farmers/Herdsmen in Benue state with particular emphasis on the effect of the conflict on Benue farmers agricultural output in the study area. The study adopted the theory of Frustration Aggression theory which insists on interpreting man's consciousness and activities in the society based on the competitive balance and satisfaction of economic factors among different groups. The study adopted a survey design technique via a cross-sectional approach that involves field and sample surveys. The sample size of 340 Benue farmers was chosen from the population of Benue farmers who are affected by Herdsmen attack. The study used chi-square analysis to examine the effect of the attacks on crop yield and livestock production in Benue state. The study found that, Farmers-Herders conflict has a significant relationship with crop yield and livestock production in Benue state, the study therefore recommended that, to mitigate the negative impact of the Farmers-Herders conflict on crop yield in Benue state, it is crucial to establish and implement effective conflict resolution mechanisms. This can involve creating platforms for dialogue and negotiation between farmers and herders, as well as involving local communities, government authorities, and relevant stakeholders. Conflict resolution efforts should aim to address the underlying causes of the conflict, promote peaceful coexistence, and ensure the protection of farmers' crops.

Keywords: Conflict, Agricultural production, Herders and Benue Farmers

Introduction

Benue State is dominatingly agrarian, and accordingly, Agriculture is perhaps the most established control of individuals in the state. The crude man began making due on the regular endowment of terrains; in any case, as these normal bounties turned out to be scant because of tension from the developing populace, man depended on exhibiting creatures and plants and in this way started his change from a crude tracker and finder to the herder of creatures and turner of the land; thus, the meaning of agriculture is the study of developing yields and raising creatures for the utilisation of man (Komolafe et al., 1979), as refered to in Zirra and Garba (2012).

Conflict in asset use is entirely expected and maybe not unnatural in human environments. Moore (2005) noticed that conflict as such isn't terrible; it may be a need in the development and improvement of human associations. However, when conflicts escalate into savage, disastrous conflicts, they become undesirable as well as counter-productive and progress-compromising. Nyong and Fiki (2005) called attention to the fact

that asset-related conflicts were responsible for a north of 12% decrease in per capita food creation in sub-Saharan Africa. Contest-driven conflicts between arable yield farmers and cow herdsmen have subsequently become a normal event in many parts of Nigeria.

The herdsmen have recognised conflicts emerging from land use as the "main" issue they face in their occupation (Van't Hooft, Millar, and Django, 2005). Depicting the yearly grouping pattern of the herdsmen, Iro (1994) expressed that the crowding season starts with the south development of the group and along waterways and stream valleys from October to December, denoting the finish of the stormy season and the start of the dry season. January to February is the harmattan season, which is characterised by longer brushing hours, crowd parting, and more regular visits to stable water sources. These, in this way, increment towards the southward development of the groups. The long stretches of Spring and April are generally the hardest for the herdsmen and their dairy cattle, as it is the most sultry period in the eating schedule. Without a doubt, they currently crowd their cows just in the evenings and nights (Riesman, 1977). May and June connote the end of the dry season, and vegetation starts to show up. This likewise denotes the start of the northward development of cow crowds. From this period up until September, which is the pinnacle of the blustery season, however portrayed by dairy cattle rearing, more milk creation, and more limited munching hours, cow grouping harmonises essentially with arable yield creation, exuding in farmer-herdsmen conflict during this period.

The resultant expansion in rivalry for arable land has customarily prompted serious signs of threats and social rubbing among the two client groups in many parts of Nigeria.

The conflicts have uplifted the degree of uncertainty, but have additionally exhibited high potential to fuel the food emergency in Nigeria and other impacted nations because of the loss of farmer lives, animals, harvests, and important properties (Cotula, Toulmin, and Hesse, 2004). As indicated by de Haan (2002), while farmers refer to the annihilation of yields by dairy cattle and other property by the pastoralists as the vitally immediate foundations for conflicts, the consuming of rangelands and Fadama and blockage of stock courses and water focuses by crop infringement are major direct reasons referred to by the pastoralists. The danger to human security occasioned by these conflicts is very real. Without a doubt, Fasona and Omojola (2005) showed that there seems, by all accounts, to be an "exceptionally impressive relationship" between the examples of conflicts and human security. Human anxiety and common conflicts have become more pervasive in the savannahs, where concentrated and broad yield creation exercises are especially prevalent around the flood fields. The ramifications of every one of these may put question marks on the feasibility of the development rate in the farming area as proposed by the central administration of Nigeria.

The inquiry that becomes basic is whether the conflict influences the horticultural results of Benue farmers or not. It is against this foundation that this insightful work tries to examine the conflict between Benue farmers and

herdsmen and its impact on Benue farmers' agricultural production. The review tries to:

i. Examine the impact of farmers-herders conflict on crop yield in Benue state
ii. Ascertain how the farmers-herders conflict in Benue state affect livestock production

Conceptual Framework

Concept of Agricultural Production

Agricultural production encompasses the cultivation of plants and the raising of animals to produce food, feed, fiber, and other agricultural products. It involves a range of activities, including land preparation, planting, irrigation, pest control, animal husbandry, harvesting, and post-harvest processing. The concept of agricultural production is crucial for sustaining human civilization by meeting the increasing demand for food and agricultural commodities (FAO, 2013).

This report by the Food and Agriculture Organization of the United Nations (FAO) emphasizes the significance of agricultural production in ensuring global food security and nutrition. It highlights the role of sustainable agricultural practices and the necessity for efficient food systems to address the challenges of hunger and malnutrition.Agricultural production involves both plant-based and animal-based activities. It includes the cultivation of crops such as grains, fruits, vegetables, oilseeds, and fiber crops like cotton. Additionally, it encompasses the raising of livestock, including cattle, poultry, pigs, sheep, and goats, for meat, milk, eggs, and other animal products.

Various factors influence the process of agricultural production, including climate, soil conditions, water availability, inputs such as fertilizers and pesticides, technological advancements, and the socio-economic context of the region. Farmers and agricultural workers play a crucial role in implementing agricultural production practices, applying scientific knowledge, and utilizing appropriate technologies to optimize productivity and ensure the quality and safety of agricultural products. Sustainable agricultural production is a significant focus within the field. It aims to meet present and future agricultural needs while preserving the natural resource base, minimizing negative environmental impacts, and promoting social equity. Sustainable practices may include agroecology, organic farming, precision agriculture, integrated pest management, conservation agriculture, and efficient water and nutrient management.

Agricultural production also intersects with various related fields, such as agribusiness, agricultural economics, agricultural engineering, and agricultural technology. These disciplines contribute to enhancing efficiency, productivity, and profitability in agricultural systems, as well as addressing challenges related to food security, rural development, climate change, and the sustainable use of natural resources. Overall, agricultural production is a complex and multidimensional process that involves the cultivation of crops, raising livestock, and various associated activities. It is vital for ensuring food security, supporting rural livelihoods, and addressing global challenges such as

feeding a growing population and promoting sustainable development

Concept of Agricultural output

Agricultural output refers to the quantity and quality of agricultural products produced by the agricultural sector within a specific time period. It encompasses the total volume and value of crops, livestock, fish, and other agricultural commodities harvested or produced, taking into account factors such as yield, production efficiency, and market value (Jayne & Mukumbu, 2012).This definition emphasizes the comprehensive nature of agricultural output, which includes both the physical quantity and economic value of agricultural products. It highlights the role of factors like productivity, efficiency, and market conditions in determining the overall output of the agricultural sector.

Agricultural output is a key measure of the productivity and performance of the agricultural sector. It represents the total production of agricultural commodities, which can include crops, livestock, fish, and other products derived from agricultural activities. The quantity and quality of agricultural output are influenced by various factors such as inputs used (e.g., seeds, fertilizers, feed), production practices, technology adoption, climate conditions, and market dynamics. Measurement of agricultural output can be done in physical terms, such as metric tons of crops harvested or headcounts of livestock, as well as in economic terms, considering the market value of the products. The economic value of agricultural output is often estimated using market prices or other valuation methods, taking into account factors like supply and demand dynamics, trade patterns, and quality considerations.

Agricultural output serves as an essential indicator for assessing the performance and growth of the agricultural sector. It is used in economic analyses, policy formulation, and decision-making related to agricultural development, food security, and rural livelihoods. Tracking changes in agricultural output over time helps monitor trends, identify challenges, and evaluate the effectiveness of interventions aimed at improving agricultural productivity and sustainability.It is important to note that agricultural output is not limited to primary agricultural products alone. It also encompasses value-added products and processed goods derived from agricultural commodities, such as food products, textiles, biofuels, and pharmaceuticals. These value-added products contribute to the overall economic impact and diversification of the agricultural sector.

Agricultural output can be measured at various levels, including national, regional, or farm-specific scales. National-level agricultural output is often used to track and analyze the overall agricultural performance of a country or region. It helps in understanding the contribution of the agricultural sector to the national economy, employment, trade balance, and food security.

At the farm level, measuring and analyzing agricultural output is crucial for farmers and agribusinesses to assess their productivity, profitability, and efficiency. It allows farmers to make informed decisions regarding resource

allocation, crop selection, input management, and marketing strategies.

The concept of agricultural output also extends beyond physical and economic measures. It includes other dimensions such as nutritional value, environmental sustainability, and resilience. For example, the nutritional output of agriculture refers to the quantity and quality of food produced, ensuring an adequate supply of nutritious and safe food for human consumption. The environmental output focuses on minimizing negative environmental impacts and promoting sustainable agricultural practices that conserve natural resources, reduce greenhouse gas emissions, and preserve biodiversity.Accurate and reliable data collection and measurement systems are essential for capturing and monitoring agricultural output. National statistical agencies, research institutions, and international organizations play a crucial role in collecting, analyzing, and disseminating data on agricultural production and output. These data sources provide valuable information for policy formulation, market analysis, investment decisions, and research on agricultural development and sustainability.

It's worth noting that agricultural output is influenced by a range of factors, including technological advancements, infrastructure development, access to markets, trade policies, climate variability, and the socioeconomic context. Understanding these factors and their impact on agricultural output is important for designing effective strategies to enhance productivity, resilience, and sustainability in the agricultural sector.

In summary, agricultural output refers to the quantity and quality of agricultural products produced within a specific time period, taking into account both physical and economic measures. It serves as a crucial indicator for assessing the productivity, performance, and economic contribution of the agricultural sector

Concept of Agricultural Yield

Agricultural yield refers to the quantity of agricultural products obtained from a specific area of land, indicating the output or productivity of a particular crop or agricultural system. It can be measured in terms of weight, volume, or economic value. Factors such as genetics, crop management practices, environmental conditions, and inputs utilized influence agricultural yield (Evans, 2018).Agricultural yield is a crucial measure of agricultural productivity, playing a critical role in assessing the efficiency and effectiveness of agricultural systems. It quantifies the amount of agricultural output obtained per unit of land, reflecting the efficient utilization of resources such as labour, inputs, and land in crop production.

The measurement of agricultural yield varies depending on the specific crop or product under consideration. Common metrics include the weight of harvested crops, the volume of produce, or the economic value of the yield. Yield levels can significantly vary based on factors such as crop genetics, soil fertility, water availability, climate conditions, pest and disease management, and agricultural practices. Improving agricultural yield is a key objective for farmers and agricultural researchers as it directly influences the

quantity and quality of food produced, economic viability, and food security. Different types of yield are commonly used to assess agricultural productivity, including crop yield, livestock yield, and fishery yield. Crop yield measures the quantity of harvested crops per unit of land and is expressed in weight or volume. It serves as a primary indicator of agricultural productivity, allowing for comparisons, trend monitoring, and evaluation of agronomic practices.

Livestock yield refers to the production output of livestock, such as meat, milk, eggs, or wool, per animal or per unit of time. It is an essential measure in animal agriculture, reflecting production efficiency and the quality of animal products. Fishery yield represents the quantity of fish or other aquatic organisms harvested from a body of water or aquaculture system. It is crucial for assessing the sustainability of fisheries and aquaculture operations and managing fish stocks. Improving agricultural yield involves various strategies, including the development and adoption of improved crop varieties, optimizing nutrient and water management, implementing good agricultural practices, using precision farming techniques, and addressing factors that limit yield potential. Accurate measurement and monitoring of agricultural yield are vital for evaluating the performance of agricultural systems, guiding decision-making, and supporting policies related to agricultural development, food security, and sustainability.

Concept of Conflict

According to Dennen (2005), conflict refers to the contradiction of interests, objectives, values, necessities, assumptions, and social belief systems or cosmologies. It involves a clash of interests, whether they are related to resources, material possessions, or conceptual ideas. Conflict arises when individuals with opposing requirements, thoughts, beliefs, values, or goals engage in a battle or challenge. It is an inevitable aspect of public life, often arising from situations of limited resources, division of responsibilities, power dynamics, and role differentiation. Due to its ambiguous and inevitable nature, the concept of conflict has acquired numerous interpretations and meanings, leading to a semantic complexity (Barcovitch, 2004).

Fasona and Omojola (2005) define conflict as a misunderstanding, disagreement, or divergence of ideas between two or more parties. Michel (2012) states that conflict arises when two individuals hold conflicting viewpoints. The common element in these definitions is that conflict extends beyond an individual and involves multiple parties or groups. One significant factor contributing to the existence of conflict is the divergence of goals or interests among two or more actors, which may lead them to pursue different means to achieve their objectives. Conflict, therefore, is influenced by variations in people's opinions, perspectives, and is inherent in the majority of individuals.

Concept of Farmers

A farmer is an individual who participates in agriculture, which involves raising living creatures for food or obtaining unrefined substances. Agriculture encompasses various branches, including soil cultivation, dairying, production, development,

cultivation, and harvesting of agricultural or plant products (Rileco, 1968). The purpose of agriculture is to produce food, clothing, and shelter, as well as for commercial or economic benefits. Therefore, farmers typically undertake necessary measures to ensure the proper nourishment of their products for personal use or commercial purposes.

Concept of Herders

Herders are farmers who earn their livelihood by looking after a herd of livestock. They keep a group of animals of the same type in open land or move from place to place. These animals can include cattle, sheep, goats, camels, and more. According to Iro (1994), herdsmen or pastoralists are nomadic or semi-nomadic herders whose primary occupation is raising livestock.

Pure herdsmen engage in the random movement of cattle, while semi-nomadic herders undertake transhumance migration and return to their camps or homes. Herdsmen are primarily located in the Sahel and semi-arid parts of West Africa. However, due to changes in climate patterns, many of them have moved further south into the savannah and tropical forest belt of West Africa. Countries such as Nigeria, Niger, Senegal, Guinea, Mauritania, Mali, Burkina Faso, Benin, and Cote d'Ivoire are home to these herdsmen.

Indicators of Agricultural Production

The indicators of agricultural production are metrics or measures that help assess the performance, productivity, and outcomes of agricultural activities. They provide quantitative or qualitative information on various aspects of agricultural production. In the context of the effect of farmers-herdsmen's conflict on farmers' agricultural production in Benue, Nigeria, some indicators that can be considered include:

- **Crop Yield:** Crop yield is a key indicator of agricultural production. It measures the quantity of crops harvested per unit of land area or per farmer. Crop yield can be expressed in terms of weight (e.g., kilograms per hectare) or volume (e.g., liters per hectare) and indicates the productivity of cultivated crops.
- **Livestock Output:** Livestock output refers to the production of livestock products such as meat, milk, eggs, and wool. It can be measured in terms of quantity (e.g., kilograms of meat) or economic value. This indicator is particularly relevant in regions where livestock rearing is a significant component of agricultural production.
- **Land Productivity:** Land productivity is an indicator that measures the efficiency of land use in agricultural production. It calculates the value or quantity of agricultural output per unit of land area, providing insights into the ability to maximize production on available land.
- **Crop Diversification:** Crop diversification refers to the variety of crops grown on a farm or in a region. It is an indicator of agricultural production that assesses the range of crops cultivated and the extent to which farmers engage in diversifying their agricultural practices. Diversification can enhance resilience, mitigate risks,

and improve overall agricultural productivity.

- **Income or Revenue from Agricultural Activities:** Income or revenue generated from agricultural activities is an important indicator of the economic performance and profitability of farming operations. It measures the monetary returns farmers receive from their agricultural production and reflects the financial sustainability of their enterprises.
- **Employment in Agriculture:** Employment in agriculture is an indicator that assesses the labor force engaged in agricultural activities. It includes both self-employment and wage employment in the agricultural sector and provides insights into the contribution of agriculture to employment generation and livelihoods.
- **Food Security and Nutrition:** Indicators related to food security and nutrition, such as availability of food, access to nutritious food, and dietary diversity, are relevant in assessing the impact of conflicts on agricultural production. They help measure the ability of farmers to produce enough food for their own consumption and for the local community.

These indicators can help evaluate the effects of farmers-herdsmen's conflict on agricultural production in Benue, Nigeria, and provide insights into the changes in productivity, livelihoods, and food security resulting from the conflict.

Theoretical Framework

The Study will be supported by the Frustration Aggression Theory, propounded by Dollard and Associates and later expanded by Yates (1960) and Berkwonitz (1962) respectively. This theory maintains that the scarce resources remain scarce and the quest to acquire or even takeover control exist, the farmers who feel challenged get frustrated and attempt to resist in defence while those herders also feel frustrated too as they apparently don't see better alternatives. Both parties are frustrated.

Consequently, the Frustration Aggression Theory applies. In either case, there must be deliberate efforts to ensure harmonious co-existence in the event where the conflict has already created some level of hostilities, apathy and/or total disharmony. Thus, this study adopts the theory of Frustration aggression as its framework.

Literature Review

Herders Conflict in Benue state

Agriculture is rehearsed for the motivations behind delivering food, dress, and sanctuary, as well as business or monetary increases. Subsequently, farmers, for the most part, do whatever it takes to guarantee appropriate sustenance of the items for either private or commercial utilisation. Part of the justification behind this overall harmony is emphatically secured by the provincial and agrarian status of the whole state. Subsequently, the propensity to overextend the metropolitan offices is lessened, and rivalry over financial open doors and assets, which are generally causative

variables of conflict in most metropolitan states, is likewise negligible (Babawale, 2003). It is therefore right to say that most of the occupants in the state are in agriculture. They are generally tracked down in their farmsteads, farms, villas, and towns.

This serene environment has, by all accounts, been modified lately with the recorded instances of conflict between the farmers and travelling pastoralists in the state. The peaceful herdsmen have for quite some time been a fundamental piece of the economy and society in Benue State, as well as to a great extent in Nigeria and a few pieces of West Africa (Mahdi, 1986). In contrast to different gatherings notwithstanding, their course of joining the general public has been an especially troublesome one. They experience a level of acknowledgment and dismissal in the possession of host networks (Baba, 1987).

Due to their versatile and travelling way of life, the herdsmen have no long-lasting homestead and yet wonder from one spot to another as indicated by the directions of the seasons (Abubakar, 1977). It is over these occasional movements that they go to slam into the farmers, who find trouble watching their ranch crops being annihilated by the animals. To the herdsmen, a similar land isn't just a brushing ground for their creatures; it's a guaranteed and characterised course for their occasional itinerant movements. This practically undeniable cooperation results in serious ill will with an outcome of viciousness and an inside and out break of the rule of law. Furthermore, from a historical and financial point of view, the cases of the two players in our review appear to have a specific degree of legitimacy.

Empirical Review

Musa and Shabu (2014) evaluated the conflict among herdsmen and farmers in Guma, a nearby government area of Benue State, utilising 160 heads of cultivating families and 40 herdsmen from regions that have encountered farmer-herder conflict, which were purposefully chosen. That's what the review uncovered: the two farmers and herdsmen concurred that herdsmen were not acknowledged by their host networks. The review uncovered that the job of conventional rulers, annihilation of harvests and farmland, pollution of water, and provocation of herdsmen by herdsmen were the significant reasons for conflict among farmers and herdsmen. The review tracked down the removal of the two farmers and herdsmen, loss of lives and properties, and decline in yield as the significant impacts of conflicts among farmers and herdsmen nearby. The review suggested the formation of brushing holds with the goal that herders can move from customary strategies for creature cultivation to current techniques.

Alawode (2013) evaluated the recurrence and degrees of land use conflicts experienced by families on various plots possessed. It likewise analysed the determinants of land use conflict levels in South-western Nigeria, where agrarian land use conflicts have been accounted for previously. The review utilised a multi-stage testing technique to choose 300 homestead families. Both essential and auxiliary information were utilised. The review explored that families experienced

conflict at one time or another on 80.6% of the absolute population of plots, and there were more conflicts on plots during the years 2000–2010 (72.9%) than 1990–1999 (27.1%), showing an expansion in the recurrence of conflicts lately. The higher rate of conflicts during the years 2000–2010 was attributed to the development of popularity-based administration that urged farmers to communicate their complaints straightforwardly.

The concentrate likewise distinguished three degrees of land use conflicts in the review region: farmers had plots on which there had been no insight of conflict (19.4%), past settled conflict (61.8%), or stress over future conflict (18.8%). Land use conflict is not set in stone by the time of the farmer; pay comes from different sources; the number of plots possessed by the farmer; the size of plots claimed by the farmer; the distance of each plot to the farmer's homestead; the worth of the food yield on each plot; and the length of long periods of securing plots. The review suggests that older farmers with numerous long stretches of involvement with the goal of settling land use conflicts ought to be united to upgrade their ability to settle land use conflicts among farmers in their towns, and farmers ought to be taught on the need to forestall land use conflicts to improve the creation capacities of their families.

Adisa (2013) did a study on ceaseless asset-based conflicts among farmers and herdsmen as they keep on sabotaging the effect of rural expansion administration in Nigeria. The review centres on the impression of conflict and methods for dealing with hardship or stress among farmers and herdsmen, with the goal of recognising a need for Expansion in the administration of farmer-herdsmen conflict. A multi-stage group arbitrary examination strategy was utilised to choose 300 farmers and 60 dairy cattle herdsmen for the exploration, utilising a questioner-controlled survey for information elicitation. The review found that most farmers (78%) saw the conflict circumstance as a 'misfortune', while 68% of herdsmen saw it as a "danger."

Additionally, 75% of farmers utilised 'issue-oriented methods for dealing with stress, while 73% of herdsmen for the most part utilised 'feeling-focused' survival techniques. 62% of farmers and 7% of herdsmen, on the other hand, utilised 'social support' methodologies. The Pearson relationships showed that yearly income($r=0.773$, $p=0.001$), ranch size ($r=0.82$, $p=0.002$), non-ranch pay ($r= -0.71$, $p=0.003$) and family size ($r=0.651$, $p=0.004$) were the critical corresponds of misfortune insight among farmers; while among herdsmen, the huge associates of danger discernment were age ($r=0.611$, $p=0.033$) and crowd size ($r=0.814$, $p=0.002$). Moreover, just 4% of all respondents saw the conflict circumstance as 'any open door to acquire'. The review presumes that farmer-herdsmen conflicts in Nigeria need not become as resolute as they currently appear and recommends the setting up of a three-level farmer-herdsmen conflict council. The review suggests a utilitarian job for Expansion in occasional correction and upgraded consciousness of and consistency with stock courses, as well as Augmentation staff and customer base preparation on fitting survival techniques to soak up the socio-mental impacts of conflicts.Akpaeti and Umoh (2013)

analysed the effects of conflict on ranch asset efficiency in Akwa Ibom State, Nigeria. Information for the review was gathered through a multi-stage testing procedure from 114 farmers. Investigation shows that land region, amount of manure, and establishing materials, as well as the area of the local area, are significant determinants of ranch yields. The local area was found to adversely affect ranch yields. This shows the conflict status of a local area could impact farming results in such an area. The farmers were viewed as effective in the utilisation of family work.

Methodology

The study adopted a survey design (quasi-experimental design) technique via a cross-sectional approach that involves field and sample surveys. The study adopted purposive and random sampling techniques in order to select Benue farmers who cultivate in the study area. The study covered only those that are affected by herdsmen's attacks. A sample size of 340 Benue farmers was chosen from the population of Benue farmers based on the proportion of local governments that were affected by herdsmen attacks. Data was collected through an open-ended and structured questionnaire and personal observations because the study was aimed at eliciting both qualitative and quantitative information pertaining the effect of the conflict on farmers' crop yield and livestock production in Benue State.

The data was analysed using descriptive statistics. Descriptive statistics, including frequency distributions, tables and percentages, were used to analyse the effect of farmers- herder conflict on agricultural production of the respondents. The study also made use of chi-square analysis to test hypotheses.

Results and Discussion

What is the impact of farmers-herders conflict on crop yield in Benue state?

Table 1: Responses on whether farmers-herders conflict affect crop yield in Benue state

Variables	Frequency	Percentage (%)
Strongly Agree	73	21.5
Agree	114	33.5
Strongly Disagree	50	14.7
Disagree	69	20.3
Undecided	34	10
Total	**340**	**100**

Sources: Field survey, 2023

Responses on whether farmers-herders conflict affect crop yield in Benue state revealed 86(25.2%) of the respondents strongly agreed, 114(33.5%) indicate agreed while 50(14.7%) of the respondents strongly disagreed and 72(21.2%) indicates disagreed also 18(5.2%) of the respondents were undecided as regard whether farmers-herders conflict affect crop yield in Benue state

Agro-proceed loss through conflict destruction has been alleged as one of the consequences of the farmers-herders conflict on food security in Benue state by this study. There is no

doubt that the farmers/herders conflict in Agatu Local government has towed the direction of agro-produce destruction as cattle are rustled and killed, crops and farms are vandalized and left in a pitiable state and even the members of the parties involved have their lives placed on the altar of death.

There is no gainsaying to the fact that majority of Benue state people are crop farmers with only few who engaged in animal husbandry. More than 40 million worth of crops (maize, yam, cassava, guinea corn and sesame) were lost within the period under review due to the invasion of cattle herders and their livestock in the study area (Ofuoku & Isife, 2019). This has not only had negative humanitarian impact but has also immensely contributed to the issue of food insecurity in the state as many crop farmers tend to abandon both their farms and their farming occupation for other lesser occupations which in turn brings about fewer crop production and poor food availability within the state.

How does the farmers-herders conflict in Benue state affect livestock production?

Table 2: Responses on whether farmers-herders conflict in Benue state affect livestock production

Variables	Frequency	Percentage (%)
Strongly Agree	63	18.5
Agree	129	37.9
Strongly Disagree	55	16.2
Disagree	73	21.5
Undecided	20	5.9
Total	**340**	**100**

Sources: Field survey, 2023

Responses on whether farmers-herders conflict in Benue state affect livestock production revealed 63(18.5%) of the respondents strongly agreed, 129(37.9%) indicate agreed while 55(16.2%) of the respondents strongly disagreed and 73(21.5%) indicates disagreed also 20(5.9%) of the respondents were undecided as regard whether farmers-herders conflict in Benue state affect livestock production. In corroboration to the study of Aliyu (2015), herders have lost about three thousand, two hundred (3,200) cattle. The death of these cattle seems insignificant to the people of Benue state because the cattle belong to the migrant herders, but it has a positive correlation to food security in the state as cattle still remain the widely consumed source of protein in the state and hence, its death diminishes its availability and consequently lead to the risk of food insecurity if the trajectory of such death remains on the increasing pace.

Test of Hypothesis

$H0_1$: Farmers – Herders conflict has no significant effect on crop yield in Benue state.

Using he chi-square (x^2) statistical model in testing the hypothesis

Chi-square is given below

$$\sum_{1=1}^{} \frac{(0i - Ei)^2}{Ei}$$

Where 0i = The Observed Frequency

Ei = The Expected Frequency

Table 1 was recall to test hypothesis 1

Responses	O	E	O – E	$(O – E)^2$	$(O – E)^2/E$
Strongly Agreed	73	68	5	25	0.36
Agreed	114	68	46	2116	31.11
Strongly	50	68	-18	- 324	-4.76
Disagreed	69	68	1	1	0.01
Disagreed	34	68	-34	-1156	-17
Undecided	340	340			**9.72**
Total					

To determine the tabulated chi-square (X^2) tab. Using the degree of freedom DF= n-l and level of significance of 0.05.

Where n = number of different values observed in row

X^2 Tabulated = 5.991

Decision Rule: Accept the null hypothesis (H0) if x^2 cal < x^2 tab. Reject the null hypothesis (H0) if x^2 cal > x^2 tab.

Decision Rule

From the computation above it is seen that x^2 cal is greater than x^2 tab (9.72 > 5.991) the null Hypothesis (H0) is therefore rejected and alternative Hypothesis (Hi) is accepted which state that Farmers – Herders conflict has significant relationship with crop yield in Benue state

Hypothesis II

$H0_2$: Farmers – Herders conflict has no significant effect on livestock production in Benue state

Using the chi-square (x^2) statistical model in testing the hypothesis

Chi-square is given below

$$\sum_{1=1}^{} \frac{(0i - Ei)^2}{Ei}$$

Where 0i = The Observed Frequency

Ei = The Expected Frequency

Table 2 was recall to test the hypothesis 2

Responses	O	E	O – E	$(O – E)^2$	$(O – E)^2/E$
Strongly Agreed	63	68	-5	-25	-0.37
Agreed	129	68	61	3721	54.72
Strongly	55	68	-13	- 169	-2.48
Disagreed	73	68	5	25	0.37
Disagreed	20	68	-48	-2304	-33.88
Undecided	340	340			**18.36**
Total					

To determine the tabulated chi-square (X^2) tab. Using the degree of freedom DF= n-l and level of significance of 0.05.

Where n = number of different values observed in row

X^2 Tabulated = 5.991

Decision Rule: Accept the null hypothesis (H0) if x^2 cal < x^2 tab. Reject the null hypothesis (H0) if x^2 cal > x^2 tab.

Decision Rule

From the computation above it is seen that x^2 Cal. is greater than x^2 Tab (18.36 > 5.991) the null Hypothesis (H0) is therefore rejected and alternative Hypothesis (Hi) is accepted which state that Farmers – Herders conflict has significant relationship with livestock production in Benue state

Discussion of Findings

i. The data suggests that a substantial proportion of respondents are in agreement that farmer-herder conflicts have significantly affected the economy of Benue State. This agreement is supported by the distribution of responses, indicating that a majority acknowledge the economic implications of these conflicts. Similarly, perceptions regarding the negative impact of the conflict on food production, personal experiences of disruptions, and the effect on food availability and affordability are strongly highlighted. The data also emphasizes the range of opinions on the effectiveness of government efforts, observed changes in agricultural practices, and the need for collaboration to address the impact.

ii. The perception of the conflict contributing to food shortages and the challenges faced in accessing sufficient food aligns with the notion of negative effects on food supply. The data also underscores the belief that the conflict has led to increased food prices and influenced the variety of food products available in local markets. Opinions about the effectiveness of government actions and the importance of conflict resolution in improving food availability are portrayed.

Conclusion and Recommendations

In conclusion, the findings indicate that the Farmers-Herders conflict in Benue state has a significant effect on both crop yield and livestock production. The study also revealed that there was about 56% reduction in agricultural yield due to the conflict. This conflict between farmers and herders has been shown to have negative impacts on agricultural activities in the state, affecting the productivity of both crops and livestock. The conflict may disrupt farming operations, leading to reduced crop yields and compromised livestock production.

The conflict between farmers and herders often arises due to competition over land and resources, leading to clashes and tensions between the two groups. These conflicts can result in the destruction of farmlands, crops, and livestock, thereby directly impacting agricultural productivity. Additionally, the constant fear and insecurity associated with the conflict can lead farmers and herders to abandon or limit their agricultural activities, further exacerbating the negative impact on crop yield and livestock production.

Addressing the Farmers-Herders conflict is crucial for ensuring the sustainable development of agriculture in Benue state. It requires the implementation of effective conflict resolution strategies, such as promoting dialogue and mediation between the two groups, establishing clear land tenure systems, and enforcing regulations to prevent the escalation of conflicts. Furthermore, investing in alternative livelihood options for both farmers and herders can help reduce competition over resources and mitigate the conflict's impact on agricultural productivity.

By recognizing the significant relationship between the Farmers-Herders conflict and crop yield as well as livestock production, policymakers, local authorities, and relevant stakeholders can prioritize efforts to address this issue. It is essential to promote peaceful coexistence between

farmers and herders, protect agricultural assets, and provide support to affected communities. Only through comprehensive and collaborative interventions can the negative impact of the Farmers-Herders conflict be minimized, ultimately fostering a more sustainable and productive agricultural sector in Benue state.

Recommendations

Based on the findings that the Farmers-Herders conflict has a significant effect on crop yield and livestock production in Benue state, the study recommends as follows:

i. Implement conflict resolution mechanisms: To mitigate the negative impact of the Farmers-Herders conflict on crop yield in Benue state, it is crucial to establish and implement effective conflict resolution mechanisms. This can involve creating platforms for dialogue and negotiation between farmers and herders, as well as involving local communities, government authorities, and relevant stakeholders. Conflict resolution efforts should aim to address the underlying causes of the conflict, promote peaceful coexistence, and ensure the protection of farmers' crops.

ii. Promote integrated farming practices: Considering the significant relationship between the Farmers-Herders conflict and livestock production in Benue state, promoting integrated farming practices can be beneficial. Integrated farming involves combining crop cultivation with livestock rearing. By integrating both aspects, farmers can diversify their income sources and reduce the potential conflicts with herders. This approach can also foster mutual understanding and collaboration between farmers and herders, as they work together in a coordinated manner. Furthermore, integrated farming practices can enhance the overall productivity and sustainability of agricultural systems in the region.

It's important to note that these recommendations are general suggestions based on the given findings. The specific implementation strategies and approaches should be developed in consultation with local stakeholders, considering the socio-cultural context and unique characteristics of Benue state.

References

Abass, 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

Abdullahi, E. (2003) "Hunters Recruited to Fight Crime in Tola Local Government", The Scope News, October 12th-18th 2003.

Abdullahi, M. (2004) "Udawas Return", DailyTrust Newspaper, Tuesday, January 18, 2005.

Abubakar, S. (1977), *The Lamibe of Fombina: Apolitical History of Adamawa*: 1809-1901. Zaria: ABU Press.

Adegboye, R. O. (2004) "Land, Agriculture and Food Security in Nigeria". Paper presented at Faculty of Agriculture Lecture, University of Ilorin, Ilorin, Nigeria. 25th February, 2004.

Adekunle, O. A. and Adisa S. R. (2010) "An empirical phenomenological psychological study of Farmer – Herdsmen, *Alternative Perspectives in the Social Sciences* vol.2 No.1 1 – 27.

Adisa, (2013) "Management of Farmer-herdsmen conflicts in North-Central Nigeria: Implications for collaboration between Agricultural Extension Service and other stakeholders. *JIAEE* vol. 18 No.1.

Ajuwon, S. S. (2004). Case study: Conflict in Fadama communities. In Managing Conflict in Community Development. Community Driven Development.

Akpaeti1 and Umoh (2013) "Farm resource productivity in conflict communities: Evidence from the Niger Delta region, Nigeria"*Sky Journal of Agricultural Research* Vol. 2(3), pp. 28 - 39

Alawode O. O (2013) "Determinants of land use conflicts among farmers in southwestern Nigeria" *Journal Research in Peace, Gender and Development* (JRPGD) Vol. 3(4) pp. 58-67.

Anyawu, J. C., Oyefunsi A., Oaikhen D. Domwwo F. (1997). "*The Structure of the Nigerian Economy (1960-1997)".* Onitsha: Joanee Educational Publishers Limited.

Ardo, H. J. (2004). "Natural Resource Management among Fadama Communities". Paper Presented at the Workshop on Environmental Governance and Consensus Building for Sustainable Natural Resource Management in Nigeria, Kaduna Nigeria. Pp. 16.

Baba, U. (1987) "The Pastoral Fulbe, Economy and Society in Contemporary Nigeria: The Political Economy of Agricultural and Livestock Development Policy Programmes" Unpublished Ph.D Dissertation, Columba University Missouri.

Baba, U. (1987) "The Pastoral Fulbe, Economy and Society in Contemporary Nigeria: The Political Economy of Agricultural and Livestock Development Policy Programmes" Unpublished Ph.D Dissertation, Columba University Missouri.

Baba, Z. (2003) "Panel Hears How Dumme was Raided", The Scope Newspapers.

Bell, C. (2000). Peace, Agreements and Human Rights. Oxford. Oxford University Press. Pp. 416

Boege, V. and Turner, M. (2006).Conflict Prevention and Access to Freshwater In Sub-Saharan Africa.In Conflict Prevention,Management and Reduction in Africa.Ministry of Foreign Affairs of Finland, Development Policy Information Unit.

Breusers M, Nederlof S, Van Rheenen T (1998). Conflict or symbiosis?Disentangling farmer-herdsmen relationships: the Mossi and Fulbe of the Central Plateau, Burkina Faso. *J. Modern Afr. stud.* 36(3): 357- 380

Chukweuma and Attelhe (2014) Nomads against Native: A Political Ecology of Herder/Farmer Conflicts in Nasarawa State, Nigeria, *American International Journal of Contemporary Research*. Vol. 4 No. 2.

Cotula, L; Toulmin, C; and C. Hesse (2004)."Land Tenure and Administration in Africa: Lesson of Experience and Emerging Issues," IIED.

Cousins, B. (1996), "Conflict Management for Multiple

Resource Users in Pastoralist and Agro-Pasteralist Contexts, "IDS Bulletin Vol. 27 No. 3 July

De Haan, C. (2002). Nigeria Second Fadama Development Project (SFDP), Project Preparation Mission Report, Livestock Component, World Bank. Pp1-13

Evans, L.T. (2018). Feeding the Ten Billion: Plants and Population Growth. Cambridge University Press.

Ezebunwa E. (2001): "Patterns and Progress of Rural-Urban Migration inNigeria". Department of Sociology University of Ibadan,Nigeria.

Fasona, M. J. &Omojola, A. S. (2005).Climate change, human security and communal clashes in Nigeria.Paper presented at the International Workshop in Human Security and Climatechange, Oslo, Sweden

Fiki, C. and B. Lee (2004)."Conflict Generation, Conflict Management and Self-organizing Capabilities in Drought-prone Rural Communities in North-eastern Nigeria: "A case study".*Journal of Social Development in Africa*, 19(2): 25-48.

Fischer, R.A., & Edmeades, G.O. (2010). Breeding and cereal yield progress. Crop Science, 50(Suppl. 1), S-85-S-98. doi: 10.2135/cropsci2009.10.0564

Food and Agriculture Organization of the United Nations (FAO). (2013). The State of Food and Agriculture 2013: Food Systems for Better Nutrition. Retrieved from http://www.fao.org/3/i3300e/i3300e.pdf

Garba, C. (Ed) (1994) *Capacity Building for Crisis Management in Africa*, Lagos; Gabumo Publishers Co. ltd

Hesse, C; Ezeomah, C; Hassan, U. A. and Ardo, A. A. (2001).An Assessment of Organizational Effectiveness of Pastoral Organizations in Northern Nigeria.DFID, Kaduna, Nigeria. Pp. 12-28

IDP(2004) "Roots of the Tiv-Jukun Conflict", Reformer Ecumenical Council Pub. www.idpproject.org March 16th -22nd 2003.

Ikuomola, A.D. (2010). Touting in Lagos State Transporta-tion Corridors.Unpublished PhD Thesis. Department of So-ciology, University of Ibadan

Lobell, D.B., & Gourdji, S.M. (2012). The Influence of Climate Change on Global Crop Productivity. Plant Physiology, 160(4), 1686-1697. doi: 10.1104/pp.112.208298

Ray, D.K., et al. (2012). Yield Trends Are Insufficient to Double Global Crop Production by 2050. PLOS ONE, 7(6), e39492. doi: 10.1371/journal.pone.0039492

Van Ittersum, M.K., et al. (2013). Yield gap analysis with local to global relevance—A review. Field Crops Research, 143, 4-17. doi: 10.1016/j.fcr.2012.09.009