

ASSESSMENT OF FARMER-HERDER CONFLICT IN NIGERIA: AN EXPLANATION OF THE NUMAN FEDERATION EXPERIENCE IN ADAMAWA STATE

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ABSTRACT

This paper title “Assessment of farmer-herder conflict in Nigeria: An Explanation of the Numan Federation Experience,” Is set out to uncover the underlying factors that motivates conflict especially in Numan Federation amongst Farmers and Herders. Other studies reveal that, farmer herder conflict is becoming common as they don’t see eyeball. The main objective of this work is to measure the effects of farmer-herder conflict on food security and socio-economic lives of the people of the study area. Both primary and secondary sources data collection were used. The quantitative and qualitative methods of investigations were used too in generating the perspectives of the respondents on the causes of farmer-herders conflict, food security, consequences, security strategies in combating this challenges etc. The ANOVA tool was used to test the hypothesis which says that there is no significant differences in the causes of farmer-herder conflict in Adamawa State (Numan Federation) it was later accepted that there is no significant differences in the causes of conflict in the study area because its basically land and water. Recommendations suggest that creation of grazing areas for ranching and strict punishment measures for those responsible or kick starting the conflict will promote peaceful coexistence.

Keywords: Farmer-Herder, Conflict, Insecurity, Food security and peaceful coexistence

Introduction

West African farmers and nomadic cattle herders have historically been at odds with one another, which has been a typical source of economic instability in the region (Ezekwe, 2019: Tonah, 2006). According to Sunday (2017), the conflict between Fulani herders and rural communities has been going on for a very long time. Nigerian communities are presently experiencing incessant frightening security orchestrated by cattle herders and crop farmer’s conflict, even security operatives are not spared in these attacks (Abanyam, Aver, & Gwambeka, 2020). Farmer and other innocent people living in rural areas have been the target of persistent attacks in Nigeria for several decades. These attacks have resulted in the loss of thousands of lives; the destruction of property worth millions of dollars; the injury of scores of people; and the eviction of many more people from their homes. These farmers and other rural inhabitants are taken unaware, overwhelmed, and hurt by Fulani militia, who take advantage of the situation to commit crimes like burglary, rape, kidnapping, and the destruction of their homes. Fulani herdsmen brutally kill natives and invaded farm communities including women and children in various states across the country (Okoro,2018).

They are armed with sophisticated weapons and usually attack their targeted communities at a time they are most vulnerable such as midnight or on Sundays when they are in church, killing people indiscriminately and burning houses and looting their property. Most worrisome is the brutality and impunity with which the assailants go about expects without regards for law and the sanctity of life (Ibrahim, 2016). The federal government's response to the crisis has been widely criticized by the Nigerian press as inadequate while Fulani herdsman have continued to clash with farming communities in Benue, Cross River State, Plateau, Ogun, Oyo, Nasarawa, Kogi, Rivers, Taraba, Zamfara, Adamawa, Bauchi, Enugu, Ekiti, Kwara, Delta, Abia, Imo, Ebonyi, Kaduna, Edo, Niger and Federal Capital Territory (Abanyam, 2016; Daily Trust, 2017).

Additionally, the question of ethnicity and religion is equally fundamental to understanding the dynamics surrounding the Fulani insurgency in Nigeria (Abdulbarkindo & Alupse, 2015).Pointedly, the spate of armed invasion of communities in Nigeria by Fulani herdsman is fast gaining momentum. More so, the warfare strategy adopted by the insurgents has also advanced in sophistication (Abbas, 2012). This is not different in Numan Federation.

Statement of the Problem

Nigeria has witnessed conflicts between the Fulani herdsman and farmers which have resulted in the extensive loss of lives and property. The constant clashes have threatened the security of the State, reduced its economic productivity, and deepened food crisis. Conflict between crop producers and Pastoralists has continued to assume a threatening dimension to human survival and economic livelihood in Numan Federation. The conflict between these two groups has led to loss of properties worth millions of naira and the death of hundreds of thousands of lives. Despite all these, there seems to be no solutions in sight. Nigerian communities have lost confidence in the capacity of their leaders to provide justice, law and order, for instance in Numan, Girei, Demsa, Shelleng, Lamurde Jada local government areas, cattle herders and crop farmers seem to have taken the law into their hands, This is supported by the level of murder and arson taking place in the name of fighting for rights, which always results in violent conflicts all over the affected areas. Therefore, various attempts have been put forward by stte stakeholders, security agencies and traditional institutions in bringing an end to the lingering conflicts between farmers-herders in Numan Federation of Adamawa-State but particular this-has not yielded results.

Ho1: There is no significant difference in the causes of farmers-herders' conflicts in Adamawa State based on occupation of respondents.

Ho2: There is no significant difference in the effects of farmers-herders conflicts in Adamawa State based on occupation of respondents.

Conceptual Clarifications

Herdsman-Farmers Conflict is as old as man. It started from the children (Cain and Abel) of the first man (Adam). Abel was a shepherd and Cain was a farmer according to Bible's account, however, Cain killed Abel in the field out of jealousy. Okoro (2018) averred that herdsman-farmer or harder-farmer conflicts are conflicts occurring between peasant farmers or subsistence

cultivators and nomadic or transhumant livestock keepers. According to Tarhule and Lambe, (2003), there exist differences between 'herder-herder' conflicts and 'farmer-herder' conflicts. He maintained that herder-herder conflicts are usually conflicts between nomadic or transhumant livestock keepers that arise between receiving groups over their territory's resources and incoming groups searching for water and pastures, and cattle raiding (Sulaiman & M.R. Ja'afar-Furo, 2010). Herder-herder conflict is a conflict that results from theft of cattle or other animals among the Fulani herdsmen. It is herdsmen rustling cattle of other herdsmen, or when un-experienced herders entrust their animals in the care of experienced herders under agreements, and when such agreements are breached conflict occasions within. The violent cattle raids among pastoralists in East Africa are examples of herder-herder conflicts. Sato, (2004) see farmer-herder conflicts as comprising different types of conflicts, including ethnic conflicts, interest conflicts, resource disputes, political action, evictions, killings, cattle raiding and cattle rustling (Ruben, 2008).

Communal conflicts between Fulani herdsmen and host communities usually arise when grazing cattle are not properly controlled and consequently graze on cultivated plants like cassava, maize, rice, beans etc. in farms of host communities. Attempts by the owners of such farms to register their grievance of destruction of their livelihood (food crops and cash crops) by the cattle of Fulani herdsmen is always stoutly resisted thereby degenerating into communal conflicts (Porto, 2002). Host communities sometimes register their grievances by placing restrictions on movement and grazing of cattle in designated areas and enforcing compliance through coercive measures decreed by the host community vigilante which may take the shape of killing stray cattle or arresting and prosecution defaulters. When the communities attempt to moderate their activities or request their exit, the Fulani herdsmen become aggressive and attack the host community sometimes with the assistance of hired mercenaries (Ovuakporie & Agbakwuru, 2016). Fulani herdsmen normally attack their target communities at the time they are most susceptible such as mid-night or prayer days, when they are in their churches, incessantly killing people with sophisticated weapons, looting properties and burning houses. (Durojaiye 2014) Fulani Herdsmen are "believed to have killed at least 1,229 people in Nigeria in 2014, according to the latest Global Terrorism Index (GTI)" (Ludovica 2014)

According to Ugbechie (2016), Akevi (2014) opines that their sophistication and combat readiness is increasing by the day as they are apparently armed not just with AK47 riffles amidst the herders who owned strange weapons. Very recently, precisely March 2016, more than 10 communities in Numan Local Government were razed down to the rubbles and more than 500 lives lost in what Hamman Bachama, Honest Stephen Irimiya described as "genocide against his people" by Fulani Herdsmen. The high casualties associated with these conflicts have attracted the attention of Human Rights Watch. Human Rights Watch in December said clashes in the nation's central region had killed 3,000 people since 2010 (Abanyam, 2016).

Security The concept of security is the basis for diverse approach as it is indeed the basis for social contract between people and the state in which people willingly surrendered their rights to carry arms to the government who is responsible for the overall supervision of the survival of all (Onuoha, 2007). At the heart of this debate, there have been attempts to deepen and widen the

concept of security from the level of the states to societies and individuals, and from military to non-military issues (Nwanegbo & Odigbo, 2013; Kruhmann, 2003).

Conflict .According to Nformi et al., (2014), conflict is incompatibility of interests, goals, values, needs, expectations and social ideologies or cosmologies. It is a clash of interest over something valuables, material or abstract. Because of its ambiguity and pervasive nature, the concept has acquired a multitude of means and connotations presenting us with nothing short of a semantic jungle (Norman, 2013).

Farmers are persons who engages in agriculture by raising living organisms for food or raw materials. Agriculture includes farming in all its branches as well the cultivation and tillage of soil, dairying, production, cultivation, growing, and harvesting of any agricultural or horticultural commodities (Beeler, 2006). Agriculture is practiced for the purposes of producing food, clothing and shelter; as well as for business or economic gains. As a result, farmers usually take necessary steps to ensure proper nourishment of the products for either personal consumption or commercial purpose (Audu, 2014).

Slash and burn, or other techniques to maximize efficiency while meeting the needs of the household or community. In a subsistence economy, farm products might be either consumed by the farmer's family or by the community (Azeez et al., 2015).Destabilization of their communities. This is a common scenario between farmers and herders in sub-Sahel regions (Bakam and Owuamanam, 2016).

Herders are farmers who look after a herd of livestock and earn their livelihood by keeping a group of animals of the same type in open land or by moving from place to place. Such animals include cattle, sheep, goat, camel, and so on.According to Chukwuma, (2016), herdsmen or pastoralists are nomadic or semi nomadic herders whose primary occupation is raising livestock.

.According to Toner (2002), the sale of cattle herd and dairy products such as milk constitute the primary source of income and livelihood of the herdsmen. Their wealth and riches are often measured by the size of the cattle herd. Before moving into new areas, the herdsmen send a reconnaissance team to study the area for availability of resources such as grass and water (Abbas,2012).

Security Strategies conflict management has been used interchangeably with conflict resolution. Essuman-Johnson (2009); contents that conflict resolution refers to the elimination of the causes of the underlying conflict with the agreement of the parties. On the other hand, conflict management refers to the elimination, neutralization or control of the means of pursuing either the conflict or the crisis. It is rarely accomplished by direct action and is more frequently achieved only over a long period of time. Globally, conflicts have been occurring and it is perhaps a permanent feature in human social relations. Conflict in resource use is not uncommon and perhaps not unnatural between living beings (Alfonso & Erik, 2001)

Causes of Herdsmen Farmers Conflict in Nigeria

Environmental Factors: Conflicts between herdsmen and farmers have existed since the beginning of agriculture and have increased or decreased in intensity and frequency depending on economic, environmental and other factors. Environmental security scholar Thomas Homer-Dixon emphasized the role of resource scarcity and competition as the primary, though not the only cause of the conflict between herdsmen and farmers (Homer-Dixon,1999; Blench,2010)

Ethno-Religious Intolerance: Another major reason for the conflicts between farmers and pastoralist is the ethno-religious dynamics of the social relations between these groups of resources users. The ethnic dimension comes to play in the conflict between two broad ethnic groups, the pastoralists who are majorly of the Fulani extraction with an entirely different set of practices and way of life of the sedentary farmers who are made up of a variety of ethnic groups (Shetimma & Tar, 2008). Language barrier and religious intolerance are also a major coloration of the conflict.

Consequences of Herdsmen Farmers Conflict

Loss of Life and Human Insecurity: One of the major consequences of the perennial conflict, attacks and counter-attacks between herdsmen and farmers in Northern Nigeria is massive death toll of many innocent lives and actors involved in the conflict (Olayoku, 2012).The Institute of Economics and Peace (2015) which rated the Fuani militant as the fourth most deadly terrorist group in the world as at 2014 Global Terrorism Index Report which recorded the dramatic increase in the attacks by Fulani Militants from 2010 to 2013 as 80deaths to a skyrocketing increase in the death toll to 1,229 in 2014 alone. On the 25th of April, 2016, seven villages in Ukpabi-Nimbo town a border town in Uzo Uwani in Enugu State were attacked by over 500 heavily armed Fulani herdsmen who killed over 48 villagers and left many injured (Ikenwa & Adeyemi, 2016). Also, between February and July, 2016;604 farmers and locals were killed in Numan, Gerei, Demsa and Lamurde local government area of Adamawa state. Similarly, 11 villagers were killed and two villages bunt down because of what (Binniyat, 2016) calls vengeance mission of the herdsmen on Godogodo chieftdom in Jema"a local government area in Southern part of Kaduna state. Also, in Plateau state,a First-Class Traditional Ruler, Sir Lazarus Agai, his driver and police men were killed on the way from his farm on 17th October, 2016 (Owuamanam, 2016).

Loss of Cattles and Farm Crops: Another severe consequence is the loss of cattle to conflict and bandits as many herds are lost during the conflict to angry farmers and bandits who take advantage of the conflicts to steal cattle from the pastoralists. On the side of farmers, destruction of crops in the farms and harvested products by angry mobs of pastoralist. The negative effect of this is huge loss on both sides with ultimate result of loss of income or capital and food insecurity.

Destruction of Properties: Another effect of this conflict is destruction of farm properties and farm irrigation equipment, farming tools, houses and cars by angry herders who usually carry out organized violence as retaliatory act on the farming communities.

Threat to National Unity: The persistent attack by the herdsmen has drawn the attention of Nigerians to the threat it poses to national unity. In line with this conception, the Honourable Speaker of the House of Representatives, Yakubu Dogara on the 26th of April, 2016 who clamored for deliberate and proactive actions to end the incessant farmers and herdsmen clashes spreading across the country, noting that if not properly checked could divide Nigeria (Ovuakporie and Agbakwuru, 2016).

Displacement: Another lethal effect of this conflict is the displacement of people from their homes and community for safety reasons. This has become the persistent effect of the clash between herdsmen and farmers in North Eastern Nigeria. Djadi (2016); reported that over 20,000 people have fled the wave of attacks since 2010.

Farmers Herdsmen Conflict and Food security .Food security is a broad concept which cuts across many dimensions. It means access to adequate food for a healthy life. Food security according to World Bank (1986) is the condition in which all have access to sufficient food to live healthy and productive lives. To Pottier (1999) food security involves interconnected domains, with questions of agriculture, society, environment, employment and income, marketing, health and nutrition, and public policy.

Food security has been defined as "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life".

The opposite condition, *food insecurity* is defined as "limited or uncertain availability of nutritionally adequate and safe foods" (FAO, 2003b). While these definitions are inclusive of national or regional food security, their application throughout this study is with reference to households. *Household* is used within the definition by Shaner et al., (1982) as "social organization in which members live and sleep in the same place and share meals". Further, a distinction is made between rural and urban households because they have different strategies for obtaining food. The concern for this study is household food security within the rural dry land setting.

Household food security context and rationale for intervention is explained by the food security framework applied in food security analysis (e.g. FANTA 2007). It covers two core aspects (Nyariki et al., 1997; Smith et al., 1998; European Commission, 2000; FAO,2003b; Nyariki et al., 2002; FANTA, 2007): availability and access. Availability is the amount of food in the immediate reach by the households and largely depends on domestic food production and storage. Access mainly refers to the ability of a household to obtain food from the market and depends on its purchasing power which varies in relation to market integration, prices and temporal market conditions. Food *utilization* which leads to nutritional security refers to the proper biological use of food and is determined by the safety and quality of food, intra-household distribution and health status. But the effect of climate change reflected in worsening aridity remains the most daunting (Tiffens, 2002).

Theoretical Framework (Conflict Theory)

Conflict Theory was adopted as our framework of analysis. Conflict theory explains the basis of violence in any sector be it an organized sector or unorganized sector. The theory generally surrounds different social classes or groups. Conflict theory offers a decent analysis that is in line with process-oriented theories in anthropology. The interdisciplinary field of conflict studies aims to explain all kinds of conflicts, from domestic quarrels to international disputes. The field defines conflict generally as ("any state in which two or more social entities or 'parties' perceive that they possess mutually incompatible goals") (Mitchell, 1981). Conflict theorists describe conflict explicitly as a sequence of interactions. Conflict theory is particularly useful for conceptualizing the problem of herder-farmer conflict escalation because it offers a well-articulated approach to conflict escalation generally. Crucially, reasons for escalation can be located by examining the sequence of interactions to explain why some conflicts escalate and others do not (Kriesberg 2007). Conflict theorists have offered three general models for conflict escalation: the contender-defender model, the conflict spiral model, and the structural change model (Pruitt & Kim 2004). The models have slightly different foci, respectively parties, interaction, and psychology, which clearly overlap and complement each other.

Table 1.1 Mean and Standard Deviation of the responses on causes of farmers-herder's conflicts in Adamawa State.

S/N	ITEM	($\bar{x}$)	SD	Decision
1	Inadequate grazing land for herders is a major cause of farmer-herder conflicts food security.	3.98	1.384	Accepted
2	Farmers encroaching on grazing land is a major cause of farmer-herder conflicts on food security.	3.23	1.375	Accepted
3	Lack of swift intervention by stakeholder in managing disputes between farmers and herders is a major cause of farmer-herder-herder conflicts and food security.	4.12	1.404	Accepted
4	Competition for resources such as drinking water and pasture is another major cause of farmer-herder conflicts on food security.	3.89	1.445	Accepted
5	The proliferation of small arms and light weapons among herders and farmers is also a cause of farmer-herder conflicts on food security.	4.94	1.374	Accepted
6	Cultural differences between farmers and herders is a factor causing of farmer-herder conflicts on food security.	3.92	1.351	Accepted
7	Climate change and environmental degradation also promote farmer-herder conflicts on food security.	3.83	1.397	Accepted
8	Lack of adequate security security measures to protect farmers and herders encourages farmer-herder conflicts on food security.	4.17	1.436	Accepted
	Grand Mean	4.01		Accepted

Acceptance ($\bar{x}$ is 3.0 and above); Rejection ($\bar{x}$ is less than 3.0)

The table 4.2 above presents the results of a study that investigated the causes of farmer-herder conflicts on food security in Numan Federation. The table shows the mean and standard deviation of the responses on eight items that were used to measure the causes of conflicts. The mean scores range from 3.23 to 4.94, with a grand mean of 4.01, indicating that all the items were accepted as causes of farmer-herder conflicts on food security, as the mean score for each item is 3.0 and above. Item 5 stating that “The proliferation of small arms and light weapons among herders and farmers is also a cause of farmer-herder conflicts on food security.” Had the highest mean score of 4.94, indicating that respondents strongly agreed that the proliferation of small arms and light weapons among herders and farmers is a major cause of conflicts.

Item 2 “Farmer encroaching on grazing land is a major cause of famer-herder conflicts on food security.” Had the lowest mean score of 3.23, which suggests that respondents moderately agreed that farmers encroaching on grazing land is a cause of conflicts. The standard deviation (SD) values for the items range from 1.351 to 1.445, which indicate that the responses were relatively dispersed around the mean. This suggests that there were some variations in the responses of the respondents. Overall, the findings suggest that there are multiple factors include inadequate grazing land for herders, farmers encroaching on grazing land, lack of swift intervention by stakeholders in managing disputes, competition for resources, proliferation of small arms and light weapons, cultural differences, climate change, and lack of adequate security measures. These findings have important implications for policymakers and stakeholders who may need to consider these factors when developing strategies to address the conflicts in the region.

Table 1.2 Mean and Standard Deviation of the responses on effects of farmer-herders conflicts in Adamawa State.

S/N	ITEM	($\bar{x}$)	SD	Decision
1	Limited access to farm land by farmers.	4.82	1.401	Accepted
2	Destruction of farm product before and after harvesting	4.99	1.466	Accepted
3	Drastic reduction in the production of food by farmers.	4.02	1.403	Accepted
4	Farmer-herder conflicts has negatively affected food production in Adamawa State.	4.92	1.430	Accepted
5	Farmer-herder conflicts have led to food shortages in Adamawa State.	4.00	1.409	Accepted
6	Farmer-herder conflicts have caused hike in food prices in Adamawa State.	4.00	1.395	Accepted
7	Farmer-herder conflicts have led to the loss of lives and property in Adamawa State.	4.00	1.449	Accepted
8	Compromise by the security operatives due to socio-political, ethno-religion and cultural divide has promoted mistrust amidst Adamawa state citizens.	3.96	1.435	Accepted
	Grand Mean	4.46		Accepted

Acceptance ($\bar{x}$ is 3.0 and above); Rejection ($\bar{x}$ is less than 3.0)

Table 4.3 presents the results of a study that investigated the effects of farmer-herder-herder conflicts in Numan Federation, Adamawa State, Nigeria. The table shows the mean and standard deviation of the responses on eight items that were used to measure the effects of farmer-herders' conflicts. The mean scores range from 3.96 to 4.99, with a grand mean of 4.46, indicating that all the items were accepted as effects of farmer-herder conflicts in Numan Federation, Adamawa State, as the mean score for each item is 3.0 and above. Item 2 "Destruction of farm products before and after harvesting" had the highest mean score of 4.99, indicating that respondents strongly agreed that farmer-herder conflicts have led to the destruction of farm products before and after harvesting.

Item 3 "Drastic reduction in the production of food by farmers" had the lowest mean score of 4.02, indicating that respondents moderately agreed that farmer-herder conflicts have led to a reduction in food production by farmers. The standard deviation (SD) values for the items range from 1.395 to 1.466, which indicate that the responses were relatively dispersed around the mean. This suggest that there were some variations in the responses of the respondents. Overall, the findings suggest that famer-herder conflicts conflicts have significant negative effects on food security in Numan Federation, Adamawa State. The effect include limited access to farm land by farmers, destruction of farm products before and after harvesting, reduction in food production by farmers, food shortages, hike in food prices, loss of lives and property, and mistrust among citizens due to compromise by security operatives. These findings highlights the need for a coordinated approach that involves all stakeholders in addressing the root causes of conflicts and mitigating the negative effects of conflicts on food security and the livelihoods of the people in the region.

H01: There is no significant difference in the causes of farmers-herders' conflicts in Numan Federation and Adamawa State at large.

Table 1.5 Analysis of Variance (ANOVA) Analysis to assess difference in the causes of farmer-herders' conflicts in Numan Federation, Adamawa State based on the occupation of respondents.

Sum of Squares	Df	Mean Square	F	Sig.	
Between Groups	1.461	5	.292	1.213	.302
Within Groups	91.551	380	.241		
Total	93.012	385			

P< 0.05 (Not Significant)

The table presents the result of an Analysis of Variance (ANOVA) that was conducted to assess the difference in the causes of farmer-herders' conflicts in Numan Federation, Adamawa State based on the occupation of the respondents. The ANOVA assesses whether there are any statistically significant differences between the means of two or more groups. In this case, the between-groups factor is the occupation of the respondents, and the within-groups factor is the differences within each group. The results show that the sum of squares for between-groups is 1.461, and the degrees of freedom are 380. The mean square is o.241. the total sum of squares is 93.012, and the degrees of freedom are 380. The mean square is 0.241. the total sum of squares is

93.012, and the total degrees of freedom are 385. The F-value is 1.213, and the level of significance is 0.302.

The level of significance (0.302) is the greater than 0.05, which indicates that there is no significant difference in the causes of farmer-herders’ conflicts in Numan Federation, Adamawa State based on the occupation of the respondents. In other words, the occupation of the respondents does not have a significant effect on the causes of farmer-herders’ conflicts in the state. Therefore, it can be concluded different among the various occupational groups of the respondents. This implies that the conflict is not limited to a particular group of people but affects everyone in the state. The result further suggests that any measures put in place to address the conflict should be inclusive of all occupational groups to ensure lasting peace in the state.

Model Summary^b

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.155 ^a	.024	.019		1.371	2.048

a. Predictors: (Constant), Measures, Strategies

b. Dependent Variable: Resolution

ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1. Regression	17.790	2	8.895	4.731	.009b
Residual	720.044	383	1.880		
Total	737.834	385			

a. Dependent Variable: Resolution.

b. Predictors: (Constant), Measures, Strategies.

Coefficients^a

Model	Unstandardized B	Coefficients Std. Error	Standard Coefficients Beta	t	Sig.
1. (Constant)	4.782	.593		8.067	.000
Strategies			.098	1.946	.052
	.286	.147			
Measures	.311	.139	.114	2.245	.025

a. Dependent Variable: Resolution.

Table 4.6 presents the results of a multiple regression analysis conducted to assess the effects of security strategies and mitigative measures on the resolution of farmers-herders’ conflicts in Adamawa State, Nigeria. The model summary shows that the predictors (security strategies and mitigative measures) account for a very small proportion of the variance in the dependent variable

(resolution), as indicated by the low R-squared value of 0.024. The ANOVA table shows that the regression model is statistically significant ($P=0.009$), which means that the combined effect of security strategies and mitigative measures significantly predicts the resolution of farmers-herders' conflicts in Adamawa State. However, the F-Value of 4.731 suggests that the explained variance is still relatively small compared to the unexplained variance.

The coefficients table shows the beta values, which indicate the standardized regression coefficients for the predictors. Both security strategies ($\beta = 0.009$, $p = 0.052$) and mitigative measures ($\beta = 0.114$, $p = 0.025$) have a positive effect on the resolution of farmers-herders' conflicts, although only the effect of mitigative measures is statistically significant. The intercept (constant) value is 4.782, which means that when both security strategies and mitigative are absent or equal to zero, the expected value of the dependent variable (resolution) is 4.782. the t-values for both predictors indicate that they are statistically significant at the 0.05 level. The Durbin Watson value of 2.048 suggests that there is no significant autocorrelation in the residuals.

Overall, the results suggest that while both security strategies and mitigative measures have a positive effect on the resolution of farmers-herders' conflicts in Adamawa State, mitigative measures are more effective in achieving resolution. However, the overall impact of these factors is relatively small, indicating that other factors not included in the analysis may also be important in the resolution of farmers-herders' conflicts in the region.

Discussion of Findings

The study investigated the effects of farmer-herder conflicts on food security in Numan Federation, Adamawa State, Nigeria. The study found that farmer-herder conflicts have significant negative effects on food security in the state. The findings are consistent with other studies conducted in Nigeria and other African countries that have highlighted the negative impacts of farmer-herder conflicts on food security (Ogunbameru, 2018; Oyewole & Afolayan, 2020). The study found that there are multiple factors responsible for farmer-herder conflicts on food security in Adamawa State. These factors include inadequate grazing land for herders, farmers encroaching on grazing land, lack of swift intervention by stakeholders in managing disputes, competition for resources, proliferation of small arms and light weapons, cultural differences, climate change, and lack of adequate security measures. These findings are consistent with other studies that have identified similar factors as causes of farmer-herder conflicts in Nigeria and other African countries (Ajakaiye & Jerome, 2019; Ibrahim, 2014). The study further found that the effects of farmer-herder conflicts on food security in Numan Federation, Adamawa State include limited access to farm land by farmers, destruction of farm products before and after harvesting, reduction in food production by farmers, food shortages, hike in food prices, loss of lives and property, and mistrust among citizens due to compromise by security operatives. These findings are consistent with other studies that have identified similar effects of farmer-herder conflicts on food security in Nigeria and other African countries (Ogbette et al., 2018).

Conclusion

This study has highlighted the demographic characteristics of the study population and investigated the causes and effects of farmer-herder conflicts on food security in Adamawa State, Nigeria. With reference to Numan federation, the findings reveal that there are multiple factors responsible for farmer-herder conflicts, including inadequate grazing land for herders, farmers encroaching on grazing land, lack of swift intervention by stakeholders in managing disputes, competition for resources, proliferation of small arms and light weapons, cultural differences, climate change, and lack of adequate security measures.

Furthermore, the study reveals that farmer-herder conflicts have significant negative effects on food security, including limited access to farm land by farmers, destruction of farm products before and after harvesting, reduction in food production by farmers, food shortages, hike in food prices, loss of lives and property, and mistrust among citizens due to compromise by security operatives.

Recommendations

Based on the findings of the study, the following recommendations are made for relevant stakeholders: Creation of grazing reserves and ranches: The government should create grazing reserves and ranches to promote peaceful coexistence between farmers and herders in Adamawa State. This will provide a designated area for herders to graze their cattle and minimize the destruction of farms as compensation for farmers and peaceful coexistence. Government should provide compensation for farmers whose farms and crops are destroyed by herders, and vice versa. This will help to reduce tension and promote peaceful coexistence between farmers and herders. Enforce laws and regulations: The government should enforce laws and regulations to prevent and punish perpetrators of farmer-herder conflicts. This will serve as a deterrent and reduce the occurrence of such conflicts. Dialogue and mediation: The government should encourage dialogue and mediation between farmers and herders as a means of successful conflicts management in Adamawa State. Education and awareness programs: The government should provide education and awareness programs to promote peaceful coexistence between farmers and herders. This will help to change the perception and attitudes of both parties towards each other.

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