

Conflicts and Conflict Resolution over Classified Forests Resources of Maradi Region, Niger Republic

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Abstract

Conflict management is a key building block of forest governance; it has received little or no consideration in most of the ongoing governance reforms in Niger Republic. Understanding and finding the means to deal with conflicts related to utilization of forest resources became an important research area under the Governance for Sustainable Forests related to the livelihoods programme. The study aims to examine the nature and form of conflicts over Bakabé, Dan Kanda and Kandamo classified forests resources in Maradi Region. Data were collected through literature review, questionnaires and focus group discussions within villages around classified forests. The method of analysis applied involves descriptive and inferential statistics (Chi-square test). The research identified major types of conflicts as farmer - farmer, pastoralists - farmers and agro- pastoralists; conflicts between farmers and village chiefs and conflicts between local communities and the forestry departments. There was significant difference in the frequency of conflicts between seasons around Bakabé and Dan Kada classified forests with χ^2 -values of 15.53 and 9.20 which are all significant at 0.05 level. There is no significant difference in the frequency of conflicts between seasons in Kandamo classified forest because the forest is not subjected to cropland contract. The effectiveness of both the traditional and modern mechanisms of protection is generally weak, with huge implications on sustainable development. There is a need for government at all levels to prioritize the management of conflicts over classified forests so that there will be a sustainability of crops and livestock productivity for better livelihoods in the rural communities.

Keywords: Conflicts, Conflict Resolution, Classified Forests, Resources, Maradi Region

Conflicts et résolution des conflits concernant les ressources forestières classifiées de la région de Maradi, République du Niger

Résumé

La gestion des conflits est un élément clé de la gouvernance forestière; il n'a reçu que peu ou pas de considération dans la plupart des réformes de gouvernance en cours en République du Niger. Comprendre et trouver les moyens de faire face aux conflits liés à l'utilisation des ressources forestières est devenu un domaine de recherche important dans le cadre du programme Gouvernance pour des forêts durables lié au programme de moyens de subsistance. L'étude vise à examiner la nature et la forme des conflits sur les ressources forestières classées bakabé, Dan Kanda et Kandamo dans la région de Maradi. Les données ont été recueillies au moyen d'une revue de la littérature, de questionnaires et de discussions de groupe dans les villages autour des forêts classées. La méthode d'analyse appliquée implique des statistiques descriptives et inférentielles (test du chi carré). La recherche a identifié les principaux types de conflits comme agriculteur - agriculteur, pasteurs - agriculteurs et agro-pasteurs; conflits entre agriculteurs et chefs de village et conflits entre les communautés locales et les départements forestiers. Il y avait une différence significative dans la fréquence des conflits entre les saisons autour des forêts classées Bakabé et Dan Kada avec des valeurs χ^2 de 15,53 et 9,20 qui sont toutes significatives au niveau de 0,05. Il n'y a pas de différence significative dans la fréquence des conflits entre les saisons dans la forêt classée de Kandamo parce que la forêt n'est pas soumise à un contrat de terres cultivées. L'efficacité des mécanismes de protection traditionnels et modernes est généralement faible, avec d'énormes implications sur le développement durable. Il est nécessaire que le gouvernement à tous les niveaux donne la priorité à la gestion des conflits sur les forêts classées afin qu'il y ait une durabilité des cultures et de la productivité du bétail pour de meilleurs moyens de subsistance dans les communautés rurales.

Mots-clés : Conflits, Résolution de conflits, Forêts classées, Ressources, Région de Maradi

INTRODUCTION

The conflicts bound to the natural resources occur when the populations use resources for different needs or, when they hear to manage resources in a different way (FAO, 2001). For their livelihoods, 70 percent of the global population directly depends on natural resources extracted from a drastically changing natural environment (UNEP 2019). In a general manner, the presence of natural resources in a milieu predisposes this milieu to the conflicts. Resources have contributed to conflicts in many different ways, aligning with major historical developments (Scholvin 2016; Bruch *et al.*, 2019). Conflicts are inherent in the evolution of all human societies (Martine, 2006). Benjaminsen (2016) made mentioned of the relationship between climate change and conflicts. He identified three main processes that this relationship could potentially consist of intensification of natural disasters, increasing resource scarcity, and sea-level rise. Natural resource conflicts have been defined as: “A social or political conflict where natural resources contribute to the onset, aggravation, or sustaining of the conflict, due to disagreements or competition over the access to and management of natural resources, and the unequal burdens and benefits, profits, or power generated thereof” (Schellens and Diemer 2020). Despite the high awareness of researchers, policy-makers, and practitioners on natural resource conflicts, there are only a few studies on interventions in natural resource management for conflict prevention and peacebuilding (Beevers, 2019). It is important to note that conflict is not negative in itself, and “non-violent conflict can be an essential component of social change and development and is a necessary component of human interaction” (UNFT

2011). However, without a constructive process of dialogue and conflict resolution, natural resource conflicts can escalate into destructive and violent interactions. Schellens and Belyazid, (2020), demonstrated that precious conflict prevention time and strategies can be gained by considering natural resources in conflict early warning if the purpose is to investigate root causes of and complex causal pathways to violent conflicts either for research or policy-making on conflict prevention.

In the Sahelian regions in general and Niger Republic in particular, forest plays a major issue in rural development. The population in the rural areas mainly depend on access to and utilization of natural resources as the primary source of food and income (Charifi and Momale 2017). Deforestation is a common practice in Niger Republic even though forest regulations are enforced. It is hard to completely check all deforestation problems due to the wide expanse of land and remoteness of some forest areas. Population dynamics in such areas increase human pressure on limited forest resources with attendant conflicts among opposing interests’ groups in the struggle for control and utilization of the resources. According to Amadou (2008) and Momale (2015), the causes of land use conflicts in Maradi and some of the adjoining Provinces in Niger Republic can be as follows: scarcity of land for grazing and agriculture and over early migration of pastoralists to agricultural areas before harvesting of crops is completed at the beginning of the dry season. When conflicts occur lives and properties are lost and social harmony and unity are adversely affected.

Again, the conflicts occur in different dimensions, related to inadequacy of land, disparity among social groups (the rich

appropriating lands thereby excluding the poor), differences among user groups as well as the mechanisms adopted in securing land rights. With recurrent droughts and population pressure in the Maradi Region, there is an increase in both the frequency and intensity of conflicts between rural land users (Yamba, 2000). These conflicts cause serious social problems, affecting economic activities, creating food insecurity and damaging the environment, including injuries and death of persons (Alpha et Drame, 2006).

This study covers three Classified Forests (Bakabé, Dan Kanda and Kandamo) in South-central part of Niger Republic (Maradi region). In many areas, protecting and managing the remaining forests are no longer sufficient steps in themselves to ensure that forest functions are maintained avoiding conflicts. Law 2004-040 of 8th June 2004 on the forestry regime in Niger Republic devotes more prerogatives to communities in the context of decentralization, introduces new standards and requirements (such as Forest Management Plan, FMP, National Forest Inventory, NFI, and Forest Management Fund, FMF). At the same time, this law provides local communities with the possibility of exercising customary use rights on forests located on their soils in order to satisfy their individual or family needs without the taking of samples trade (Article 51). These customary use rights include the collection of timber and harvesting of non-timber forest products. This is an opportunity for vulnerable groups when it is known that such activities are generally practiced by women and children. Article n°56 of the law on forestry in Niger Republic stipulates those exceptional authorizations for temporary crops on part of classified forests enriched with valuable

species may be granted to local residents under crop contracts. The management of conflicts constitutes an indispensable condition to the sustainable management of the classified forests resources because weight, magnitude and intensity of the conflicts do not stop growing. If they are not addressed in time and treaties in an efficient way, these conflicts can have an impact on the livelihoods of the communities and their relationship. The aim of this study is to examine the nature and form conflicts and the effectiveness of both the modern and traditional mechanisms over classified forests resources in Maradi region.

STUDY AREA

The Central-southern part of Niger Republic (Maradi Region) covers an area of about 41.796 Km². Located within Latitudes 13°00' and 15°26' North and Longitudes 06°16' and 08°36' East, it shares borders with Zinder Region to the East, Agadez Region to the North, Tahoua to the West and the Federal Republic of Nigeria to the South (Figure 1). The Maradi region is subdivided into eight (8) Districts. They are Aguié, Bermo, Dakoro, Gazaoua, Guidan-Roundji, Madarounfa, Mayahi and Tessaoua. The administrative headquarters of the region is Maradi which is made up of three communal districts. The region is composed of forty-four communes (local government), of which seven (7) are urban and thirty-seven (37) are rural. The Region has two (2) sultanates: Katsina and Gobir. There are twenty-one (21) cantons, 2182 administrative villages and 64 camps (Saidou, 2012). Maradi is a small land-locked region, with an estimated population of over 4 160 232 people in 2018. It is the region with the highest population density in Niger Republic. Around 80% of the

people earn their livelihood with agriculture or other land (forests) related activities (INS, 2017). Land and forests are therefore of enormous value. The vegetation cover of the region is of savanna-type in the south and shrub in the north. It consists mainly of classified and protected estates forests, agroforestry parks and valley formations. There are, however, certain factors that make certain disputes more difficult to resolve than others. The population in the rural areas mainly depends on access to and utilization of natural resources as the primary source of food and income.

forests were sampled subject to the system of culture contract (croplands) and forest management status (Table 1).

Table 1: Sampling of classified forest

Département (District)	Commune (Local Government)	Name of Classified Forest	Date Classified	Surface (ha)	Observations
Aguié	Aguié	Dan Kada	10/10/51	6,888	Under arrangement FAO
	Aguié	Bakabé	25/01/56	2,635	Under arrangement FAO
Madarounfa	Dan Issa	Kandamo	07/06/52	4,264	Under arrangement FAO

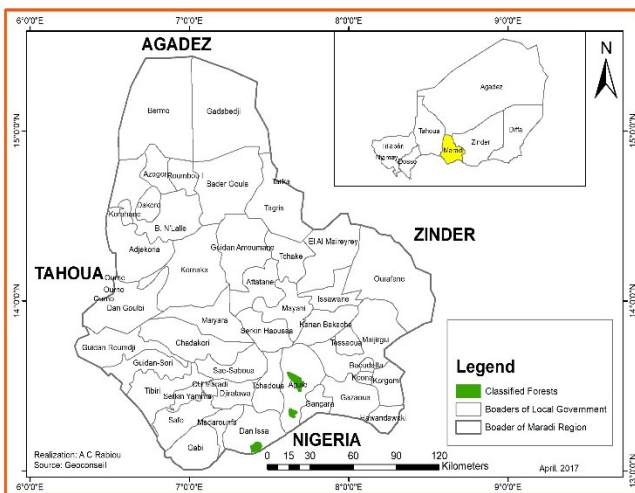


Figure 1: Classified forests location within the study area

MATERIALS AND METHODS

The data types and sources required for this research are the following: population data obtained from the National Institute of Statistics (INS); survey data collected from field work using questionnaire and checklist, conflict data sourced through cross-sectional.

Multistage sampling technique was employed. The first stage involved the selection of forest, the second stage was selection of the villages and the third was the selection of households from the villages. Three (03) out of the 17 classified

The villages sampled were selected based on criteria such as socio-economic factors; population density exploiting the forest, Local Management Committee (LMC) and their position around the classified forests. Four villages were sampled from Kandamo Forest, eight (8) villages from Bakabé Forest and 12 villages sampled from Dan Kada Forest to produce 24 villages (Table 2).

Table 2: Villages Sampled around Classified Forests

Commune (LGovt)	Name of Classified Forest	Village's Number
Aguié	Dan Kada	12
Aguié	Bakabé	8
Dan Issa	Kandamo	4
Total		24

Focus Group Discussion (FGD) was carried out first before questionnaire survey in order to be able to identify the various actors involved in the use of resources, the types of conflict and the management mechanisms. A total of 384 households were used in this research and the

questionnaire was distributed disproportionately within the 24 villages selected. 24 FGDs was conducted and targeted 14 groups of farmers, 06 groups of pastoralists, and 04 groups of agro-pastoralist within 24 villages sampled to identify the various actors involved in the use of resources, the types of conflict and the management mechanisms. Also, qualitative data were collected from FGDs on conflicts related to resource use and management problems associated with classified forests. Each group involved 08 to 12 persons according to the size of villages and the participants were choosing purposively.

The analysis was carried out in two ways: the data gathered from focus group discussion, transcribed, coded and analyzed qualitatively through NVivo 11. Quantitative data obtained from survey through structured interview was analyzed by descriptive and inferential statistics using SPSS version 20 and EXCEL to generate diagrams, tables and curves and were presented in appropriate section in textual form. Chi-square analysis and percentage change were applied to compare frequency of conflicts between three time periods such as dry season, rain season and harvesting season within the study area (Figure 2).

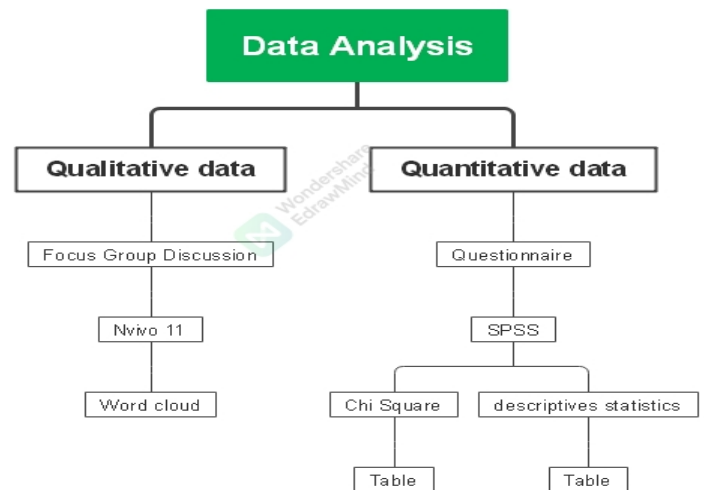


Figure 2: Flow Chart of Data Analysis

RESULTS AND DISCUSSION

Types of Conflict

Four forms of conflicts were identified by respondents around Classified Forests. These were conflicts between farmers and farmers, conflicts between farmers - pastoralists and agro pastoralists, conflicts between farmers and chief of villages and conflicts between local communities and the forestry departments.

Farmer - Farmer Conflicts

Farmer-farmer conflicts were about disputes over crop field among farmers over ownership of land for contract farming. The problem is largely related to the practice of the extensive production system and rudimentary techniques which leads to overexploitation of the land. Low yield coupled with rapid population growth accentuates the search for farmland within classified forest subjected to cropland contract. This development triggered increased pressure on land as well as conflicts over ownership or limit of such lands. Leasing is becoming increasingly important and a decisive problem in the implementation of the cultivation contract. A single parcel can be awarded to several farmers and this sometimes comes from the

environment department but also from farmers who find the cultivation contract as a source of income trade route. For example, a farmer who has had the parcel can rent it to another or several farmers.

Farmer - Pastoralists and Agro Pastoralists Conflicts

In the Maradi Region, Classified Forests are areas recognized as pastoral zone (livestock grazing areas) before the advent of cropland contract. With growing populations and land scarcity, there is expansion of crop fields into many areas (classified forests) that were used for livestock rearing. In addition, the boundaries of livestock migratory routes are not clearly demarcated and marked resulting to increased encroachment by farmers. On the other hand, there is increase in the level and extent of crop damage by animals. Pastoralist and farmers have misunderstanding among them during harvest season due to encroachment on crop field.

Currently, conflicts between farmers and pastoralists are the most frequent form of land dispute around Classified Forests in the Maradi Region. This is more pronounced during the rainy season mostly as a result of disputes over crop damage. During the migratory period in the early dry season, encroachment on crop fields that are yet to be completely harvested is common. These developments often provoke conflicts and affects harmonious co-existence between the groups.

Conflicts between Farmers and Village Chiefs

Conflict occurs between farmers and village chiefs from the enlistment of interested persons that will be allocated of parcels of land for designated period.

During enlistment, it is alleged that some wealthy persons give money to get more land which is part of the consequences of public sector corruption. Village chiefs share the near or fertile land to their relatives and richer members of the communities. Another aspect is that some neighboring communities have land around Bakabé and Dan Kada Classified Forests and others have not because of the presence of rich men and government agents. Forest land resource is also embedded in a shared social space where complex and unequal relations are established among a wide range of social actors (farmers, herdsman, rich men and government agents). All this shows the degree of disagreement between the village chiefs and their subjects.

Conflicts between Local Communities and the Forestry Departments

These types of conflict do arise from the non-compliance with Article 52 of Law 2004-040 of 8 June 2004 governing the forest regime in Niger which authorizes and defines the exercise of customary uses in classified forests. These customary rights of use include the collection of dead wood, removal of wood necessary for the production of tools, agricultural, harvesting exudation products, wild fruits and medicinal plants and food products, as well as other forest products that come to be mentioned in classification acts. Indeed, the local populations around Bakabé, Dan Kada and Kandamo Classified Forests indiscriminately cut down trees in order to have firewood to use as or to sale for other, construction materials and for commercial purposes.

In the views of some respondents, the tree species or forest resources are a gift of nature and as such, it can be used or exploited at will anywhere and anytime. In

many cases, text overruns are observed in the field because actors, faced with real difficulty, know how to find solutions within their reach. The Forest Department also opined that the people do not respect the contract of culture. In reality, the only verification made concerns the laxity of the forest service and also the fact that the parcels belong to the rich and civil servants of the state who do not care about the regeneration of the forest. But the main effect of the cultivation contracts has been the upsurge of intra- and inter-village conflicts, and conflicts with the various water and forest service agents engaged in forest monitoring.

Level and Intensity of Conflicts

The Focus Group Discussion analysis provided information relating to the level and intensity of the conflicts:

In Bakabé Classified Forest, the eight FGDs conducted in 08 villages corresponds to 33.33% revealed that there have been conflicts both within village (between people living within the villages) and inter villages' conflicts (among villages). It was further disclosed that sporadic conflicts occurred between farmers and pastoralists, and crises often broke out between forests service men and villagers over the exploitation of vegetation species in the forest.

In Dan Kada Classified Forest, 12 of the FGDs out of 12 villages (50%) indicated that the issue of conflicts over classified forest was minimal considering the interactions among users. Classified forest subjected to crop land contract has lost its inherent potential vegetation species resources although no serious conflicts occurred among users. Presence of farms within forest and scarcity of grassland at times leads the competing users to some

level of conflict which was normally resolved without resulting into serious misunderstanding among them.

For Kandamo Classified Forest, discussions in 04 FGDs out of 04 villages (16.66%) revealed the modalities of how they manage their conflict over classified forest resources. Majority of them are pastoralists and used classified forest as grassland to feed their cattle.

Figures 3, 4, and 5 show word-clouds created from respondents' responses associated with conflict, causes, type of conflicts, management and consequences. In each figure, the most commonly mentioned words appear largest. The commonest words described environmental and social danger in Kandamo, conflicts, management and actors involved in Bakabé and Dan Kada Forest because of their status as crop land contract.



Figure 3: Words Cloud Kandamo Classified Forest respondents associated with conflict



Figure 4: Words Cloud Bakabé Classified Forest respondents associated with conflict



Figure 5: Words Cloud Dan Kada Classified Forest respondents associated with conflict

Likewise, in Kandamo, respondents who discussed the issue of conflict said that agro pastoralists should stop advancing of agricultural front in the classified forest. But this could be hard to control. Another commented that “farmers from Federal Republic of Nigeria have access to land within classified forest besides a great number of wood cutters operating within the classified forest”. Wood exportation to

Nigeria is very common in this area which has consequences on vegetation resources which explain the current situation of Kandamo Classified Forest.

Respondents around Bakabé Classified Forest affirmed that conflict arises between farmers and pastoralists with introduction of crop land contract on forest which reduces the surface of grassland. Discussants around Bakabé Classified Forest noted that:

.....in 2005, when there was a drought which caused famine, large numbers of people moved into the forest;wood cutters coming from distant areas invaded the forest with forest service agent permission to harvest wood for sale and building materials; and many of them began farming activities.

.....farmers and pastoralists were always together (before contract farming in the forests started), but now; there are periodic conflicts during rainy and harvesting seasons.

However, this conflict is not seen as a critical factor of peaceful coexistence within the area but, in the long run, this can become a potential threat to peace. Conflict is seen as a less challenge between populations living in this area because of its fewer consequences.

In Dan Kada Classified Forest, respondents felt that herding is a major cause of damage to crop yield. However, the agro-pastoralists disagreed that herding cause damage to crops noting that it is not possible to dissociate herding from agriculture. For example:

....since this forest has been transformed into cropland area, we have to be patient with minor damage to crop yield and other resources caused by livestock.

.....conflict that we have to face related to the way that the parcels are distributed to rich and government agent because in future poor or vulnerable people could not have access to hectare within forest.

.....Even now, we know that there are a great number of farmers without land we have in this village. These farmers rely on these crop land under cultivate contract from this classified forest.

The views from respondents focused on how to conserve their farms within the classified forest submitted to cropland contract and not about the value of peaceful coexistence among them avoiding conflicts. Those from Kandamo Classified Forest are anxious about the phenomenon of colonization of the forest by foreigners, notably from Federal Republic of Nigeria.

Frequency of Conflicts over Periods

In order to determine the period when conflicts are most prevalent, this study attempted to examine the frequency of conflicts for different periods of the year. The different periods distinguished are dry season period from January to June, rain season from July to October and Harvesting period from October to December which is period with free access to farm lands and crop residues. There is significant difference in the frequency of conflicts between seasons around Bakabé and Dan Kada classified forests with χ^2 -values of

15.53 and 9.20 which are all significant at 0.05 level (Table 3). As the Table shows, conflicts over classified forests were more frequent during the harvesting period. There is no significant difference in the frequency of conflicts between seasons in Kandamo classified forest because the forest is not subjected to cropland contract. The root causes of the crisis are crop damage caused by the animals during cropping period and when the animals are returning southward from the northern direction before crop harvesting etc. The lack of stock route, improper management of cattle and stealing of crop happened during harvesting period.

Table 3: Conflicts Against Seasons of the Year using Chi-square Test

Periods	Bakabé	Dan Kada	Kandamo	Total			
	Freq	χ^2 -value	Freq	χ^2 -value	Freq	χ^2 -value	
Dry season	17		2		3		22
	7		11.73		3.32		
Rainy season	48	15.53*	103	9.20*	23	0.71	174
	54.9		92.80		26.27		
Harvesting season	96		167		51		314
	99.1		167.47		47.41		

*Significant at 0.05 level; Source: field work, 2018

Causes of Conflicts

In all villages visited around classified forests, the respondents' knowledge and opinions about the causes and consequences of conflicts in the course of interview seem to contradict the dominant narrative presented during the Focus Group Discussions (FGDs).

Key informant interview revealed that conflicts in classified forests arose from damages of growing crops by animals during rainy season, damages of crops due

to animals' movement from north to south during harvesting season, improper management of cattle owing to negligence especially by children, inadequately of cattle tract, theft of crops during harvesting period and allegation of favouritism in the land allocation procedure by the village heads respectively with some degree of spatial variation (Table 4). While a damage of growing crop during the rainy season is found to be common, destruction due to movement is more pronounced around Bakabé and Dan Kada classified forests during harvesting season while in Kandamo classified forest, animals' movement is generally more concentrated during the dry season than harvesting season. Several livestock routes were created by Food Security and Development Support Project (PASADEM) in the Maradi Region around Bakabé and Dan Kada Classified Forests while Kandamo suffers of lack of livestock routes. In Kandamo Classified Forest, improper management of cattle and lack of cattle track respectively (48.4% and 40.6%) were considered as second causes of conflicts because most of the inhabitants are agro-pastoralists unlike in Bakabé and Dan Kada where farmers are the dominant. Problems arising from land allocation procedure are a new phenomenon affecting the relationship between population and village heads around Bakabé and Dan Kada classified forests because they are subjected to cropland contract.

Table 4: Causes of Conflicts around Classified Forests

Causes	Bakabé (N=128) %	Dan Kada (N=192) %	Kanda mo (N=64) %
Damage of growing crops	67.2	80.2	75.0
Returning of Animals from North to South	64.8	71.9	21.9
Improper Management of Cattle	35.9	26.6	48.4
Lack of stock route/cattle track	24.2	16.1	40.6
Theft of crop during harvesting period	22.7	19.3	0
Procedure of land allocation	11.7	1.6	0

Source: field work, 2018

Consequences of Conflicts

The consequences of conflicts on people's livelihood included low crop yield, loss of animal, broken social relationship, and even relationship between family members and arresting of household members (Table 5). Low crop yield affected farmers and agro pastoralists while herdsmen sustained losses in paying penalty for damaged of growing crops. The negative impact on relationship among family members is particularly significant in Kandamo Classified Forest. This is because breeders do not agree to cohabit with other breeders for social reasons and protection of their livestock from diseases. Harmonious relationship among the different actors in Bakabé and Dan Kada classified forests was broken due to the advent of cropland contract and presence of diverse actors while in Kandamo conflict is minimal because of the homogeneity of the population. There have been a few cases of arrest of household members among

herdsmen in Bakabé and Dan Kada Classified forests.

Table 5: Consequences of Conflicts around Classified Forests

Consequences	Bakabé (N=128) %	Dan Kada (N=192) %	Kandamo (N=64) %
Low Crop Yield	77.3	80.4	79.7
Loss of Animal	70.3	67.2	79.7
Broken Social Relationship	52.3	54.2	21.9
Affecting Relationship between Family Members	29.7	28.6	31.3
Arrest of Household Members	5.5	8,9	0

Source: field work, 2018

Conflicts Resolution

The modalities of conflicts resolution can be examined under the traditional and modern mechanisms.

Traditional Mechanisms

The traditional mechanism distinguishes two ways to manage conflicts: negotiation among the conflicting parties and negotiation by traditional leaders. Negotiation among the conflicting parties concerns the different actors operating the classified forest resources. This could be achieved through understanding of each other and finding solutions among themselves without any interference of indirect actors. Often, this involved negotiations among friends and notables in the villages. However, this does not work sometimes because of negative interference from external forces and misunderstanding among different parties.

Mediation is the major strategy adopted by traditional leaders to resolve disputes among contending parties. The traditional rulers with competence to mediate are the village heads, chiefs of tribes, and district head because they have some control over resources that often lead to disputes in the rural areas. Where mediation by traditional leaders was not acceptable to either of the disputing parties, the village head normally referred the dispute to the higher traditional leaders for resolution.

Modern Mechanisms

In the modern mechanism two agencies are charged with the administration and resolution of conflicts over classified resources: The Forest Services and the Court. The Forest Services are charged with protection and management of classified forests. They provide plant seedlings, protect forest and issue the cropland contract. The Court (Judiciary) plays an important role in the resolution of disputes within classified forests. When resolution at the level of Forest Department fails, the parties take the matter to court. Such cases usually have to do with the management actions and wood cutters operating without permission. Generally, cases are taken to Tribunal Instance (TI) where judgement is passed. If any of the parties is not satisfied by the judgement, an appeal can be made to Tribunal de Grand Instance (TGI). These courts have the powers to resolve the dispute either through mediation or passing of judgement. Besides these mechanisms of management of conflicts within the study area, Niger Republic has a formal document which contains all procedures to resolve rural conflict over natural resources. The Rural Code: Ordinance No. 93-015 of 2nd March 1993 provided the guiding principles of the Rural Code, which aims to bring together all rules and regulations around

agriculture, silviculture and pastoralism to ensure effective land and environmental management.

CONCLUSION

The observed conflicts in the forest management were between different resources users. There have been conflicts between: farmers and farmers, farmers-pastoralists and agro pastoralists, farmers and village chiefs and between the local communities and agents of Forest Service which was the most pronounced because of the failure of people to respect the terms of cropland contract. There was significant difference in the frequency of conflicts between seasons around classified forests. Dan Kada classified forest had the highest level of conflicts followed by Bakabé classified forest while Kandamo recorded the lowest level of conflict. Both traditional and modern mechanisms have been adopted in the management of conflicts. Traditionally, negotiation and mediation were most frequently adopted in conflict resolution between individuals and within communities around the classified forests. In the modern mechanism two agencies charged to manage conflicts are the Forest Service and the Court. There is a need for government at all level to prioritize the management of conflicts over classified forests so that there will be a sustainability of crops and livestock productivity for better livelihoods in the rural communities.

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REFERENCES

- Alpha Gado, B et Drame Yaye, A. (2006), *Histoire des crises alimentaires au Sahel : cas du Niger*, documenté présenté au Forum Régional sur la souveraineté en Afrique de l'Ouest (FORESA) organisé par le ROPPA (réseau des organisations Paysannes et des productions Agricoles
- Amadou B. (2008), UNESCO/MAB, *Réserve de biosphère en Afrique de l'Ouest vers des modèles de développement durable ; Note de synthèse à l'intention des décideurs ; pp 21-35 ; 62p.*
- Beevers, Michael D. (2019). 'Natural Resources: A Catalyst for Conflict and Peace?' In *Peacebuilding and Natural Resource Governance After Armed Conflict*, by Michael D. Beevers, 39–61. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-63166-0_3.
- Benjaminsen T. A. (2016), does Climate Change lead to conflicts in the Sahel? In R.H. Behnke and M. Mortimore (eds.), *the End of Desertification? Disputing Environmental Change in the Drylands, Springer Earth System Sciences* 99-106.
- Bruch, C., David J., Mikiyasu N., and Jon U., (2019). 'The Changing Nature of Conflict, Peacebuilding, and Environmental Cooperation'. *Environmental Law Reporter: News & Analysis* 49 (2): 26–46.
- Charifi R. A., and Momale S. B. (2017), *Mechanisms for the Prevention and Management of Land Conflicts in Rural Maradi Province, Niger Republic, International Colloque Ouagadougou on the restauration of Legitimacy during post-transitional period in Africa holding between 27 and 29 octobre 2016 at Ouagadougou, in Issa Diallo (ed), Edition universitaires européennes* 12:978-620-2-26434-1
- FAO. (2001), United Nations Food and Agriculture Organization, www.FAO.org/forestry

- (2007), *Manuels sur les régimes fonciers, Gestion alternative des conflits fonciers*, Rome, Italie, 21p.
- Jajere I.A., (2014), *Implication of access to and conflicts over Natural Resources on the livelihoods of pastoralists in the north east arid zone of Nigeria*, Ph.D thesis in geography, Bayero University, Kano, 117p.
- Momale. S. B. (2015), *Management Pastoralist-Farmers Relations and implication to Food Security in the Kano-Katsina-Maradi Region*, édition Maradi Kwalliya in Saadou M. et Addo M (Eds), *Intercommunity coexistence and peace building in the History of Maradi Region*, NIN Février, 2017, pp 68-85, ISBN : N° 979-10-699-0365-4
- Niger Horizons, (2014), *Analyse des facteurs de conflits au Niger*, rapport final, Novembre 2014, 79p.
- République du Niger. (1998), Loi n° 98-056 du 29 décembre 1998 portant loi-cadre relative à la gestion de l'environnement
- République du Niger. (2004), Loi n° 2004-040 du 8 juin 2004 portant régime forestier au Niger
- République du Niger. (2012). Institut National de la Statistique (INS): *Présentation des résultats globaux définitifs du Quatrième (4ème) Recensement Général de la Population et de l'Habitat (RGP/H) de 2012*, 351p.
- Schellens, M K., and Diemer A. (2020). 'Natural Resource Conflicts: Definition and Three Frameworks to Aid Analysis'. In *Partnerships for the Goals*, edited by Elena Shabliy, Carolina Collaro, Sonja Rewhorn, Monica Thiel, Marco Tortora, and Tony Wall, 14. *Encyclopedia of the UN Sustainable Development Goals 17. Springer Nature*.
- Schellens, M K., and Belyazid. S. (2020). 'Revisiting the Contested Role of Natural Resources in Violent Conflict Risk through Machine Learning.' *Sustainability* 12 (16): 6574. <https://doi.org/10.3390/su12166574>.
- Scholvin, S. (2016). 'Geopolitics - an Overview of Concepts and Empirical Examples from International Relations.Pdf'. Finnish institute of International Affairs.
- UNEP. (2019). *Global Environment Outlook - GEO-6: Healthy Planet, Healthy People*. Edited by Paul Elkins, Joyeeta Gupta, and Pierre Boileau. GEO 6. United Nations Environment Programme, Nairobi: Cambridge University Press. <https://www.unenvironment.org/resources/global-environment-outlook-6>.
- UNFT. 2011. 'EU-UN Partnership on Land, Natural Resources and Conflict Prevention: Introduction and Overview'. New York, US: UN Interagency Framework Team for Preventive Action (UNFT). <http://www.un.org/en/land-naturalresources-conflict/pdfs/EU-UN%20Introduction%20and%20overview.pdf>.
- USIP. (2007) *United States Institute of Peace: Natural Resources, Conflicts and Conflicts Resolution*, Education and Training Center: Domestic Programs 1200 17th Street NW, Suite 200., Washington, DC 20036, 36p.
- Yamba B. (2000), *Evolution des régimes de propriété et l'utilisation des ressources naturelles dans la région de Maradi, étude de Kano-Maradi sur les évolutions à long terme : série Niger-Nigéria*, Maradi/Niger, 47p.