

## Perceptions of Arable Crop Farmers on Pastoralist Activities in Oyo State, Nigeria

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### Abstract

Farmer-herder conflict poses a growing threat to arable crop farming in Southwest Nigeria, particularly in Oyo State, where land-use competition has intensified. This study investigates the perceptions of arable crop farmers regarding pastoralist activities in Oyo State, Nigeria. Using a multistage sampling technique, data were collected from 120 respondents across conflict-prone communities and analyzed with descriptive statistics and Pearson correlation. Results show that most farmers view pastoralist activities especially open grazing as major threats to farming. Reported effects include repeated replanting, reduced yields, increased production costs, and premature harvesting. A significant negative correlation ( $r = -0.433$ ,  $p < 0.05$ ) was found between the intensity of pastoralist activities and farmers' perceptions. The study concludes that negative farmer perceptions are rooted in both real economic losses and psychosocial trauma. The study recommends policies promoting ranching, compensation, community dialogue, and improved land governance to reduce conflict and support peaceful coexistence.

**Keywords:** Farmer-herder conflict, arable crop farming, pastoralism, rural livelihoods, perception, sustainable agriculture, Nigeria

**Introduction:** Agriculture remains the backbone of Nigeria's economy, accounting for nearly 24% of national Gross Domestic Product (GDP) and providing employment for over 70% of the rural population (Central Bank of Nigeria, 2023). Within this sector, arable crop farming is particularly critical to national food security, household income, and rural livelihood sustainability. In Southwest Nigeria, smallholder farmers cultivate vital staple crops such as maize, yam, cassava, cowpea, and vegetables, contributing significantly to the regional and national food supply (National Bureau of Statistics, 2022). However, this crucial economic activity is increasingly threatened by growing competition over land and natural resources, particularly between sedentary arable farmers and mobile pastoralist herders. Pastoralism, predominantly practiced by nomadic and semi-nomadic Fulani herders, plays a complementary role in Nigeria's food system, supplying meat, milk, hides, and organic manure that enhance soil fertility. Historically, both farming and herding coexisted symbiotically across many regions. However, over the past two decades, the relationship has degenerated into frequent and sometimes deadly conflict, especially in the country's Middle Belt and increasingly in its southern regions, including Southwest Nigeria (Adedapo, 2020; Amadi & Aleru, 2021). Factors such as climate change-induced migration, desertification in the north, population pressure, land degradation, poor grazing management, and policy failure have forced pastoralists to move deeper into fertile southern lands leading to the encroachment of farmland, destruction of crops, contamination of water bodies, disruption of local agricultural systems and conflicts (Olagbemiro, M.F., 2022).

These conflicts have evolved from isolated disputes to organized, often violent clashes, contributing to rural insecurity, food shortages, displacement, and loss of lives and properties. According to the International Crisis Group (2023), the farmer-herder crisis is now one of the most severe threats to internal peace and agricultural productivity in Nigeria. Yet, beyond physical damages, these confrontations have fostered deep-rooted mistrust, fear, and antagonism between farming and herding communities. Local farmers in many parts of Oyo States now live in a state of constant apprehension, with some abandoning farming due to threats and attacks (Nigerian Economic Summit Group, 2023).

Despite escalating farmer-herder conflict in Southwest Nigeria, little is known about how arable crop farmers in Oyo state perceive the frequency, causes, and impacts of pastoralist grazing on their farms, especially from the perspective of the affected farmers. Much of the existing literature emphasizes macro-level factors, security implications, or policy responses, with less attention paid to farmers' lived experiences, perceptions, and coping mechanisms at the grassroots level (Aderanti et al., 2019). Yet, perceptions are not merely passive reflections of events; they shape community responses, influence local governance, and determine the success or failure of peace-building interventions. When farmers repeatedly suffer crop loss, threats to personal safety, or experience injustice without redress, their perceptions toward pastoralists can become deeply negative resulting in community hostility, stereotyping, or violent retaliation. These perception-based dynamics are crucial yet underexplored components of the conflict. Furthermore, policies such as the

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National Livestock Transformation Plan (NLTP) and anti-open grazing laws may be undermined if they are not informed by the perspectives of those most affected ( Food and Agriculture Organization, 2021).

There is, therefore, a pressing need to understand how farmers in the southwest perceive pastoralist activities, and how these perceptions influence conflict escalation, resolution, or cooperation. By investigating how farmers perceive the activities of pastoralist herders, the study provides valuable data for researchers, policymakers, and peace practitioners seeking to design locally appropriate interventions. The findings are expected to illuminate how negative perceptions are formed and sustained, and how these may be transformed through institutional engagement, trust-building, and inclusive land-use governance. In essence, this study responds to a critical knowledge gap by foregrounding farmers' voices and perspectives, offering actionable insights for reducing tensions and fostering sustainable coexistence between crop farmers and pastoralist communities in Southwest Nigeria. The study examined the perceptions of arable crop farmers on the pastoralist practices in Oyo States. Specifically, the study: Assess the perceived effects of pastoralist activities on arable crop production and Evaluate farmers' perceptions toward pastoralist herding activities.

Ho: There is no significant relationship between perceived effects of pastoralist activities and farmers' perceptions of these activities

**Methodology: Study Area:** This study was conducted in Oyo State, situated in Nigeria's southwestern region. The state experience a tropical climate characterized by distinct wet and dry seasons and support a predominantly agrarian population engaged in subsistence farming. In recent years, there has been a noticeable increase in pastoralist migration into these areas, particularly during the dry season, driven by ecological shifts and resource scarcity in northern regions. The ecological conditions in Oyo States are conducive to both agriculture and pastoralism, making it important zones for studying land use dynamics. While the Yoruba constitute the majority ethnic group, rural areas also host diverse communities including the Fulani, Hausa, Igbo, and Bororo. Many pastoralists, especially those of Fulani and Hausa origin, engage in transhumance, migrating seasonally to access grazing land and water resources. Although the presence of natural grasslands facilitates livestock rearing, competition over land and water between pastoralists and crop farmers has intensified, often leading to conflict during the dry season. These challenges underscore the pressing need for comprehensive policies that promote peaceful coexistence, clearly delineated grazing routes, and sustainable land and water management practices. Oyo State thus represents critical case studies for understanding the broader interactions between farming and herding systems in Nigeria's evolving agricultural landscape.

**Sampling Technique:** A multi-stage sampling procedure was employed to select respondents for the study. Oyo State was purposively selected from the Southwest geopolitical zone of Nigeria due to the high prevalence of pastoralist activities and intensive arable crop farming in the region. Within the state, four Local Government Areas (LGAs)—Atisbo, Irepo, Iseyin,

and Itesiwaju—were purposively selected based on the frequency of reported farmer-herder conflicts. From each of these LGAs, two rural communities were purposively chosen, resulting in a total of eight rural communities. Within each community, fifteen arable crop farmers were randomly selected from a compiled list of active farmers, making a total sample size of 120 respondents.

**Data Collection:** Primary data were collected using structured questionnaires designed to elicit information on farmers' perceived effects of Pastoralist's activities on arable crop production, and their perception toward the activities. The questionnaire included closed ended and Likert-scale items to capture the intensity and nature of perceptions. Data collection was conducted with the help of trained enumerators and community guides to facilitate access and ensure ethical compliance, including informed consent.

**Data Analysis:** Descriptive statistics such as frequencies, means, and percentages were used to summarize Data collected. A 4 point Likert scale was used to assess the perceived effects of Pastoralists activities on arable crop production and farmers' perceptions of pastoralist activities. Inferential analysis, such as Pearson Product Moment Correlation (PPMC) was used to test for significant relationship between Pastoralists activities and arable crop farmers' perceptions

**Results and Discussion: Perceived Effects of Pastoralist Activities:** The analysis shows that the most significant impact of pastoralist activities is the re-run of planting operations (Mean = 3.99, SD = 0.07). This indicates strong agreement among respondents that cattle incursions destroy young crops, compelling farmers to repeat planting activities. These disruptions translate to wasted labor, lost seeds, and delayed harvest timelines. Also, the respondents recorded reduced harvest (Mean = 3.67), reduced income (Mean = 3.48), and increased cost of production (Mean = 3.49) all point to direct economic impacts. Farmers experience yield losses due to crop theft and grazing, while also spending more on labor. This finding mirrors recent studies across northern and central Nigeria, where pastoralist movements have led to the destruction of early stage crops, especially in the wet season when open grazing paths often cut through cultivated fields (Oluwole & Okereke, 2024).

Farmers also experienced reduced farm hours (Mean = 3.05) and premature harvest (Mean = 3.04). These behavioral adaptations reflect fear and insecurity, as farmers choose to leave farms early or harvest before full maturity to avoid losing everything. This confirms findings from Taraba State, where 93.5% of farmers identified insecurity as a major obstacle to farming (Agwatu et al., 2024). The indirect cost of these adaptive behaviors includes reduced crops quality, lower yields, and market losses. The implication is that farmer-herder conflict alters farmer behavior in on, undermining efficiency and long term clicking glad stewardship. Investments in community policing, local vigilante networks and early warning systems can mitigate these effects. Loss of labor (Mean = 2.87) and shortage of food (Mean = 2.38) were also witnessed by the farmers. This may suggest that food insecurity and rural depopulation are emerging secondary

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effects. The migration of youth from insecure rural areas, as reported by Olaniyan & Usman (2025), undermines farm resilience and labor availability. These findings align with studies by Adedapo (2020), which reported similar patterns of disruption and economic loss. Farmers also reported abandoning certain crops perceived to be more susceptible to livestock damage. However, integrating rural employment schemes with peace building programs can counter this effect.

**Farmers' Perception of Pastoralists' Activities on Arable Farming:** Table 2 presents data on farmers' perceptions of pastoralists' herding activities on arable crop production in the study area. A significant majority of respondents (78.8%) strongly disagreed with the notion that pastoralist activities contribute to increased agricultural productivity. This suggests that the presence of pastoralists and their livestock is widely viewed as a hindrance to crop farming, rather than a benefit. Farmers also disagreed with the statement that pastoralists' activities do not pose a serious threat to their farming operations (Mean = 3.67), indicating that grazing activities directly impact their ability to farm successfully. Respondents strongly agreed that stray cattle often destroy crops, leading to low harvest yields (Mean = 3.66). These perceptions align with Akinpeloye et al. (2020), who reported that a major consequence of pastoralists' activities is the destruction and loss of food crops. In addition to crop destruction, other significant concerns emerged. Farmers reported reluctance to adopt farm mechanization (Mean = 3.57), citing risks associated with shared land use. They also identified an increase in waterborne diseases (Mean = 3.53), challenges with inadequate compensation for damages (Mean = 3.48), and an overwhelming fear of going to the farm due to possible conflict with herders (Mean = 3.40). These findings are consistent with Seka et al. (2021), who observed that pastoralist activities degrade land, destroy crops, contaminate water sources, and contribute to environmental and health hazards. Such persistent threats often breed resentment and hostility toward pastoralists, reducing community willingness to accommodate nomadic herders.

Further analysis of Table 2 reveals that many farmers view the relationship with pastoralists as increasingly strained. For instance, respondents agreed with the statement, "I would respond violently if my farm were invaded again" (Mean = 3.10). This response reflects rising tensions and a deteriorating farmer pastoralist relationship, characterized by mistrust, fear, and, in some cases, the potential for retaliation. The negative perceptions highlighted in this study underscore the urgent need for policy reform, particularly in land use, grazing regulations, and dispute resolution mechanisms. Strengthening institutional enforcement and promoting sustainable land-use practices in line with the European Union Deforestation Regulation (EUDR) (European Commission, 2021) could help reduce conflict and foster more peaceful cohabitation between farmers and pastoralists. Despite these challenges, a small portion of respondents (11.3%) expressed a continued commitment to arable farming. This is reflected in the relatively lower agreement with the statement, "I feel motivated to practice arable crop farming despite the challenges posed by pastoralists" (Mean = 2.47). Although pastoralist activities are widely viewed as a major constraint,

this group demonstrates resilience and a willingness to persevere.

**Figure 1: Categorization of Farmers' Perception of Pastoralists' Activities:** The figure reveals that 82% of the farmers hold a negative perception of pastoralists' herding activities. This strong negative sentiment indicates rising tensions and potential conflict between farmers and pastoralists. It also underscores the need for better land use policies, conflict resolution strategies, and regulated grazing practices to promote peaceful coexistence and protect farmers' livelihoods.

**There is no significant relationship between effects of pastoralists' activities and perception of arable crop farmers in the study area.:** The correlation analysis in Table 3 shows a statistically significant negative relationship between pastoralists' activities and the perception of arable crop farmers ( $r = -0.433$ ,  $p = 0.000$ ). This implies that as the intensity or impact of pastoralist activities increases, crop farmers tend to perceive them more negatively. Therefore, the null hypothesis is rejected. This inverse relationship is consistent with the empirical finding of Adelakun et al. (2023) who found that 63.3% of arable farmers in Oyo State reported crop damage, while 46.7% reported bush burning caused by pastoralists, contributing to heightened tensions. These findings suggest that the negative perceptions of crop farmers are rooted in real and measurable impacts of pastoralist activities particularly crop destruction, competition for land and water, and land degradation.

**Conclusion:** This study demonstrates that arable farmers in Oyo State hold strongly negative perceptions toward pastoralist activities, rooted in repeated crop destruction, loss of income, and insecurity. Negative perceptions significantly increase as pastoralist activity intensifies. The significant negative correlation between pastoralist activities and farmer perceptions underscores the need for urgent interventions to prevent further deterioration of rural peace and agricultural productivity.

**Recommendations:** Based on the findings, there is an urgent need to enhance the enforcement of land-use regulations, establish designated grazing corridors, and promote inclusive dialogue between pastoralist and farming communities. This will ensure compliance with sustainable land management standards, and support peaceful coexistence in rural agricultural zones.

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**Table 1: Effects of Pastoralists Activities on Arable Crop Production**

Effects	Mean	SD	Rank
Re-run of planting operations	3.99*	0.07	1
Reduces harvest due to destruction and theft of crops	3.67*	0.57	2
Reduces income	3.48*	0.55	3
Increases cost of production	3.49*	0.54	4
Reduction in hours spent in farm	3.05*	0.70	5
Premature harvest	3.04*	0.70	6
Shortage of food	2.38	0.68	7
Loss of agricultural labour	2.87	0.83	8
Competition for water	2.76	0.74	9
Relocation of Farm	2.55	0.71	10
Increases soil fertility	2.54	0.71	11
Destruction of farm storage	2.28	0.69	12
Facilitate seeds germination	2.00	1.69	13

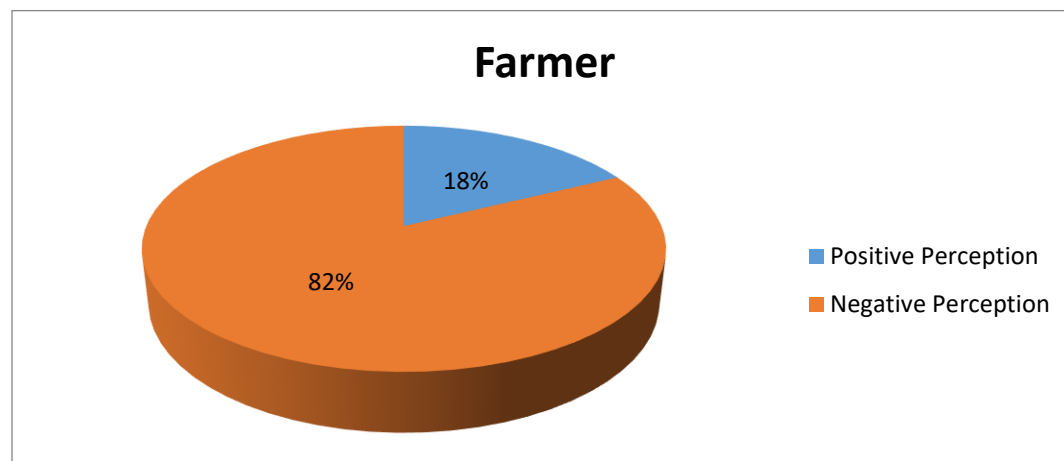
Source: Field Survey, 2024.

**Table 2: Farmers' Perception of Pastoralists' Activities on Arable Crop Production**

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Statements	Strongly agree F(%)	Agree F(%)	Disagree F(%)	Strongly disagree F(%)	Mean	Rank
Pastoralists herding activities leads to high productivity	0	10(6.5)	25(15.0)	126(78.8)	3.73*	1
Pastoralists' activities is not a threat to my farming business	0	0	55(34.5)	105(65.5)	3.67*	2
I will use farm mechanization despite the threat of herdsmen activities	0	16(10.0)	42(26.3)	102(63.7)	3.57*	4
Stray of cattle destroys crops on the field leading to low harvest	105(65.5)	55(34.5)	0	0	3.66*	3
Defecation on stream by cattle cause water borne diseases	18(11.3)	69(43.1)	52(32.5)	21(13.1)	3.53*	5
Pastoralists should compensate for any damages carried out on the farm	82(51.2)	74(46.3)	4(2.5)	0	3.48*	6
I am afraid going to the farm because of herders	85(53.1)	59(36.9)	16(10.0)	0	3.40*	7
I will attack herders if they invade my farm again	36(22.5)	97(60.6)	27(16.9)	0	3.10	8
Cattle grazing damages cultivated crops	38(23.8)	78(48.8)	41(25.6)	3(1.9)	3.00	9
Loss of productive resources could cause low harvest	22(13.8)	84(52.5)	54(33.4)	0	2.80	10
I feel motivated to practice arable crop farming despite the challenges posed by the pastoralists	18(11.3)	51(31.9)	80(50.0)	11(6.9)	2.47	11
Defecation of cattle on farms does not affect soil fertility	0	41(25.6)	85(53.1)	34(21.3)	2.04	12

Source: Field survey, 2024. Grand Mean: 3.22



**Table 3: Correlation analysis showing relationship between effects of pastoralists' activities and perception of arable crop farmers**

Variable	correlation coefficient (r)	P value	Decision
Effects of Pastoralists activities	-.433**	0.000	Significant

Source: Field survey, 2024

\*Significant at 0.05%

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