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Assessing effects of farmers-graziers conflict on agricultural information access among farming household in Agatu LGA. of Benue State, Nigeria

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Abstract:
The study assesses the effects of farmers-graziers conflict on agricultural information access among faming household in Agatu local government area of Benue State. The objectives were to describe the socio-economic characteristics of the respondents, identify the factors responsible for farmers-graziers conflict, ascertain the effects of the conflict on the accessibility of agricultural information by the farmers, and identify constraints to resolution of farmers-graziers conflict. One hundred and twenty (120) farmers were randomly selected for this study. Data obtained were analyzed using descriptive statistics, factor analysis and mean score from Likert type of scale. Findings of the study revealed that 65.0% of the farmers were males and 74.2% married. 26.6% of the crop farmers were within the age range of 31-40 years with 56.7% having secondary education. The result further shows that crop damage (97.5%), government attitude (91.7%), competition for land and water (89.2%), low level of compliance to stock rules (88.3%), bush burning (88.3%), unstable grazing land (87.5%) and pollution of drinkable water (86.7%) were the major causes of farmer-graziers conflict. It is evident from the findings that most of the agricultural information were more accessible before (accessibility index=0.43) the conflict than after (accessibility index=0.30) the conflict. Findings from the study further reveals that neglect of dialogue terms (84.2%), influence of Government agencies (89.2%), unfair court ruling (60.0%) and corruption among traditional rulers (56.6%) are the major factors constraining the resolution of conflict. Based on this, it is recommended that Survey, demarcation, beaconing and gazetting of the government owned grazing reserves and cattle routes, to reduce pressure on the already overstretched reserves. This could help reduce crop damage. Government should endeavor to pay compensation to the affected farmers so as to reduce anger of retaliation and to enable them recover what they have loss during the hurtful condition.

Keywords: *Farmers, Graziers, Conflict, Agricultural Information, Access, Resolution*

1. Introduction

Conflicts between farmers and herders have become increasingly pronounced in Nigeria, particularly within the country's Middle Belt region. Historically, before the early 20th century, the major grazing and crop production tensions were concentrated in the Guinea, Sudan, and Sahel savanna belts where cattle's rearing was more prevalent and crop cultivation limited to the short rainy season. During that period, herders enjoyed relatively unhindered access to expansive grasslands (Okoli and Atelhe, 2014). Over time, however, changes such as the expansion of irrigated agriculture in the Savanna region and severe dry season pasture depletion forced many herders to migrate southwards towards the humid forest and coastal zones in search of fodder and water. The practice of transhumance thus brought graziers into closer contact with settled farming communities, often leading to crop destruction, competition over grazing reserves, and disputes over bush burning and land use (Adeoye, 2017).

$$Y^* = \beta_0 + \beta_{Xi} i + e_i \quad (1)$$

The dynamics of this conflict have evolved considerably in recent years. Factors such as livestock population growth, expanded farming into traditional grazing lands, successful veterinary interventions and disease control among herds, and increased southward migration of herders have amplified tensions (Aliyu, 2019; Ibrahim, 2023). In Nigeria, these disputes now frequently take on ethnic, religious, and security dimensions in addition to resource competition (Edeh *et al.,* 2022). Empirical evidence indicates that the intensity and scale of these conflicts have increased sharply. Between 2020 and

2024, more than 2,300 fatalities were attributed to herder-farmer clashes across Nigeria, with over 359 documented incidents, according to conflict monitoring and security reports (Vanguard News, 2025). Displacement figures are equally alarming as over 2.2 million people have been displaced in the same period due to farmer-herder violence, especially in the agrarian Middle Belt states of Benue, Plateau, and Nasarawa (BusinessDay, 2024).

The implications for agriculture, food security, and rural livelihoods are severe. In a recent econometric analysis of Benue State, a one-percent increase in insecurity of which farmer-herder conflict is a major component was found to correspond to a 0.211 % decline in crop output and a 0.311 % decline in livestock output (Oluwatobi and Garba, 2024). This suggests that persistent conflict not only disrupts production but also undermines access to markets, extension services, and agricultural information.

Given that access to reliable agricultural information is critical for farmers to adapt, cope with risks, and sustain production, the escalation of farmer-herder conflict in agricultural landscapes threatens not only peace and security but also the flow of information and extension support to farming households (Eze, 2022; Obioha, 2023). It is in this context that this research was undertaken to assess the effects of farmer-herder conflict on agricultural information access among farming households in Agatu Local Government Area of Benue State, Nigeria. The specific objectives for the research are to; describe the socio-economic characteristics of the respondents, identify the factors responsible for farmers-graziers conflict in the study area, ascertain the effects of the conflict on the accessibility of agricultural information by the farmers in the study area, identify constraints to resolution of farmers-graziers conflict.

2. Methodology

The study was carried out in Agatu local government area of Benue State. The population for the study comprises of all farming households in Agatu LGA in Benue State. A three staged random sampling technique was employed in selecting the respondents for the study. In the first stage, three (3) council wards were purposively selected out of the the ten (10) council wards in the LGA due to pre-dominance of the heat of the crises. In stage two, two (2) villages were randomly selected from each of the selected council wards. In the third stage, 20 crop farmers were randomly selected from each of the Six (6) selected Villages to give a total of 120 respondents for this study. Primary data was used for this study, which was collected through the use of a well-structured questionnaire complemented with interview schedule to take care of respondents with no formal education. Data obtained were analyzed using descriptive statistics, factor analysis and mean score from Likert type of scale.

3. Results and discussion

3.1 Socio-economic characteristics

The respondent's socio-economic characteristics are presented in Table 1.

The findings in Table 1 reveals that majority (65.0%) of the sampled respondent were male while (35.0%) were females. This indicates that, male headed households engaged in farming practices more than female headed households. The dominance of men in farming can be attributed to prevailing socio-cultural norms in rural Nigeria that favor men's access to key productive resources such as land and credit (Agada and Iro, 2022). Similarly, Okeke, *et al.* (2023) reported that men dominate farming activities in most agrarian communities of Northern and Central Nigeria, largely because traditional land tenure systems confer ownership and decision-making authority on male heads of households.

The findings also show that, the mean age of respondents was 38.4 years, suggesting that the farmers were economically active and within the productive age group of 31-40 years. This age range corresponds with the period in life when family and economic responsibilities are greatest, hence, individuals in this bracket are often the most engaged in income-generating agricultural work. This finding corroborates earlier studies which observed that Nigerian farmers are predominantly middle-aged and energetic, thus capable of undertaking the physically demanding nature of farming (Oluwatobi and Garba, 2024; Eze, 2022).

The result shows that, a large proportion of respondents (74.2%) were married, 17.5% were single, while 8.3% were widowed. The predominance of married respondents suggests that farming is a family-based enterprise in which household members contribute to production and labour. Marriage often enhances access to family labor, land, and social networks necessary for agricultural production (Aminu, *et al.,* 2021). This pattern aligns with the findings of Ijeoma, *et al.* (2023), who reported that married farmers tend to manage larger farmlands and possess stronger social capital for cooperative activities. Also, most (56.7%) of respondents had completed secondary education, 27.4% had primary education, and 15.8% possessed tertiary education. This implies that most respondents were at least functionally literate, which enhances their capacity to adopt improved farming technologies and access agricultural information. Recent studies affirm that education significantly influences farmers' adoption of improved practices and access to extension services (Akanbi, *et al.,* 2022; Edeh, *et al.,* 2022).

According to the table, the mean household size of the respondents is 6 persons which are relatively large and potentially advantageous in providing family labor for farming operations. Majorities (57.5%) of the respondents are farmers whose major source of income is farming. They feel the heat of the crop damage and conflict more because farming is their major means of feeding and other family needs. The results depict that, Majority (69.2%) of the respondent had their farm size between 1-5 hectares. About 17.5% had farm size between 6-10 hectares while 8.3% had farm size between 11-15. This implies that farmers in the study area are mainly small holder farmers. Majority (53.3%) of farmers belongs to cooperative society while (46.7%) of farmers do not belong to cooperative society.

Table 1: Distribution of respondents according to Socio-economic characteristics

Socio-economic variables	Frequency	Percentage	Mena/Mode
Sex			
Male	78	65.0	Male
Female	42	35.0	
Age			38.45
10-20	10	8.3	
21-30	26	21.8	
31-40	29	26.6	
41-50	31	25.8	
51-60	14	11.6	
>61	8	5.8	
Marital status			
Married	89	74.2	Married
Single	21	17.5	
Widowed	10	8.3	
Divorced	0	0	
Level of education			
1-6	33	27.4	Secondary Education
7-12	68	56.7	
13-18	19	15.8	
Household size			
1-5	52	43.3	6.43
6-10	50	41.6	
11-15	16	13.4	
16-20	2	1.6	
Major source of income			Farming
Artisanship	2	1.7	
Civil service	12	10.0	
Farming	69	57.5	
Trading	37	30.0	
Size of farm			5.05
1-5	83	69.2	
6-10	21	17.5	
11-15	10	8.3	
16-20	6	4.9	
Membership of a cooperative society			Yes
Yes	64	53.3	
No	56	46.7	
Access to extension services			No
Yes	18	15.0	
No	102	85.0	
Number of years been farming			21.51
1-10	40	33.4	
11-20	29	24.1	
21-30	22	18.2	
31-40	14	11.6	
41-50	13	10.8	
51-60	1	0.8	
>61	1	0.8	

Participation in cooperative societies enables farmers to pool resources, access credit, and share information. Recent evidence shows that cooperative membership significantly enhances farmers' access to agricultural inputs and markets (Okoli and Nwankwo, 2022; Chukwuma, *et al.,* 2023). The results shows that majority (85.0%) of the respondents had no access to extension services and could be as a result of underfunding, inadequate staffing, and insecurity-related constraints to field extension delivery. The implication is that farmers may not be properly informed about improved farm practices. Lastly, majority (33.4%) of the respondents had 1-10 years' experience in farming. This implies that most have developed substantial experiential knowledge about local farming conditions. Similar observations were made by Nwosu, *et al.* (2024), who concluded that accumulated farming experience enhances problem-solving skills and decision-making but may not necessarily translate to higher productivity without adequate institutional support and security.

3.2 Farmers-graziers conflict

Table 2 presents results on factors responsible for farmers-graziers conflict in the study area.

The result in Table 2 indicate that, crop damage (97.5%), government attitude (91.7%), competition for land and water (89.2%), low level of compliance to stock rules (88.3%), bush burning (88.3%), unstable grazing land

(87.5%) and pollution of drinkable water (86.7%) were the major drivers of the conflict in the study area. Other significant causes include destruction of reserved areas (71.7%) and stealing of crops (61.7%) were the serious cause of the conflict in the study area. The table further shows that hardening of soil (58.3%), damage of irrigation facilities (56.7), theft of cattle and Goat (59.2%) and ethnic rivalry (58.3%) are not a serious factor resulting to the conflict.

Table 2: Factors responsible for farmers and graziers conflict in the study area

Factors responsible for conflict	*Frequency	Percentage	Remark
Crop damage	117	97.5	VSF
Government attitude	110	91.7	VSF
Competition for land and water	107	89.2	VSF
Indiscriminate bush burning	106	88.3	VSF
Low level of compliance to stock rules	106	88.3	VSF
Unstable grazing land	105	87.5	VSF
Pollution of drinkable water	104	86.7	VSF
Destruction of reserved areas	86	71.7	SF
Stealing of crops	74	61.7	SF
Theft of cattle and Goat	71	59.2	NSF
Hardening of soil thereby rendering them difficult when tilling	70	58.3	NSF
Ethnic rivalry	70	58.3	NSF
Damage of irrigation facilities	68	56.7	NSF

* = Multiple responses recorded, Legend: VSF= Very serious factor (>80%), SF= Serious factor (60-80%) and NSF= Not a serious factor (<60%)

These findings underscore that the destruction of crops and competition over natural resources remain central to farmer–herder clashes in Nigeria. Crop destruction by freely grazing cattle consistently ranks among the top proximate causes of such conflicts. Recent studies across Nigeria corroborate this observation. For instance, Edeh, *et al.* (2022) and Umeh and Nnaji (2024) found that competition for arable land and grazing resources has intensified as a result of expanding farmlands, population growth, and climate-induced pasture shortages. According to Ibrahim (2023), weak institutional enforcement of grazing regulations, inadequate demarcation of grazing reserves, and perceived political bias in conflict resolution have heightened mistrust between the two groups.

Table 3 shows the factor analysis of the factors leading to the famer's graziers conflict in the study area using varimax rotation method. The KMO index of 0.558 and the Bartletts sphericity of 0.000 shows the suitability of the data for factor analysis.

Table 3: Factors responsible for farmers and graziers conflict

Variables	Factor 1	Factor 2	Factor 3
Unstable grazing land	**0.762**	-0.095	-0.055
Bush burning	**0.714**	0.052	-0.083
Crop damage	**0.677**	-0.187	0.085
Competition for land and water	**0.578**	0.066	-0.265
Ethnicity	-0.118	**0.774**	0.000
Theft of cattle and goat	0.250	**0.625**	0.115
Stealing crops	0.150	**0.477**	0.278
Damage of irrigation facilities	-0.236	**0.428**	-0.100
Pollution of drinking water	-0.161	**0.308**	-0.109
Destruction of reserved areas	-0.233	-0.067	**-0.792**
Hardening of soil	-0.188	0.099	**0.676**
Low level of compliance to stuck rule	-0.223	-0.106	**0.484**
Government attitude	-0.213	-0.216	0.220

Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization, a. Rotation converged in 8 iterations.

According to Table 3, three factors were extracted based on the items loadings as perceived impacts of climate change on crop production. These factors were: completion for the use of land, behavioral or attitudinal characteristics and indiscriminate movement. The impacts that loaded on factor 1 were the major cause of the conflict in the study area, followed by the impacts loaded under factor 2 and factor 3.

Specific cause of the conflict that loaded on factor 1 were unstable grazing land (0.672), bush burning (0.714), crop damage (0.677), and competition for land and water (0.578). Factors that loaded on factor two were ethnicity (0.774), theft of Cattle and Goat (0.625), stealing of crops (0.477), damage of irrigation facilities (0.428), and pollution of drinking water (0.308). Factors that loaded on factor three were destruction of reserved areas (0.792), hardening of soil (0.676) and low level of compliance to stuck rule (0.484).

3.3 Accessibility of agricultural information

To ascertain the level of the accessibility of agricultural information before and after the conflict, result obtained

from 22 focus group was analyzed and presented in the Table 4. In order to show clearly the level of accessibility of agricultural information by the respondents before and after the conflict, the data in Table 4 was used to construct a bar chart as shown in Figure 1:

Table 4: Effect of the conflict on the accessibility of agricultural information

Agricultural information	Before		Mean	After		Mean
	Accessible	Not accessible		Accessible	Not accessible	
Weed control	18(81.82)	4(18.18)	0.82	4(18.18)	18(81.82)	0.18
Insect / pest control	9(40.91)	13(59.0)	0.41	1(4.55)	21(95.45)	0.05
Use of herbicide	10(45.45)	12(54.55)	0.45	3(13.64)	19(86.36)	0.14
processing of farm produce	3(13.64)	19(86.36)	0.14	0	22(100)	0
agricultural credit	1(4.55)	21(95.45)	0.05	1(4.55)	21(95.45)	0.05
farm storage facilities	4(18.18)	18(81.82)	0.18	3(13.64)	19(86.36)	0.14
animal production	17(77.27)	5(22.73)	0.77	15(68.18)	7(31.82)	0.68
land preparation	14(63.64)	8(36.36)	0.64	9(40.91)	13(59.09)	0.41
Market availability	7(31.82)	15(68.18)	0.32	2(9.09)	20(90.91)	0.09
Availability of fertilizer	7(31.82)	15(68.19)	0.32	5(2.73)	17(77.27)	0.23
Improved Seeds	8(36.36)	14(63.64)	0.36	1(4.55)	21(95.45)	0.05
Availability of farm machineries	3(13.64)	19(86.36)	0.14	1(4.55)	21(95.45)	0.05
Availability of local farm tools	21(95.45)	1(0.95)	0.95	19(86.36)	3(13.64)	0.86
Total mean			**5.55**			**3.88**
Accessibility index			**0.43(43%)**			**0.3 (30%)**

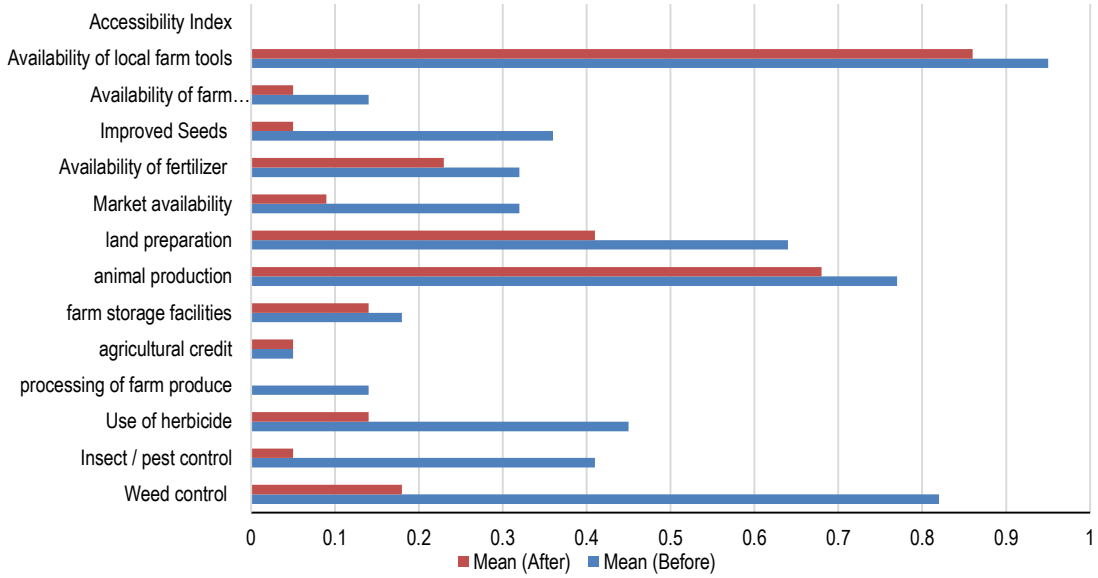

Figure 1: Level of agricultural information accessibility before and after the conflict

Table 4 showed the level of accessibility of agricultural information of the sampled respondents before and after the conflict. This indicates that the conflict had a negative impact on the dissemination and accessibility of agricultural information in the study area. The reduced access can largely be attributed to the disruption of extension activities, insecurity of field agents, and displacement of farming households. Similar observations were made by Eze (2022), who noted that violent conflicts in agricultural zones significantly restrict the mobility and field coverage of extension personnel, leading to a decline in information flow to farmers. Accessibility to information on weed control was the most affected with a mean difference of 0.62, followed by information on insect pest control with a mean difference of 0.36. The least affected information was information on farm storage facilities with 0.04 as the difference in the relative mean score and information on availability of fertilizer with a difference of 0.09 as the difference in the relative mean score. Generally, it is evident on the table that agricultural information in the study area was more accessible before the conflict (43%) than after the conflict (30%) as the cumulative mean score before the conflict was 5.55 and after the conflict was 3.88 respectively. This aligns with the findings of Oluwatobi and Garba (2024), who reported that heightened insecurity in Benue and Nasarawa States significantly reduced farmers' contact with extension agents and decreased awareness of improved agricultural practices.

3.5 Resolution of farmers and graziers conflict

Table 5 presents the factors constraining the resolution of farmers-graziers conflict among the respondents.

Table 5: Factors constraining the resolution of farmers and graziers conflict

Constraints	Very serious	Serious	Not serious	mean	Rank	Remark
Influence of Government agencies	107(89.2%)	10(8.2%)	3(2.5%)	1.87	1	VS
Neglect of dialogue terms	101(84.2%)	19(15.8%)	0	1.84	2	VS
Corruption among traditional rulers	68(56.6%)	48(40.0%)	4(3.3%)	1.53	3	VS
Unfair Court ruling	72(60.0%)	37(30.8%)	11(9.2%)	1.51	4	VS
Selfish interest among some famers	58 (48.5%)	57(47.5%)	5(4.2%)	1.44	5	S
Arrogance among community youths	60(50.0%)	46(38.3%)	14(11.7%)	1.38	6	S
Language incompatibility	51(42.5%)	19(15.8%)	50(41.7%)	1.01	7	S
Religious believe	20(16.7%)	63(52.5%)	37(30.8%)	0.86	8	NS

Legend: VS= very serious (> 1.5), S= serious (1-1.49), NS= not serious (<1.0)

Table 5 shows that factors such as neglect of dialogue terms (84.2%), influence of Government agencies (89.2%), unfair court ruling (60.0%) and corruption among traditional rulers (56.6%) are the major factors constraining or militating the resolution of the conflict in the study area with a mean score of 1.87, 1.84, 1.53 and 1.51 respectively. These findings suggest that institutional inefficiencies and governance failures are central to the persistence of conflicts in the area. Respondents' perceptions reflect widespread mistrust in both traditional and formal mechanisms of justice, as key stakeholders such as local chiefs, government mediators, and judicial actors are viewed as being biased or financially compromised. This is consistent with Okoli and Atelhe (2022), who argue that the capture of traditional conflict-resolution structures by local elites undermines mediation efforts and perpetuates farmer-herder tensions in Nigeria's Middle Belt. An indebt interaction with the farmers also revealed the Graziers are wealthier than the local farmer thereby making unfair court ruling (60.0%) a very serious factor militating against conflict resolution. This agrees with Ibrahim (2018) that in using liability laws to settle environmental dispute, relying on dispute resolution via law sue may be unfair if the damaged individual have no resource to institute it's sue. Overall, the results highlight that weak institutional accountability, corruption, and lack of transparent dialogue mechanisms remain significant barriers to effective and sustainable conflict resolution between farmers and herders

4. Conclusion

The study concludes that, most of the respondents are within the range of 30-50 years, who are energetic and therefore more willing to participate in violent conflict than the elderly persons. Also, they are married with a mean household size of 6 and have low level of formal education, which is not a healthy situation with regard to the conflict. Their major source of income is farming which they have been doing for well over 10 years usually on small farm size ranging between 1-5 hectares. The major factors responsible for conflict in the study area are crop damage, poor government attitude, competition for land and water, low level of compliance to stock rules, bush burning, unstable grazing land and pollution of drinkable water. Also, majority of the agricultural information were more accessible before the conflict than after the conflict. Factors such as neglect of dialogue terms, influence of Government agencies, unfair court ruling and corruption among traditional rulers are the major factors constraining or militating the resolution of the conflict in the study area.

Recommendation

The study recommends that, formal education for the farmers should be encouraged through sensitization using individual and mass communication with the aid of extension agents and radio programmes respectively. Also, survey, demarcation, beaconing and gazetting of the government owned grazing reserves and cattle routes be done to reduce pressure on the already overstretched reserves as this could help reduce crop damage. Government should ensure a more fluent and adequate dissemination of Agricultural information so as to keep the farmers informed about agricultural activities.

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