

Assessment of the Strategies of Resolving Farmers-Pastoralists Conflicts for Sustainable Agricultural Development in Jigawa State, Nigeria

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Abstract. The study analyzed the strategies of resolving farmers-pastoralists conflict in Jigawa State. Multi-stage sampling techniques consisting of purposive, snow ball sampling method, cluster sampling and random sampling were used in selecting 75 crop farmers, 75 sedentary pastoralists and 79 migratory pastoralists, who were interviewed using Structured Questionnaire. The analytical tool used was descriptive statistics. Result shows that 73.3% of the farmers were males, 26.7% were females, while all the pastoralists (sedentary and migratory) were males (100%) with mean ages of the farmers, sedentary and migratory pastoralists at 45 years, 47 years and 37 years respectively. The result also revealed that majority of the farmers believed court verdict (66.7%) was the best strategy of conflict resolution. And also sedentary pastoralists (73.3%) and migratory pastoralists (75.9%) generally believed that intervention by traditional leaders was the best strategies of conflict resolution in the study area. To ensure peaceful co-existence and sustainable agricultural development, traditional rulers, farmers unions, herder unions, religious organizations and law enforcement agents should play reconciliatory roles. Government at all levels should empower the above organs to handle effectively resource use conflicts. However, establishment of effective mechanism for settling disputes between farmers and pastoralists will serve as an effective strategy for resolution and management of conflict between the three agricultural land users in Jigawa State and Nigeria at large. Similarly there is need for shifting paradigm from conflict resolution to conflict prevention strategy.

Keywords: Strategies, Conflict, Farmers, Sedentary and migratory pastoralists

Background to the Study

Farmers and pastoralists (sedentary and migratory) conflict has remained the most preponderant resource-use conflict in Nigeria (Adisa, 2012). The necessity to provide food of crop and animal origin, as well as raw materials for industry and export to meet ever-growing demands, has led to both intensification of land use. The competition between the three agricultural land user-groups (farmers, sedentary and migratory pastoralists) has often times turned into serious manifestation of hostilities and social friction in many parts of Nigeria. Among competing resources, however, land resources has remained an over whelming source of conflicts among various users groups as well as individuals at varying thresholds. In particular, conflict between farmers and pastoralists in the use of agricultural land is becoming fiercer and increasingly widespread in Nigeria, largely due to intensification of production activities that are necessitated by increasing human population.

The resultant increase in competition for arable land has often times resulted to serious manifestation of enmity and social conflicts among the three opponents in many parts of Nigeria. Adisa (2012) pointed out that, the pastoralists arable crop farmers conflicts have not only brought about high level of insecurity but have also demonstrated high potential to the

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food crisis in Nigeria and other countries because of loss of human lives, animals, crops and other valuable properties.

Understanding farmer-pastoralists relations is a key to conflict resolution or management. This will help our understanding of the proximate and underlying causes of conflict, the behavioral patterns that are most conducive to provoking or avoiding conflict and the main mechanisms by which conflict between the groups are resolved or managed. The relationships between farmers and pastoralists in the Sahelian region of West Africa have always been multi-dimensional and like most social relationships have involved both cooperation and conflict. There has always been a strong seasonality to this relationship with conflicts associated with crop damage and field encroachment onto key pastoral sites common during the rainy season (Chikaire *et al.*, 2018).

Thus, pastoralists and crop farmers are intertwined sharing land, water, fodder and other resources. As a result, there are several problems which affect the relationship between farmers and pastoralists. The most outstanding being the perennial conflict over resource use. For example, in the two major livestock corridors of Nigeria (the North-West and North-East) conflicts between crop farmers and pastoralists have become particularly acute in recent years (Shettima & Tar, 2008).

The land resource conflicts that occur in Nigeria are always between the Fulbe or Fulani, the largest nomadic pastoral group in the world, and the indigenous settler farmers (Chikaire *et al.*, 2018). Fasona and Omojola (2005) noted that conflicts over agricultural land use between farmers and herdsmen accounted for 35 percent of all reported crises. Politico-religious and ethnic clashes occurred at lower frequencies.

In the northern and western parts of Nigeria, studies on conflicts involving pastoralists and farmers have been carried out and reported on many occasions (Abbass, 2012). In Jigawa State, there exists a gap in understanding the strategies involved in managing conflict between pastoralists and farmers, even though there is heavy presence of the sedentary and migratory pastoralists in the state. It is however unfortunate that despite the heavy presence of these pastoralists in the State, little is known about the best conflict resolution and management measures taken during the conflict with the host farmers. Because there are limited empirical data on this, most of the information available is based on guesses, suppositions or in literature based on occurrences from other parts of the country or world. These have given rise to wide gap in knowledge, which has inhibited effective policy formulation for solving the re-occurring conflict situations in the area. The above situation therefore raises the following research questions: What are the socioeconomic characteristics of the farmers and pastoralists? and what are the strategies used in resolving farmers-pastoralists conflicts?. The broad objective of the study is to assess the strategies of resolving farmers-pastoralists conflicts for sustainable agricultural development in Jigawa State, Nigeria. The specific objectives were to:

- i. identify the personal characteristics of the farmers and pastoralists in the study area;
- ii. examine strategies employed for resolving conflicts between crop farmers and pastoralists in the study area.

Methodology

The Study Area

The study was carried out in the year 2019, in three Local Government Areas (LGAs) of Jigawa state, namely Jahun, Ringim and Guri LGAs. The State is situated in the northern part of the country, geographically between latitudes $10^{\circ} 57' N$ and $13^{\circ} 03' N$, longitudes $8^{\circ} 08' E$ and $10^{\circ} 37' E$ of the equator and has a land area of about $22,210 \text{ km}^2$ (2.2 million hectares). It is bordered to the north by Katsina State, Yobe State and Niger Republic to the

east and south by Bauchi state and to the west by Kano State (Jigawa State Agricultural and Rural Development Authority [JARDA], 2016). The State has a population of 4,348,649 people (National Population Commission [NPC], 2006), using the annual growth rate of 3.25%, the population of the State in 2019 was projected at 5,903,362 (National Bureau of Statistics [NBS], 2016). The state is considered to be agrarian as more than 90 percent of the working adults are engaged in agriculture as a means of livelihood (JARDA, 2016) and also about 350,000 of the rural households keeping livestock (NBS, 2017).

Sampling Procedure

The sample for this study was drawn from farmers, sedentary and migratory pastoralists. Multistage sampling procedure was used for data collection. The first stage involved purposive selection of three (3) Zones from the four (4) Zones of Agricultural Development Programme (ADP) in the state. The second stage involved purposive selection of one (1) LGA from each of the three selected Agricultural zones. The LGAs included in the study were Guri in Zone III, Ringim in Zone II, and Jahun in Zone I. Third stage involved purposive selection of three villages from each of the three (3) LGAs selected. A total of nine (9) villages were selected for the study.

Fourth stage involved proportionate selection of 30% of the members of each of the farmers' associations. A total of 75 farmers were selected. Last stage involved cluster sampling of 30% of sedentary pastoralists from each of the clusters of pastoral family stead's selected, by random sampling. A total of 75 pastoralists were selected, while 30% of migratory pastoralists was selected by using snowball sampling method in order to capture the pastoralists who were sparsely distributed around the study area. A total of 79 pastoralists were selected. The total respondents for the study both farmers and pastoralists (sedentary and migratory) were 229 respondents.

Data Collection and Data Analysis

The data were collected using structured questionnaires, administered with the assistance of Village Extension Agents (VEAs) to respondents. The collected data were analyzed using descriptive statistics. Frequency tables and percentages were used in analyzing objective I and II.

Results and Discussion

Table 1. Analysis on distribution of farmers and pastoralists (sedentary and migratory) based on socio-economic characteristics

Variable	Farmers (%)	Sedentary (%)	Migratory (%)
Age			
29-35	12	1.3	36.7
36-42	25.3	25.3	29.1
43-49	20	26.7	34.2
50-56	36	30.7	-
57 and above	6.7	16	-
Sex			
Male	73.3	100	100
Female	26.7	0.0	0.0
Marital Status			
Single	4.0	0.0	8.8
Married	88.0	93.3	89.9

Divorced	1.3	4.0	0.0
Widowed	6.7	2.7	1.3
Others specify	-	-	-
Educational Level			
Never been school	1.3	20.0	51.9
Quranic education	49.3	49.3	39.9
Primary school	24.0	10.7	3.7
Secondary school	17.5	8.0	1.3
Nomadic education	-	10.7	5.1
Tertiary institution	8.0	1.3	0.0
Household size			
1-6	24	18.6	41.8
7-12	30.6	53.3	10.2
13-18	26.6	24	-
19-24	10.6	2.6	-
25 and above	8.0	1.3	-
Total	100	100	100

Source: Field Survey Data (2019)

Socio-Economic Characteristics of Farmers and Pastoralists (Sedentary and Migratory)

The result in Table 1 revealed that most of the farmers (36%) and sedentary pastoralist (30.7%) fell within the age bracket of 50-56 years. This implied that most of the farmers and sedentary pastoralists were elderly men. While the migratory pastoralists the result showed that 36.7% were within the age range of 29-35 years. This means that the highest percentages of them were within their active age and are expected to be energetic. The result also showed that majorities (73.3%) of the farmers were males and all the pastoralists (sedentary and migratory) were males (100%). The reason for higher proportion of the farmers were of males greater than females may be because of religious and custom/culture which play crucial roles in the livelihoods of the farmers in the study area and also as a result of socio-cultural factors, most fulani women might not take cattle herding as occupation. This agreed with the findings of Olaleye *et al.* (2010) which revealed that males were more involved in both farming and pastoral activities. The result further revealed that, majority of the farmers (88.0%), sedentary (93.3%) and migratory pastoralists (89.9%) were married in the study area.

The result also showed that, most of the farmers interviewed (49.3%) had formal education; while among the sedentary pastoralists most of them (49.3%) had Qur'anic education. The result also showed that more than half (51.9%) of the migratory pastoralists had never been to school, only 39.9% had Quranic education. This implied that most of the pastoralists (sedentary and migratory) do not have formal education compared to farmers. This finding agreed with that of Olaleye *et al.* (2010) who reported that majority of the pastoralists do not have formal education when compared to farmers. The result in Table 1 also showed that, more than half of the farmers (57.2%) had family members between 7 and 18 and also sedentary pastoralists more than half of them (53.3%) had family members between 7 and 12. Among the migratory pastoralists about half (41.8%) of them had household size of 1-6 members.

Strategies of Resolving Conflicts

The distribution of farmers and pastoralists (sedentary and migratory) according to the strategies of resolving conflict were shown in Table 2, 3 and 4 below.

Table 2. Percentage distribution of farmers according to the strategies of conflict resolution

Type of strategies (Variables)	Frequency	Percentage
Court verdict	40	53.3
Intervention by low enforcement agents	30	40
Intervention by traditional leaders	27	36
Dialogue between parties involved	20	26.7
Local community crop farmers/herders intervention	19	25.3
Total	136	181.3

Source: Field Survey Data (2019) *(n=75)*Multiple responses record

The result from Table 2 above revealed that farmers believed court verdict (66.7%), intervention by low enforcement agents (26.7%), intervention by traditional leaders (36.0%), dialogue between parties involved (26.7%) and local community crop farmers/herders intervention (25.35) were types of strategies of conflict resolution.

Table 3. Percentage distribution of sedentary pastoralists according to the strategies of conflict resolution

Type of strategies (Variables)	Frequency	Percentage
Intervention by traditional leaders	55	73.3
Local community crop farmers/herders intervention	32	42.7
Payment of compensation to victims	31	41.3
Intervention by low enforcement agents	16	21.3
Court verdict	20	26.7
Dialogue between parties involved	3	4
Total	162	209.4

Source: Field Survey Data (2019) *(n=75)*Multiple responses recorded

The result from Table 3 shows that sedentary pastoralists on the other hand, generally believed that intervention by traditional leaders (73.3%), local community crop farmers/herders intervention (42.7%), payment of compensation to victims (41.3%), intervention by law enforcement agents (21.3%), court verdict (20%) and dialogue between parties involved (4%) were the strategies of conflict resolution in the study area.

Table 4. Percentage distribution of migratory pastoralists according to the strategies of conflict resolution

Type of strategies (Variables)	Frequency	Percentage
Intervention by traditional leaders	60	75.9
Payment of compensation to victims	29	36.7
Intervention by low enforcement agents	30	37.9
Local community crop farmers/herders intervention	23	29.1
Court verdict	19	24.1
Dialogue between parties involved	7	8.9
Total	168	212.7

Source: Field Survey Data (2019) *(n=79)*Multiple responses recorded

The result from Table 4 shows that migratory pastoralists on the other hand, generally believed that intervention by traditional leaders (75.9%), payment of compensation to victims (36.6%), intervention by law enforcement agents (37.9%), local community crop

farmers/herders intervention (29.1%), court verdict (12.75) and dialogue between parties involved (8.9%) were the strategies of conflict resolution in the study area. This agrees with the finding of Adelokun, Adurogbanga and Akinbile (2015) which revealed that most of the farmers and pastoralists (68.9%) in the study area indicated intervention by low enforcement agents as one of the methods of conflict resolution, 42.5% opined that they seek the intervention of local community leaders in fostering peace between the parties involved.

Table 5. Percentage distribution of farmers and pastoralists (sedentary and migratory) based on satisfaction with strategies of conflict resolution

Variables Farmers	(Freq.) % Sedentary (Freq)	% Migratory (Freq.) %
Court verdict	50 66.7 20	26.7 19 24.1
Intervention by traditional leaders	25 33.3 55	73.3 60 75.9
Total	75 100 75	100 79 100

Source: Field Survey Data (2019)

The result from Table 5 indicates that more than half of the farmers (66.7%) in the study area had satisfied with court verdict as the strategies of conflict resolution by their authorities. While among the pastoralists majority of them (73.3%) sedentary and (75.9%) migratory they satisfied with intervention by traditional leaders as the best strategies of resolving conflict in the study area. The reason behind is that sedentary and migratory pastoralists they do not satisfy with court verdict as strategy of resolving conflict. As a result judicial and legal system does not seem to accord Pastoralism as an act that can confer ownership of land, and also pastoralists they accused authorities involved in court verdict in conflict resolution with exploitation through payment of large sum as bailing fee in addition to the payment of compensation to the farmers. With respect to farmers - pastoralists' conflict, this finding could mean that conflict may be resolved by the authorities concern and may reoccur, because not all the conflicting parties satisfied with the strategies of resolving this conflict. This result agrees with finding of Jajere (2015) who reveals that when disagreement occur farmers call police to arrest the pastoralists. They even confess of making payments to ensure that pastoralist is lock up in police cell to pay large sum of money at times two or three cows as a bailing and in addition to the payment of compensation to the farmer.

Conclusion

The result of this study revealed that among the conflict resolution strategies only two were significant which are court verdict and intervention by traditional leaders, while the other strategies such as local community crop farmers/herders intervention, payment of compensation to victims, intervention by low enforcement agents and dialogue between parties involved were less significant among the strategies of resolving conflict in the study area. To ensure peaceful co-existence and sustainable agricultural development, traditional rulers, farmers unions, herder unions, religious organizations and law enforcement agents should play reconciliatory roles. Government at all levels should empower the above organs to handle effectively resource use conflicts. However, establishment of effective mechanism for settling disputes between Farmers and Pastoralists will serve as an effective strategy for resolution and management of conflict between the three agricultural land users in Jigawa State and Nigeria at large.

References

- Abbass, I. M. (2012). No retreat no surrender conflict for survival between Fulani pastoralists and farmers in Northern Nigeria. *European Scientific Journal*, 8(1), 331-346.
- Adelakun, O. E., Adurogbanga, B., & Akinbile, L. A. (2015). Socioeconomic effects of farmer-pastoralist conflict on agricultural extension service delivery in Oyo State, Nigeria. *Journal of Agricultural Extension*, 19(2), 59-70.
- Adisa, R.S. (2012). Land Use Conflict Between Farmers and Herdsmen – Implications for Agricultural and Rural Development in Nigeria, Rural Development – Contemporary Issues and Practices. IntechOpen, doi: 10.5772/45787. Retrieved from: <https://www.intechopen.com/>
- Chikaire, J., Ajaero, J., Ibe, M., & Onogu, B. (2018). Status of Institutional Arrangements for Managing Resource Use Conflicts among Crop Farmers and Pastoralists in Imo State, Nigeria. *Agri Res & Tech: Open Access J*, 19(1), 556077. doi: 10.19080/artoaj.2018.19.556077.
- Fasona, M.J. & Omojola, A.S. (2005). *Climate change, human security and communal clashes in Nigeria*. Paper presented at International Workshop in Human Security and Climate Change. Holmen Fjord Hotel, Oslo, pp. 21-23.
- Jajere, I. A. (2015). Assessment of the Existing Natural Resource Conflict Management Institutions in the North East Arid Zone of Nigeria. *IOSR Journal of Humanities and Social Science*, 20(4), 79-85.
- Jigawa State Agricultural and Rural Development Authority. (2016). *2016 Fadama Clusters Farming*, annual report.
- National Bureau of Statistics. (2016). *Demographic Statistics Bulletin, Jigawa State, Nigeria*. National Population Commission of Nigeria. <https://www.nigerianstat.gov.ng>
- National Bureau of Statistics. (2017). *National Population Commission of Nigeria* (web). The population development of Jigawa State as well as related information services (Wikipedia), population statistics.
- National Population Commission. (2006). “*Federal Republic of Nigeria official Gazette*” Federal Government printer, Lagos Nigeria FGN 71/52007/2005. Vol. 94, No. 24.
- Olaleye, R.S., Odufala, J.O., Ojo, M.A., Umar, I.S. & Ndanitsa, M.A. (2010). Perceived effectiveness of conflict resolution methods for improved Farmer-Pastoralist relationship in Chikun Local Government Area of Kaduna State, Nigeria. *The Nigerian Journal of Rural Extension and Development*, 3, 54-58.
- Shettima, A.G. & Tar, U.A. (2008). Farmer-pastoralist conflict in West Africa exploring the causes and consequence. *Information Society and Justice*, 1(2), 168-184.