

## Land use conflict between crop and livestock producers in the Guinea Savannah Zone of Nigeria

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### Abstract

*The paper examines the implications of property rights on land use conflict resolution between crop farmers and nomads in the guinea savannah zone of Nigeria and the methods of resolving the conflicts. Primary data were obtained from 200 randomly selected crop farmers and 75 nomadic Fulani's in four states within the zone, together with 25 key informants. Descriptive statistics were used to analyse the data. Highest levels of conflicts were recorded during the dry season (October-March) when mobile herds migrate into the zone in search of pasture and water. Lack of official grazing routes caused the mobile herds to trespass on cultivated lands where growing or unharvested mature crops stood. Eight percent (8%) of past conflicts were perceived by the respondents as severe, involving use of dangerous weapons, loss of cattle and human lives. Increased social and economic interaction in form of joint celebration of religious and social festival (by 40% of nomads) with the local people and trade in cattle products and staple food items were found to be evolving over the local people and trade users. The study recommends the establishment of grazing routes within the zone while efforts should be made to enable the traditional institutions to function along side with legislation in resolving land use conflicts.*

**Keywords:** Conflict, land, crop, livestock, farmers, savannah

### Introduction

The land resources upon which pastoral producers depended has been largely expropriated in the northern parts of Nigeria by a number of agricultural development policies of the government. For example, the increased cultivation of fadama or low-lying lands through the development of shallow water irrigation projects and use of chemical fertilizers had denied the nomads their traditional dry season grazing lands (Baba, 1987). The symbiotic relationship between nomads and crop farmers had broken down as a result. The nomads and their cattle are now

forced to migrate southwards during the dry season in search of pasture and water. Consequently pastoral activities have been increasing in the guinea savannah zone of Nigeria. The zone has continued to provide grazing sanctuary to the migrating herds. It is also a major food basket area of the country.

The nomadic Fulanis have a social view of land, that land belongs to God and all human beings are free to make use of it (Adegboye *et al.*, 1978). The crop farmers, however, maintain the economic conception of land that one has to mix one's labour with the land and appropriate

it from the state of nature. Crop farmers, while exercising their property rights on the land, grow crops along the grazing routes of the nomadic Fulanis, who in many cases graze their cattle on the crops. This results into conflicts sometimes occasioning loss of lives. In the past, such conflicts had often given rise to political, economic and social problems capable of dislocating food and livestock production. To date, the government of Nigeria has not found a lasting solution to avert the annual reoccurrence of such conflicts due to lack of an appropriate land use of policy capable of integrating the two systems of production.

*Objectives of the study*

The overall objective of this paper is to provide land use policy options capable of integrating both the cropping and nomadic systems of production in the southern guinea savannah zone of Nigeria. Specific objectives include:

- i. an examination of the land use rights and problems of crop farmers and nomads within the southern guinea savannah zone of Nigeria.
- ii. To study the cropping system of the area and the pattern of nomadic flock movements with a view to synchronizing the two systems of production
- iii. To examine the present system of resolving land use conflicts within the zone and offer suggestions for its improvement
- iv. To provide baseline data for the formulation of nomadic grazing policy compatible with the cropping and land use systems in the zone.

*Review of existing studies*

Conflicts between nomads and crop farmers are common and had been widely reported (Gillett, 1987, Baba, 1987, Adegboye *et al.*, 1978 and Various Nigerian Newspaper Reports, 1989 – 1999). Such conflicts, when they occur, had proved very difficult to resolve for government.

Court litigations involving cattle damage to crops which had been reported as far back as 1937, (Lloyd, 1962) are still very common today (Sanusi, 1995).

Comparing the pattern of pastoral land use in Donga-mantung (Cameroon) and mambila (Nigeria) communities, Frantz (1981) concluded that the crucial problems concerning land use and land tenure for pastoralists remain to be adequately addressed in Nigeria. Gefu (1987) also noted that the Nigerian government has not really addressed the problems posed by land tenure systems for livestock production of the nomadic type.

A number of writers (Van Ray and De Leeuw, 1971, 1974; Adegboye *et al.*, 1978; Baba, 1987 and Gefu, 1987) had advocated the sedentarization of the nomadic Fulanis as a way out of the problems. According to Baba (1987) a number of reasons militate against the success of grazing reserves in Nigeria. These include: (i) the development of enclave economies which tend to foster rather than mitigate conflicts between pastoralist and arable farmers, (ii) the incomprehensiveness of such settlement programmes that does not include animal health and basic amenities, and (iii) the wrong assumption that the nomadic Fulanis are willing to accept a settled life pattern. However as Sanusi (1995) has pointed out, the southern guinea savannah zone is not the traditional home of the nomads and it will be difficult to be proclaimed as such through sedentarization. The Fulanis only migrate to the area during the dry season when forage and water are hard to come by in the north.

The need for pastoral land reform and guaranteed land rights for pastoralists in Nigeria have also been emphasized by past writers (Nuru, 1988; Gefu, 1988; and Adegboye *et al.*, 1978). While Gefu (1988) identified the need to review the land use Act to

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accommodate the nomadic land rights, Adegboye *et al.* (1978) emphasized the need for such land rights to be guaranteed if pasture conservation is to be undertaken by the pastoralists to reduce environmental degradation or the "tragedy of commons" inherent in common property ownership or open access.

### *Conceptual Problems*

Conflicts arise among land resources users due to lack of standards, inadequate legislation, non-enforcement of legal (and customary) provisions where they exist, ignorance and/or disregard for other land users. Similarly, myopic planning of development projects that utilize agricultural and grazing lands may lead to conflicts among the major players in land resources use.

In some instances conflicts arise from the dual goals of utilization (by different users) and the need for protection of land resource. Conceptually land use conflicts arise primarily from:

- (a) Improper land use practices
- (b) Overuse, misuse and abuse of resources, superstition and ignorance

Where land use conflicts exists, the resulting crisis can be traced to defects or dysfunction of the relevant socio-cultural norms and institutions governing the access, use and control of land resources in the area. Successful collective actions to confront problems often begin with efforts by local farmers to defend their rights in the face of attempts by outside interest to exploit or encroach on the land. Local attempts to defend the farmlands against encroachment are ordinarily based upon some assertion of social territoriality, or defining who is "us" in relation to "them". The integration into larger political systems means that the social and economic considerations shift away

from the community, and rural institutions become politically marginalized. Impacts of new technologies and large-scale markets for products from land resources cut across territorial-based user groups and even local government areas. Consequently, regulatory functions become more complex and must cover larger areas than the legal political unit. As a result, centralization of political authority reduces the ability of the community to defend its claims to the surrounding farmlands in the face of encroachment by nomads and penetration of tenure arrangements prevailing in the rest of the system.

Many analysts sometimes assumes that traditional authorities such as chiefs and opinion leaders, have more power, or exercise more authority in certain realms (e.g. land use and control), than is in fact the case. Post-independence political and land reforms have reduced the authority of local chiefs in Nigeria (Mabawonku, 1983). Economics and social changes associated with modernization and which tends to shift political and economic powers to other groups of people within the society, have also undermined their authority (Sanusi, 1995).

### *The grazing land resource problems in Nigeria*

The grazing land resources of nations are generally referred to as common property or as open access. According to Mabawonku (1983), common property refers to the rights of common use as opposed to a specific right held by individual owners. Similarly, open access refers to the use of a common property by those who have the right and the wherewithal to use it. The main issue here from developmental and management point of view is how to maximize societal welfare by judicious exploitation of Nigeria's grazing and agricultural land resources. Also important are the competition both for the land resources and the benefits accruable there from between the sedentary

**Table 1** *Selection of respondents*

State	Number of Crop farmers	Respondents Nomads	Key Information
Oyo	60	24	8
Kwara	45	21	6
Kogi	50	18	5
Benue	45	12	5
Total	200	75	25

crop farmers and the nomads. Hence, in analyzing the development-cum-management issues in the exploitation of land resources, we should be concerned with the resolution of the conflicts of the various interest group vis-à-vis the national interest.

What then is the national interest in land resources? A critical look at the country's only Agricultural Policy document (FGN, 1988) shows that the attainment of self-sufficiency in staple food crops and livestock production feature prominently in the document and those before it. Given the resource limitation in the agricultural sector which places restrictions on development of new lands hitherto unsuitable for cultivation and grazing, these two interests can be regarded as conflicting and yet in some other ways complimentary. With respect to the study area that serves the dual roles of the food basket for the country as well as grazing sanctuaries for livestock during the dry season, the conflicting interests seem to outweighs the complimentary interests.

### Methodology

Data for the study were collected from four states located within the southern guinea savannah zone of Nigeria over a period of 2 years. These are Oyo, Kwara, Kogi and Benue States located in the humid zone.

Primary data were collected from a total of 200 crop farmers and 75 nomadic Fulanis. This was supplemented with key informant interviews of 25 community leaders, local chiefs, head nomads and religious leaders in the zone. The

respondents were selected through the use of stratified random sampling technique (see Table 1).

Locally recruited enumerators and interpreters were used in data collection to elicit information from the respondents. Secondary data were collected from the Agricultural Development Programmes (ADPs) of the respective states, law enforcement agencies (e.g. police) and judicial courts within the zone. The data were analyzed through the use of descriptive statistics and graphs.

### Results and discussion

#### *The Suitability of southern guinea Savannah for dry season grazing*

The southern guinea savannah zone (and the southern fringes of the northern guineas savannah) in Nigeria provides grazing sanctuary for nomadic herds during the dry season. Beginning from October every year, mobile herds move into the zone in search of pasture and water. The area corresponds approximately to the 750mm isoyet to the north and 130mm isoyet to the south (see Figure 1). Good quality pastures and crop residues are available within the zone during the period. Streams and river beds contain pools of water for cattle and herdsmen alike. Similarly, tsetse flies have not been reported to be of any significant economic importance especially in the dry season by the nomads.

#### *Major land use within the area.*

The main occupations of the people of the study area are farming and livestock rearing,

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both of which depend on extensive use of available land resources. Increased population pressure had much demand on food supply thereby necessitating the cultivation of fragile marginal lands. Presently, there is no land use plan for the area. This has led to indiscriminate use of land. Shifting cultivation and annual bush burning still represent some of the major ways of opening up new lands for cultivation. However, no data exists on the number of hectares opened up every year by this system of farming. In addition, it was observed that heavy machinery were used for cultivation of land for arable crops including maize, cassava, yam and melon. Intensive use of chemical fertilizers hitherto common has drastically reduced with the removal of subsidy on this major farm input since the introduction of SAP in 1986 due to high prices.

Livestock rearing, which is a major occupation, is undertaken by the nomadic Fulanis who either own their cattle (77 %) or rear cattle belonging to other (23%). Herd sizes ranged from as low as 20 cattle to about 850 cattle with an average of 250 heads of cattle per nomad (Table 2). These were often divided into smaller groups under the control of different people including sons, relatives and other nomads. It was also discovered during the study that some local crop farmers own cattle that were put in care of the nomads. The proportion of crop farmers having cattle cannot however be determined by a study of this nature and the unwillingness of the nomads to disclose the identity of the owners of cattle in their care. It was therefore not possible to determine the extent of intra-and

**Table 2** *Characteristics of nomads in the guinea savannah zone of Nigeria*

Characteristics	% of Nomads
<u>I Herd mobility</u>	
Mobile	80
Sedentary	20
 <u>II. Herd size owned by the Nomads</u>	
1-300 heads of cattle	17
301-600 heads of cattle	34
601-900 head of cattle	12
No Response head of cattle	37
 <u>III Grazing Rights Permits Obtained from</u>	
Village Chief	49
Local Farmers	20
Head Nomads	11
Friends	6
Both Village Head and Local farmers	3
 <u>IV. Nature of conflict with Crop Farmers</u>	
Very severe	8
Severe	42
Not severe	24

Source: Field survey, 1998

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inter-ethnic clashes between crop farmers that also have cattle. The intra-ethnic clashes refer to clashes between crop farmers that also have cattle and those without any cattle, while inter-ethnic clashes refer to the clashes between crop farmers and the nomadic Fulanis. However, the inter-ethnic clashes were more common than intra-ethnic clashes.

### *Grazing lands*

The major cause of dispute between crop farmers and nomadic fulanis within the area of study centred on access to and use of lands by the two groups of people. Most of the nomadic people interviewed (975) claimed to graze their cattle on fallow farmlands and uncultivated bushes without following any official cattle routes. This is because no official cattle route exists in the area. The possibility of nomads utilizing crop residue and thereby causing damages to cultivated crops exists.

### *Cropping and cattle migration patterns within the zone.*

Figure 1 presents the cropping and cattle movement situation in the southern guinea savannah zone of Nigeria. The zone corresponds to 1000-1300mm isoyet with two peaks of rainfall towards the south but only one peak towards the northern fringes. The main cropping season of about six months extends from May to October. Crops grown include maize, yam, cassava, soybean, sorghum, rice and cowpea. The fadama lands around the major rivers flowing through the region encourage the production of lowland rice and some level of dry season farming are carried out by the sedentary farmers.

During the dry season (November - April), mobile herds migrate from the northern parts of the country, that is the Sudan and Northern Guinea Savannah Zones. These areas are not suitable for dry season grazing due to lack of

good pasture and water. The southern guinea Savannah Zone provides a grazing sanctuary until the following rainy season when grazing conditions improve in the northern parts of the country.

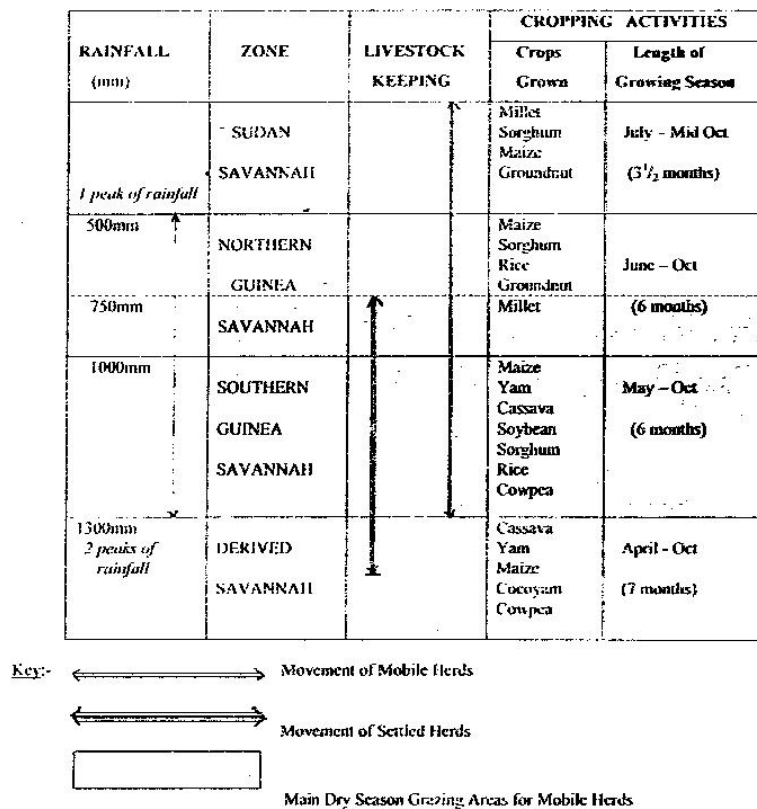
During this period, conflicts usually occur between the two categories of land users (i.e. crop farmers and nomadic Fulanis), especially with respect to utilization of crop residues on cropped lands. The crop farmers usually claim that the Fulanis do not allow for total harvesting of their crops before moving in their cattle to graze on the cropped land. In other cases allegations of damages to on-farm storage facilities and barns by cattle had been made against the nomadic Fulanis.

On their on part, some of the Fulanis claimed to obtain permission from local populace to graze their cattle on uncultivated lands within their host communities. About 49% of nomadic Fulanis interviewed claimed to have sought permission from village chiefs, 20% from local farmers, 11% from head nomads, 6% from "friends", 3% from both village heads and local farmers in the past. Only 11% had never requested for any grazing permission before. This group constitute those usually involved in conflicts with local farmers. Token payments in cash, cattle or cattle products are often made for this. However, within the zone, no officially demarcated grazing routes exist. Hence, in moving their cattle from one pasture to another, trespassing on cultivated lands with growing crops or unharvested mature crops occur. This formed the basis for conflicts between the two of them.

### *Disputes over grazing lands.*

About a third (34%) of the nomads claimed to have had disputes with crop farmers before with only 8% regarding the disputes to be severe which sometimes involved use of

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**Figure 1** Cropping-Livestock grazing in different agro-climatic zones of Nigeria (Field Survey, 1998)

dangerous weapons, loss of cattle and human lives. Another 42% regarded their own disputes to be mild while the rest (24%) consider the disputes to be normal inevitable events in day-to-day grazing activities and hence nothing to worry about. The gravity of this observation is better appreciated when viewed against the background that a single conflict between a herdsman and a farmer can escalate into communal feud with great consequences of social and political dimensions. Within the study area, a number of fatal conflicts had been recorded in the past. Majority of these conflicts resulted in the loss of lives and properties while economic activities were paralysed for the period of the crises.

### *Seasonality of conflicts*

Seasonal variations had been observed in the occurrence of land use conflicts between the

nomads and farmers of the study area. Conflicts were more common during the dry season when most nomads migrate towards the south in search of water and pasture for their herds. The dry season extends from November to March of the following year (Figure 2). From all variable records, the Nigerian land law made no special provision for grazing rights of the nomads beyond those of the customary tenure rules, either over cultivated land (crop residue) or in open rangeland. The pastoralists only rely on the customary tolerance of sedentary communities for access to crop residues, water and grazing (Mortimore, 1987). Such customary tolerance has been found to be inadequate for modern farming techniques involving the use of irrigation water, chemical fertilizers improved seeds and farm mechanization which enable farmers to put land

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into cultivation for longer periods of time without the need for fallow period during which cattle can graze on the land.

### *Social and economic Interactions between Nomads and Local Populace*

A good level of social and economic interaction were found to exist between nomads and local people within the southern guinea savannah zone of Nigeria. Trades in cattle, cattle products and food items occur among them. Such market interactions had bridged some of the communication gaps that existed between nomads and crop farmers in the zone. For example, 74.3% of crop farmers interviewed claimed to buy cattle or cattle products (such as milk and cheese) from the nomads. A small percentage of nomads (5.7%) also claimed to herd cattle belonging to some local farmers or head nomads.

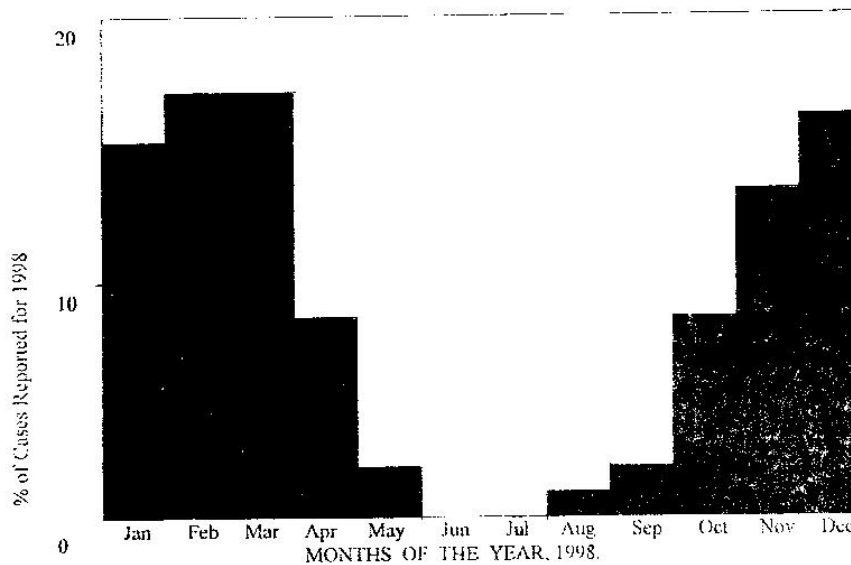
The nomads also patronized the local markets to purchase food items, clothing items, rubber shoes and household utensils. During the course of the study, many of the nomads were

observed purchasing some of the items in the local markets.

With respect to religious and social festivals, about 40% of the respondent nomads claimed to celebrate the festivals with the local populace. This was corroborated by the local populace. About 50% of the crop farmers volunteered information that they have assisted some nomads in one form or the other in the past. The significance of these increased social and economic interactions between the nomads and the local populace is such that can mitigate future occurrence of conflicts.

### *Modalities of resolving agricultural land use conflicts*

Many approaches had been adopted in resolving conflicts between nomads and crop farmers in Nigeria. This depended on the extent of the conflicts, number of people involved, political situation of the time (military or civilian government) and the extent of economic and social disturbances caused. This included:



**Figure 2** Distribution of reported cases of conflicts by law enforcement agencies within the study area (1998)

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### *Local Institutions*

Kinship, religious, political and social institutions are common in the resolution of agricultural land use conflicts in the region. The powers of the paramount ruler ("Oba"), local chiefs and family heads were found to be relevant in the land use conflicts resolution despite the promulgation of the Land use Act of 1978. A number of reasons can be advanced for the relevance of these local institutions:

- i. the customary land rights recognized the proprietary ownership rights of the paramount rulers, families and their agents.
- ii. the local institutions are very close to the people and thus, conflicts are first reported to them for resolution
- iii. most farmers and nomads are ignorant of the provisions of the legal system or lack the necessary resources (financial and time) to explore the judicial system of conflict resolution.

Within the study area, 80% of the nomads who had experienced conflicts with settled farmers in the past claimed that such conflicts were amicably settled by one or a combination of the local institutions.

Some of the methods adopted by these local institutions in resolving land use conflicts include: (i) payment of compensation for damaged crops (ii) rebuking of guilty party (iii) imposition of fines, and (iv) pacifying the aggrieved parties.

However, frequent and annual reoccurrence of land use conflicts between the two categories of land users had put the ability of the local institutions to question in finding a lasting solution to the problem. Conflict resolution by the local institutions, *ex post*, should therefore be supported by *ex ante* management methods (such as dialogue and human relation

techniques) that require goodwill on the part of the two land resources users.

### *Legal system /legislation*

Judicial systems of land use conflict resolution were only resorted to when other methods failed. The general preference of both nomads and farmers was to settle their disputes out of court through the existing local authorities for conflict resolution. The study revealed that only about 20% of the disputes led to court cases. The court litigations occurred when all available local institutions had failed to resolve the disputes. The litigations were mostly at the instance of the farmers whose crops were destroyed. Seventy-one percent of the cases were decided in favour of the crop farmers while only 29% were in favour of the nomads. None of the parties appealed to higher courts, but settle the judgment fees and fines imposed by the lower courts (i.e. customary magistrate courts).

A number of non-professional methods were employed by the courts in determining the amount of fines or compensation to be paid by the nomads. Professional valuers were never involved in the determination of the compensation or fines to be paid. The fines were rather punitive and hardly enough to cover the loss by the farmers. The role of the law enforcement officers (police) was also noted in controlling the escalation of land use conflicts between nomads and farmers in the area.

### *Compensation payment*

Compensation payment in cash for crop damages was also used to resolve conflicts between nomads and crop farmers. The determinations of the amount of compensation were generally arbitrary. Local chiefs and community leaders may be involved. In a few cases, in kind payments (in form of cattle) were

undertaken especially when the nomads were short of cash to pay the required compensation. When conflict assumed a wider dimension, often involving whole communities or groups of nomads, various tiers of government (Federal, State and Local) were involved in its resolution. Persons whose properties (e.g. houses, crops and livestock) were destroyed by the communal clashes, were in most cases, compensated by the government.

#### *The Role of the state*

The integration of local communities into larger economic and political system has led to the breakdown of local authorities and management systems thereby making the state the principal unit for resolving land use conflicts. The state has assumed the right to administer all classes of land resources. For example, the Land use act of 1978 (FGN, 1978) vested all proprietary rights in land resources of each state of the federation in the governor of the state. This is a clear departure from customary tenure rules which empowered local chiefs and head of families to administer lands belonging to communities and families respectively. The use of police power, eminent domain, law enforcement agencies, judicial control and arbitration by the state are becoming more important, but not effective in resolving property rights conflicts in different parts of Nigeria including the study area.

#### *Conclusion and policy recommendations*

Traditional institutions has so far proved to be a veritable tool in conflict resolution within the area of study. The closeness of the traditional institutions to the people and the respect that local people have for them may be responsible for this. Most of the reported past conflicts (80%) within the study area were settled by these local institutions. The study has also shown the access to grazing resources is largely controlled by local institutions. Hence efforts should be made to involve these institutions in

conflict resolution and prevention. Local chiefs can be included in the panels or committees set up by the government to resolve conflicts. Similarly, credible evidences by chiefs and other local leaders should be considered by courts of law in resolving conflicts of land use nature. Conflicts resolved by the traditional institutions should be recognized and given some legal backings by the courts of law.

To prevent future incidents of conflicts between nomads and crop farmers, government should establish official grazing routes for cattle within the zone. This will reduce the incidence of damages to crops by moving herds.

However, with the emergence of medium and large scale commercial crop farmers and ranches within the zone and making use of modern farm inputs, effective land use conflict resolution in the future will likely derive more of its authority from state institutions where policy makers recognize the public benefits of greater decentralization of decision-making and administration involving the participation of existing local institutions.

#### **References**

- Adegbeye, R. O., Ekpere, J. A., Adegbeye, A. J. Akinwunmi, J. A. and Fabiyi, Y. L. 1978. A socio-economic study of Fulani Nomads in Kwara State, The Federal Livestock department *A Report*, 125 p.
- Alhasan, W. S. 1988. Crop residue utilization with special reference to pastoral production (*In pastoralism in Nigeria: Past, Present and future* (eds) Gefu, J. O. et al., Napri/A. B. U., Zaria, Nigeria, pp. 70-94.
- Baba, J. M. 1987. Reconciling Agricultural and Pastoral land Use system in Nigeria (*In: Perspectives on Land administration and Development in Northern Nigeria* (edsw) Mortimore, M. et al), Bayero University, Kano pp 61-71.

## Land use conflict between crop and livestock production

- Federal Government of Nigeria, 1978.** *The land Use act, 1978*, Government press, Lagos (Document).
- Federal Government of Nigeria, 1988.** *Nigeria Agricultural Policy*, Government Press, Lagos, 65p.
- Frantz, C.** 1981. Fulbe continuity and change under fire flag atop West Africa: territoriality, ethnicity stratification and nationality, (*in change and Development in Nomadic and pastoral Societies*, (eds) J. G. galaty and a. C. Salzman), Leiden.
- Gefu, J. O.** 1987. Land use in Nomadic pastoralism and the issue of sedentarization (*In: Perspectives on land Administration and Development in Northern Nigeria* (eds) Mortimore, M et al), Bayero University, Kano, pp. 72-81.
- Gefu, J. O.** 1988. The dynamics of Nigerian pastoralism: An overview, (*In: Pastoralism in Nigeria: Past, Present and Future* (eds) Gefu, J. O. et al), Napri/A. B. U., Zaria, Nigeria, pp. 17-37.
- Gillets, S.** 1987. The right to fadama land, (*In: perspectives on Land administration and Development in Northern Nigeria* (eds) Mortimore, M. et al), Bayero University, Kano, pp. 58-60.
- Lloyd, P. C.** 1962. *Yoruba Land Law*. Oxford University Press, London.
- Mabawonku, A. F.** 1983. Conflicts and Conflicts Resolution in the Conservation and Management of Finishing Resources of Nigeria, *Propceedings of the National conference on conservation of Aquatic Resources* (eds) A. B. M. Egborge et al, pp 234-243.
- Mortimore, M.** 1987. The lands of Northern Nigeria: Some urgent issues, (*In: Perspectives on Land Administration and Development in Northern Nigeria* (eds) mortimores, M. et al), Bayero University, kano, pp. 13-23.
- Nuru, S.** 1988. Research and development in pastoral production system in Nigeria: Past, Present and Future, (*In Pastoralism in Nigeria: Pst, Present and Future 9eds*) Gefu, J. O. et al), Napri/A. B. U., Zaria, Nigeria, pp. 52-62.
- Sanusi, R. A.** 1995. Conflicts between Nomads and Crop Farmers in Oyo North Area of Oyo state: Some Tenurial considerations, B. Agric. Thesis, Department of Agricultural economics, Obafemi Awolowo University, Ile-Ife, Nigeria, 166p.
- Van Ray, J. G. T. and De leeuw, P. N.** 1971. The importance of crop residue as fodder: a resource analysis in kastina Province, Nigeria, Samaru research Bullketing No 139, Institute for Agricultural research, ahmadu Bello University, Zaria.
- Van Ray, J. G. T. and De Leeuw, P. N.** 1974. Fodder resources and grazing management in a savannah environment: an ecosystem approach, I. S. S. Occasional papers No. 45, Institute of social Studies, The Hague.

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