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Effects of Farmers-Herders Conflict on the Agricultural Sustainability in Niger State, Nigeria

Usman Isah Ndashiru A.[1]; Muhammad Abubakar Giwa[23]; & Nur Hafizah Yusoff [3]

[1] Department of General Studies, Federal University of Technology, Minna. [2] Federal College of Education, Katsina. [3] Department of Anthropology and Sociology, Universiti Kebangsaan, Malaysia.

Corresponding Author: isahusman@futminna.edu.ng

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Abstract

The persistent farmers-herders conflict in Rafi Local Government Area of Niger State has caused serious disruptions to agricultural activities and rural livelihoods. This paper investigates the impact of the conflict on food production, land use, and the overall sustainability of the agricultural industry in the region. The frequent clashes between farmers and herders have led to the destruction of farmland, reduced crop yields, displacement of rural populations, and increased tension among communities. These conflicts threaten not only local food security but also the socioeconomic development of the area. The paper sets to identify and analyze the key effects of the farmers-herders conflict in Rafi Local Government Area. A descriptive survey research design was adopted, utilizing structured questionnaires and oral interviews to gather data from affected farmers, herders, and relevant local stakeholders. Both qualitative and quantitative methods were employed to interpret the data and understand the depth of the conflict's impact on agriculture. Findings revealed that the ongoing conflict has significantly undermined agricultural productivity, disrupted economic activities, and created an atmosphere of insecurity. The paper suggests the urgent need for effective conflict resolution mechanisms and the implementation of sustainable land use and resource management policies. These are critical steps toward restoring peace and agricultural stability in the region.

Keywords: Farmer, Herder, Cattle rearing, Conflict and Agricultural Industry

Introduction

The recurrent nature of these confrontations has had profound implications for agricultural productivity and rural stability in the area studied. Displacement of farmers, abandonment of farmlands, and the loss of livestock are common outcomes that have severely disrupted agricultural output and the local food economy (Ibrahim and Tijjani, 2023). Moreover, the insecurity associated with these conflicts has deterred both private and public investment in the sector, contributing to a cycle of poverty and food insecurity. The farmer-herder conflict has garnered growing international attention, particularly within the context of climate change, food security, and rural livelihoods. Climate variability especially in semi-arid regions such as the Sahel and northern Nigeria has been identified as a significant driver of migration and competition over diminishing natural resources. As pastures and water sources continue to shrink, pastoralist communities are increasingly forced to migrate southward, leading to encroachment on farmlands and heightened tensions with sedentary agricultural populations (FAO, 2022; UNDP, 2021).

In response, international organizations including the Food and Agriculture Organization (FAO), the United Nations Development Programme (UNDP), and the United Nations Office for West Africa and the Sahel (UNOWAS) have advocated for inclusive and multi-stakeholder approaches to conflict mitigation. These include facilitating community-based dialogue, promoting climate-resilient agricultural practices, and supporting alternative livelihoods. In Nigeria, the UN has implemented localized peace building initiatives that integrate gender-sensitive programming and land-use reform strategies aimed at fostering coexistence between farmers and pastoralists (UN Nigeria, 2020).

However, Nigeria specifically lost estimated 14 billion dollars annually to herders / farmers conflict with over 60,000 deaths since the year 2001. In states like Plateau and Benue, farmers/ headers have affected/ hindered agricultural investment, increase production cost and disrupt supply chain ((Abraham & Odivwiri 20022:39). The constant herders/ farmers conflict particularly in the North central area has resulted in the depletion of crops, population of parties involved, at the detriment of agricultural growth and development (Bwala and Abdulazeez, 2020)

Empirical research further underscores the relationship between environmental change, economic insecurity, and conflict escalation. Studies like (Brottem, 2021; Okpara, Stringer, Dougill, & Bila, 2016). have demonstrated that irregular rainfall patterns often prompt herders to migrate into agrarian zones, resulting in more frequent and violent confrontations This dynamic is particularly evident in northern Nigeria, including Niger State, where environmental stress intersects with underlying socio-political and ethnic tensions. Policy responses such as the now-suspended Ruga Settlement Initiative and state-level anti-open grazing laws have also attracted significant scrutiny. While designed to curb conflict and improve land governance, these initiatives have generated controversy over land rights, ethnic autonomy, and the constitutional division of

powers between federal and sub-national authorities (International Crisis Group, 2021). Such developments highlight the multifaceted and contested nature of farmer-herder relations in contemporary Nigeria.

In Rafi Local Government Area (LGA) of Niger State, Nigera, the tenacious conflict between farmers and herders has emerged as a substantial impediment to agricultural productivity, rural livelihoods, and social cohesion. This predominantly agrarian area, characterized by mixed farming systems, has experienced recurrent clashes between indigenous crop farmers and transhumant pastoralists. These conflicts are frequently triggered by the destruction of crops by roaming cattle, competition over access to water and arable land, and the absence of clearly demarcated grazing routes (Olabode & Ajibade, 2021). The outcomes have been severe, including widespread displacement, destruction of farms, and a notable decline in food production, all of which have undermined rural investment and hindered sustainable land development (Aliyu, Ahmed, & Musa, 2023).

Furthermore, the escalation of these conflicts has strangulated smooth production of agricultural produce and set the stage for poor food security in the said local government area and entire Niger State and Nigeria in general. been attributed to weak conflict resolution mechanisms, inadequate policy implementation, and limited or lack of state presence in rural and high-risk zones. In Rafi LGA, local governance structures face significant challenges in enforcing anti-open grazing regulations or mediating disputes due to institutional capacity constraints, political interference, and limited financial resources (Nuhu & Mohammed, 2022). Compounding these issues is the lack of inclusive land tenure systems, which further complicates the equitable management of shared natural resources and contributes to deepening mistrust, tension, and cycles of retaliatory violence.

Despite increasing academic and policy attention, substantial theoretical and practical gaps persist in the understanding and resolution of farmer-herder conflicts within highly localized contexts such as Rafi LGA. Much of the existing literature concentrates on broader regional trends in the Middle Belt and North Central Nigeria, often overlooking the micro-level sociopolitical dynamics, customary norms, and localized institutional arrangements that shape conflict patterns in specific communities such as Rafi LGA in Niger State (Iroanya & Adebayo, 2023). Conventional theoretical frameworks such as environmental scarcity theory and the greed-versus-grievance model tend to generalize conflict drivers without sufficiently addressing localized historical, ethnic, and governance dimensions (Boone, 2014)

Practically, many intervention strategies have relied on standardized, top-down approaches that fail to adapt to local realities. For instance, while the promotion of ranching systems and grazing reserves may be viable in certain areas, such strategies have encountered resistance in communities where land rights are contested, or where pastoralist groups lack legal and political recognition (Okoli & Atelhe, 2021). Moreover, there remains a critical data gap regarding how these conflicts specifically affect components of the agricultural value chain in Rafi LGA—including seed distribution, market access, agricultural input systems, and the role of women in food production and post-harvest activities (Okoli & Atelhe, 2023).

Recent studies emphasize the importance of participatory and community-driven conflict mitigation mechanisms. Abubakar and Yakubu (2023) highlighted the effectiveness of locally embedded early-warning systems and joint resource management committees in reducing conflict intensity in parts of Niger and Kaduna States. Additionally, researchers advocated for the integration of geospatial technologies to monitor grazing patterns and land-use changes, which could inform more responsive and equitable land governance policies at the LGA level (Usman & Salihu, 2022). Gender-sensitive approaches are also gaining prominence, with calls for more inclusive frameworks that acknowledge the disproportionate impact of farmer-herder conflicts on women, who are often excluded from formal decision-making processes despite playing central roles in agricultural production (Adamu & Ibrahim, 2023).

Nevertheless, the conflict between farmers and herders in sections like Rafi Local Government Area in Niger State can be understood through multiple theoretical lenses.

Methods

The paper employed a descriptive survey research method to investigate the perspectives of farmers and herders in the Rafi local government area of Niger State, Nigeria. A sample of 240 respondents was selected from a total population of 181,929 using both simple random and purposive sampling techniques to ensure representative and relevance. Simple random sampling size was one hundred and seventy (170) used in selecting the sample size while purposive sampling seventy (70) sample size was used in selecting the study area because of incidences of kidnapping in the State. Data collection involved self-administered questionnaires for quantitative insights and interviews for qualitative depth

The questionnaire was developed through a rigorous review of literature on the herders/ farmers conflict across the Globe, African continent and Nigeria. Additionally, prior empirical studies on farmer–herder conflict in Nigeria (e.g., Iroegbu et al., 2020; Okoli, 2021) provided context-specific indicators related to displacement, input insecurity, and value chain fragmentation.

The interviews involved a total of 10 informants, comprising local community members, healthcare workers, and municipal officials. The interviews were conducted between March 10 and March 25, 2025. On average, each interview lasted approximately 45 minutes. The interview questions focused on participants' experiences with local public health services, accessibility of care, and suggestions for improvement. The interviews were carried out by two trained researchers from the project team and were audio-recorded with participants' consent for accurate transcription and thematic analysis.

Mixed methods data collection offers several advantages, including the ability to **triangulate findings**, **enhance validity**, and provide a **more comprehensive understanding** of complex research problems by integrating both quantitative and qualitative data (Creswell & Plano Clark, 2017). This approach allows researchers to **offset the limitations of a single method** while leveraging the strengths of both—

quantitative data reveal patterns and generalizable trends, while qualitative data offer depth, context, and participant perspectives (Tashakkori & Teddlie, 2010).

Since the Ten (10) districts that constituted Rafi Local Government were sampled, one each from the selected district were interviewed. Those interviewed were the district heads who coordinates both the farmers and the herders resident within their domain. The choice of district heads for the interview hinged on the fact that they were versed regarding the issue of farmers/herders conflicts, sometimes, these district heads serve as arbiter or conciliator between the two parties in conflict i.e. farmers and headers. These are set of people that command great respects among their people or people resident within their areas of jurisdiction. The reason why mixed method of data collection was used is because **questionnaire** provides statistical insights such as the percentage of affected farmers, crop loss figures and income reduction, while interview provides deeper insights into personal experiences, perceptions, emotions, and social impacts. According to Creswell and Plano Clark, (2018) the complexity and multidimensional nature of the farmers-herders conflict encompassing social, economic, environmental, and cultural aspects necessitate the use of multiple data collection tools to capture both **quantitative data** (such as levels of crop loss, frequency of conflict, income reduction) and **qualitative insights** (such as personal experiences, perceptions, and coping strategies).

Also, the collected data was transcribed, coded, and organized, then thematic analysis was carried out to identify patterns and derive meaningful insights that address the research objectives. Furthermore, the collected data was analyzed using simple descriptive statistical tools, such as simple percentages and frequency tables, providing a clear and organized presentation of the findings.

Theory and Literature Review

One of the most widely applied frameworks is the Resource Scarcity Theory, which argues that competition over limited natural resources such as land and water fuels violent conflicts (Homer-Dixon, 1994). In Rafi LGA, increasing environmental degradation and desertification have intensified pressure on arable land and grazing routes, thereby escalating tensions between sedentary farmers and nomadic herders. This competition becomes particularly acute during dry seasons when water and pasture are scarce, leading to crop destruction and livelihood disruptions.

In addition to resource competition, Structural Conflict Theory highlights how systemic inequalities in access to land rights, political representation, and governance mechanisms exacerbate farmers-herders' tensions (Galtung, 1969). Many rural communities in Niger State lack clearly defined land tenure systems, and the absence of regulated grazing reserves has created ambiguous boundaries, fueling disputes. This structural imbalance often results in the marginalization of either group, heightening grievances that manifest in violent clashes. Moreover, governance challenges at the local and state levels often hamper effective conflict resolution, contributing to prolonged instability.

The Human Needs Theory also provides valuable insight by emphasizing that unmet basic needs such as security, identity, and recognition underlie many violent conflicts (Burton, 1990). In the context of Rafi LGA, farmers' destruction of crops by cattle threatens their food security and income, while herders face risks to their livestock and mobility rights. Both groups perceive these threats as existential, often responding with retaliatory violence. Literature confirms that these unmet needs perpetuate cycles of violence and displacement, thereby negatively impacting agricultural productivity and community cohesion (Ofuoku & Isife, 2019).

On the other hand, empirical studies in Nigeria have consistently shown the adverse effects of the farmers-herders conflict on agriculture. For example, Okoli and Atelhe (2024) observed that violent clashes have resulted in significant loss of farmland and reduced crop yields in North Central Nigeria. Similarly, Audu (2023) reported that insecurity forces many farmers in Niger State to abandon their farms, leading to food shortages and economic instability.

Farmer and Herder Profile

The socio-demographic characteristics results of the participants showed that majority of respondents were farmers (74.6%) and mostly male (81.3%), suggesting a male-dominated, labor-intensive agricultural community. Most participants were between 30–39 years old (54.5%), indicating they are in their active and potentially aggressive years, which may influence their response to conflict with herders. The majority practiced Islam (77.1%) and had low levels of formal education, with only 7.5% attaining secondary education or higher, which could affect their understanding and handling of conflict situations. Ethnically, most were Hausa (58.3%), with others being Fulani and Yoruba, and while most were Nigerians, a notable portion came from neighboring countries like Niger and Chad. The respondents were mostly married (81.3%), small-scale subsistence farmers with an average farm size of 2.82 ha, relying heavily on family labor due to large household sizes

Agriculture Effects

Also, the result from the research question highlights the major effects of farmer-herder conflict in Rafi LGA, with 90.8% of respondents identifying displacement from homes as the most significant impact. This is followed by low agricultural production (86.7%) and loss of life and property (82.5%). Overall, the study reveals that displacement and reduced agricultural output are the most pressing consequences of the conflict. These effects have severely impacted the agricultural industry in the area. The findings align with previous research by Nnaji, Ma, and Renwick (2022), which also reported crop destruction, livestock losses, and infrastructure damage as key outcomes.

Table 1.1 Effects of conflict between farmers and herdsmen in Rafi LGA

Items	Agree (%)	Disagree (%)
Loss of lives and properties	198 (82.5)	42 (17.5)
Displacement of people	218 (90.8)	22 (9.2)

Items	Agree (%)	Disagree (%)
Poverty and hunger	138 (57.5)	102 (42.5)
Security challenges	152 (63.3)	88 (36.7)
Low agricultural production	208 (86.7)	32 (13.3)
Distrust between farmers and herders	144 (60)	96 (40)
Psychological trauma	160 (66.7)	80 (33.3)
Threat to peace and national security	180 (75)	60 (25)

Source: Field work 2025

i. H01: There is no significant relationship between farmers and herders' conflicts and the resulting displacement and reduced agricultural output in the agricultural industry of Rafi Local Government Area, Niger State.

Table 1.2 Effect of farmers-herders conflict on agricultural industry

Items	N	Chi-value	Df	p-value	Alpha	Decision
reduced agricultural output	240	733.164	9	0.000	0.05	Reject H1

Source: Field work 2025

The chi-square analysis in Table 1.1 examined the relationship between displacement, loss of agricultural output and farmer-herder conflict in Rafi LGA. The calculated chi-square value was 733.164 with 9 degrees of freedom, and the p-value was 0.000. Since the p-value is less than the alpha level of 0.05, the null hypothesis (Ho2) is rejected. This indicates a statistically significant relationship between displacement and loss of agricultural output as a result of farmer-herder conflict. Therefore, the conflict significantly affects agricultural activities in the area.

Table 1.3 Socio-economic characteristics of the respondents

Items	Categories	Number	Percentage (%)
Subjects	Farmers	179	74.6
	Herdsmen	61	25.4
	Total	240	100.0
Age	20-29 years	29	12.1
	30-39 years	131	54.5
	40-49 years	64	26.7
	50-59 years	16	6.7
	Total	240	100.0
Gender	Male	195	81.3
	Female	45	18.7
	Total	240	100.0
Religion	Christianity	35	14.6
	Islam	185	77.1
	Traditional	20	8.3
	Total	240	100.0

Items	Categories	Number	Percentage (%)
Level of Education	Quranic	100	41.7
	Adult	33	13.8
	Nomadic	26	10.7
	Primary	28	11.7
	Secondary	18	7.5
	Tertiary	17	7.1
	Others	18	7.5
	Total	240	100.0
Ethnic group	Hausa	140	58.3
	Fulani	91	37.9
	Yoruba	09	3.8
	Total	240	100.0
Country of origin	Nigeria	159	66.3
	Niger Republic	63	26.3
	Chad	13	5.3
	Others	05	2.1
	Total	240	100.0
Years of residence	1-5 years	46	19.2
	6-10 years	65	27.1
	11-15 years	82	34.2
	16 years and above	47	19.5
	Total	240	100.0
Marital status	Married	195	81.3
	Not married	26	10.8
	Divorced	12	5.0
	Widow	7	2.9
	Total	240	100.0
Occupation	Farming	154	64.2
	Cattle rearing	51	21.3
	Farming & cattle rearing	35	14.5
	Total	240	100.0

Source: Field work 2025

The results from Table 4.1 showed that 74.6% of the respondents were farmers and 25.4% were herdsmen. Therefore, from the above data, it was deduced that farmers participated actively in the study than the herders. The age of the respondents varies as 54.5% were within 30-39 years of age, 26.7% were within 40-49 years, just as 12.1% were within20-29 years age and 6.7% were within 50-59 years of age indicating that the farmers are still in their active and productive years. Consequently, they may respond violently to conflict or aggression from herdsmen due to youthful exuberance

The gender of the respondents showed that 81.3% were male and 18.7% were female meaning that the dominance of males in farming probably because men are more energetic and capable

of involving in tedious production activities associated with farming than women. This result collaborates with that of Dimelu *et al*, (2017) who found that 85.2% of crop farmers were males. The religion of the respondents showed that 77.1% practice Islam as their religion, 14.6% were Christians and 8.3% practice traditional religion. Also, the level of education of the respondents as presented in Figure 3, were 41.7% Quranic, 13.8% Adult education, 11.7% Primary education, 10.7% Nomadic education, 7.5% possesses secondary education and others, and 7.1% have tertiary education. Though, the farmers are literate but the educational level attained is relatively low. Only 7.5% had higher qualification. This could negatively affect the farmers' perception of conflict situation and subsequently their behavior and altitude to conflict. This might be one of the reasons why farmer-herders' conflict has remained unabated and a regular phenomenon in the state (Ofem & Inyang, 2014).

58.3% of the respondents were mainly of Hausa ethnicity, 37.9% were Fulani and 3.8% were mostly Yoruba ethnicity. The country of origin of the respondents showed that 66.3% were from Nigeria, 26.3% were from Niger Republic, 5.3% are from Chad and 2.1% are from other countries. 34.2% resided in the area within 11-15 years, 27.1 % resided within 6-10 years, 19.5% resided within 16 years and above and 19.2% resided within 1-5 years.

The result also showed that 81.3% of the respondents are married, 10.8% are not married, 5.0% are divorced and 2.9% are widows. The main occupation of the respondents is farming which accounts for 64.2% as presented in Figure 4.2, followed by cattle rearing with 21.3% and those who combine both account for 14.5%. The result revealed that rural farmers have a large household size which may have resulted from the need for family labour with the consequence of more dependant family members. This is in line with the finding of Olobatoke and Omowumi (2017) who revealed that majority of the farmers are married implies that they may be able to utilize family labour to reduce input costs and increase productivity. Majority of the farmers are mostly small-scale farmers with average farm size of 2.82 ha. This may be because they acquire land for farming mainly by inheritance and may indicate the practice of individual system of land ownership. It is in confirmation with the study of Dimelu *et al* (2017) who reported that the respondents are subsistence farmers with average farm size of 2.9 ha.

Discussion

The conflict between farmers and herdsmen has several detrimental effects on the agricultural industry, leading to significant consequences for the environment, food security, livelihoods, and overall agricultural development. Firstly, the conflict often results in land degradation, as the competition for resources leads to overgrazing, improper land use, and destruction of vegetation. Land degradation reduces soil fertility, impairs crop growth, and hampers long-term agricultural productivity (Genyi, 2017). Secondly, the conflict contributes to food insecurity in Rafi local government. Thirdly, it leads to crop destruction, livestock losses, and disruption of agricultural activities which in the long-run reduced food production and availability. This situation can exacerbate hunger and malnutrition, affecting both rural and urban populations (Brottem, 2021). Fourthly, the conflict perpetuates poverty cycles,

particularly in community. Farmers and herdsmen in the area experienced financial losses due to crop damage and livestock deaths, leading to reduced incomes and livelihood insecurity. The resulting poverty further exacerbates food insecurity and limits access to basic services and opportunities (International Crisis Group, 2021). Furthermore, the conflict always result to displacement of people, particularly farmers and pastoralists who are forced to flee their homes due to violence or insecurity. Displacement disrupts agricultural activities, leading to reduced production and loss of livelihoods. It also places additional burdens on hosting communities and strains resources (UNHCR 2022).

Lastly, the conflict disrupts agricultural practices, resulting in reduced crop production. Farmers are often unable to tend to their fields or invest in appropriate inputs due to the fear of violence or land disputes. As a result, crop yields decline, affecting food availability and incomes (Nnaji et al., 2022). In conclusion, the conflict between farmers and herdsmen has severe consequences for the agricultural industry. Land degradation, food insecurity, increased poverty, livestock loss, reduced investment in agriculture, displacement of people, environmental degradation, and reduced crop production are among the significant effects

Conclusion

This study examined the effects of the herder-farmer conflict on the agricultural industry in Rafi Local Government Area, Niger State, Nigeria. The findings revealed that the conflict between farmers and herders has severe and multifaceted consequences, including disruption of agricultural activities, food insecurity, increased poverty, loss of lives and property, sexual violence, and the displacement of people from their homes and farmlands. The primary drivers of the conflict were identified as the invasion of farmlands by herders and changing climatic conditions. Stakeholders further noted that, if left unaddressed, the crisis may escalate into large-scale violence. To mitigate the conflict, the study recommended the establishment of grazing reserves and the deployment of security forces as immediate control measures.

The study's findings are strongly grounded in several conflict theories. It aligned with Resource Scarcity Theory by emphasizing the competition over limited resources such as land and water, which fuels tensions between the groups. The situation also reflects the tenets of Structural Conflict Theory, as institutional failures particularly weak land tenure systems and the absence of effective conflict resolution mechanisms create systemic conditions for recurring violence. Furthermore, the Human Needs Theory is relevant, as the conflict emerges from unmet basic needs such as security, livelihood, and identity, prompting both farmers and herders to assert their claims, often through violent means. These theoretical perspectives collectively underscore how unresolved grievances contribute to the persistent disruption of agricultural productivity, food security, and rural development in the region.

In practical terms, the study highlights the urgent need for the implementation of sustainable land management policies and effective conflict resolution frameworks by government and relevant stakeholders. It also emphasized the importance of improving rural security and infrastructural development to safeguard agricultural investments and livelihoods. The

findings further provided a basis for policy reforms aimed at equitable resource distribution and the promotion of peaceful coexistence, which are crucial to restoring and enhancing agricultural productivity in Rafi Local Government Area.

Nevertheless, the study is subject to certain limitations. One major constraints is its reliance on self-reported data, which may introduce recall bias and subjective interpretation. Additionally, the focus on a single local government area limits the generalizability of the findings to wider regional or national contexts. Security challenges and restricted access to some conflict-affected communities also constrained the scope and depth of data collection.

To address these limitations, future research should adopt a comparative approach involving multiple local government areas to identify spatial variations in the impact of the farmers-herders conflict. Moreover, longitudinal studies are necessary to explore the long-term implications of the conflict on agricultural productivity, food security, and rural socio-economic development.

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