CONFLICT MANAGEMENT FOR IMPROVED LIVESTOCK PRODUCTIVITY AND SUSTAINABLE NATURAL RESOURCE USE IN NIGER, WEST AFRICA

ILRI REPORT

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Summary

Farmer-herder conflicts are enduring features of social life in the Sudano-Sahelian zone. A survey was carried out between August and December 2004 in four sites in Niger, namely Bokki, Katanga, Sabon Gida and Tountoubé to determine the proximate and long-term causes of conflict over natural resource use, to evaluate the appropriateness of existing institutional arrangements for managing conflicts and identify innovative options and incentives to reduce the incidence and severity of conflicts. The research was implemented in three phases: (1) collection of village and household level socio-economic information, (2) social network mapping, and (3) collection of conflict history and conflict management strategies. Additionally, governmental and NGO agencies in Niamey that address conflict management and/or resolution at the regional and national levels were interviewed. The research employed both quantitative and qualitative survey instruments. Surveys collected information on: historical micro-geographies of cropping and herding in the area encompassing village territory; local day-to-day relationships between transhumance herders, settled herders, and farming households at the study site; nodes of communication under different types of disagreements and negotiative settings; documentation of past conflicts and role of government officials, customary authorities and NGOs in conflict management.

Results from this study showed that in all sites, damage to crops was the first reported cause of conflict between farmers and herders. Crop damage is not limited to damage to growing crops on the field but also included unauthorized grazing of crop residues after harvest. Other causes of conflict reported were access to watering points, expansion of crop fields across corridors for animal passage and thefts of animal. The ability of rural communities to prevent and manage conflict is largely based on the strength of networks of communication between herding and farming interests, respected community leaders, and leaders in neighboring communities. Overall, the local institutional arrangements are functional and a high percentage of conflicts are effectively managed at local levels. In all the study sites except Bokki, there was a high level of involvement of internal mediators.

1. Project Description

1.1. Background

Farmer-herder conflicts are enduring features of social life in the Sudano-Sahelian zone.[1] Highly-publicized clashes between farmers and herders have resulted in the tragic loss of life. Less violent conflict can increase tensions within local communities and lead to strategic agricultural decisions that diverge from those made from sustainable production criteria. Livestock may be pastured on poor pastures to avoid crop damage or because of a reduced ability to move to better pastures. Farmers may not benefit from the manure produced by local and outside herds passing through the area on transhumance (Heasley and Delehanty, 1996). Increased tensions may lead to a reduction in tenure security or a lowered rate of livestock entrustment to herding specialists, which results in either poor grazing management (Turner et al. 2005) or a diversion of labor from crop agriculture. In short, rural incomes and the efficiency of crop-livestock interactions are strongly influenced by the relationships among livestock herders and farmers.

Many outside observers report that farmer-herder conflicts have increased over the past 15 years (e.g. Bennett 1991). Others question the empirical basis for such arguments (Hussein et al. 1999). There are a number of barriers for clarifying this debate. First, the data remain largely anecdotal with real difficulties of collecting comparable data on a regional level. An additional difficulty is the fluidity of the meaning of conflict and the misperceptions generated from references to "farmers" and "herders". Those that herd animals and those that farm will at least seasonally experience a conflict of interest. Whether a conflict of interest leads to socially-degenerative conflict leading to violence or inhibiting production decisions depends on the capacity of local communities to manage conflicts and not allow them to escalate. Most members of ethnic groups whose identity is linked to animal husbandry (e.g. FulBe, Maure, Twareg, Bouzou etc.) farm as well and many "farming" groups own and manage livestock. Farmer-herder conflicts can therefore occur among "herding groups." Despite the continued importance of livelihood in shaping ethnic identity, one should not equate production activity to ethnic group.

[1]The phrase "farmer-herder conflicts" is typically used to refer to conflicts between herding and farming groups. The use of this phrase can be highly misleading since it can suggest that "herders" and "farmers" are separate groups when in fact most herders are also farmers and farmers may herd their livestock at least on a seasonal basis, despite persistent livelihood specialization. Moreover, the conflict between a "herder" and "farmer" often implicate other farmers and herders on both sides of the conflict. For example, Breusers *et al.* (1998) argue that many conflicts between farmers and herders actually result from tensions within farming communities – tensions that are most evident with conflicts with outsiders – particularly herders.

Over the past twenty years, there have been changes in livestock ownership and management that have worked to increase both the inherent conflicts of interest between farming and herding and the potential for these conflicts of interest to escalate to degenerative conflict in many parts of the Sudano-Sahelian region. Conflicts of interest have intensified in many areas due to the greater proximity of livestock and cropping during the growing season due to a number of reasons including:

- Movements of people and shifts of livestock ownership toward the south where rainfall is more dependable and agricultural pressure is greater;
- A shift of livestock ownership away from historic livestock managers along with a growing dependence on farming by pastoral peoples, has contributed to a reduction in the seasonal mobility of livestock herds;
- Continued security problems in the northern pastures of Niger (for all herders) and the southern pastures of Nigeria (for Konni and Tahoua herders) and Benin (for Say herders).

In addition to these changes that are likely to increase the risk of farmer-herder conflict, there have been a number of changes that have affected how local communities manage farmer-herder conflicts. The continued erosion of the local authority of elders, while welcome on a number of levels, have increased the number of layers of authority with the potential for reducing local communities' ability to manage conflict effectively. The number and nature of social ties between farmers and herding professionals have changed as livestock wealth has become more concentrated, availability of cropland has declined, and the range of herd movements have shrunk and become more erratic. The nature of livestock husbandry and farmer-herder relations are changing and the potential for conflict management failure increases unless systems of governance change accordingly.

In this project we have chosen to focus on the factors contributing to local communities' ability to manage conflicts – particularly those that could be called farmer-herder conflicts. This involves research on the changing social relationships among farmers and herders, the social networks utilized in conflict management, local institutions, and political governance. Contrary to standard approaches to the problem of farmer-herder conflict, we have chose to first get an understanding of the changing nature of the productive relations between farming and herding and the social networks utilized to manage village conflicts before asking direct questions about farmer-herder conflicts within study villages. "Farmers" and "herders" are connected to each other through multiple social networks (Figure 1). It is important to understand the evolving nature of these relations before proposing innovations to improve

conflict management. Despite the publicity surrounding the most dramatic and violent confrontations, most farmer-herder conflicts are managed effectively at the level of the village. It is important to have an empirical understanding of conflict management processes in order to understand how and why some conflicts are ineffectively managed and allowed to escalate.

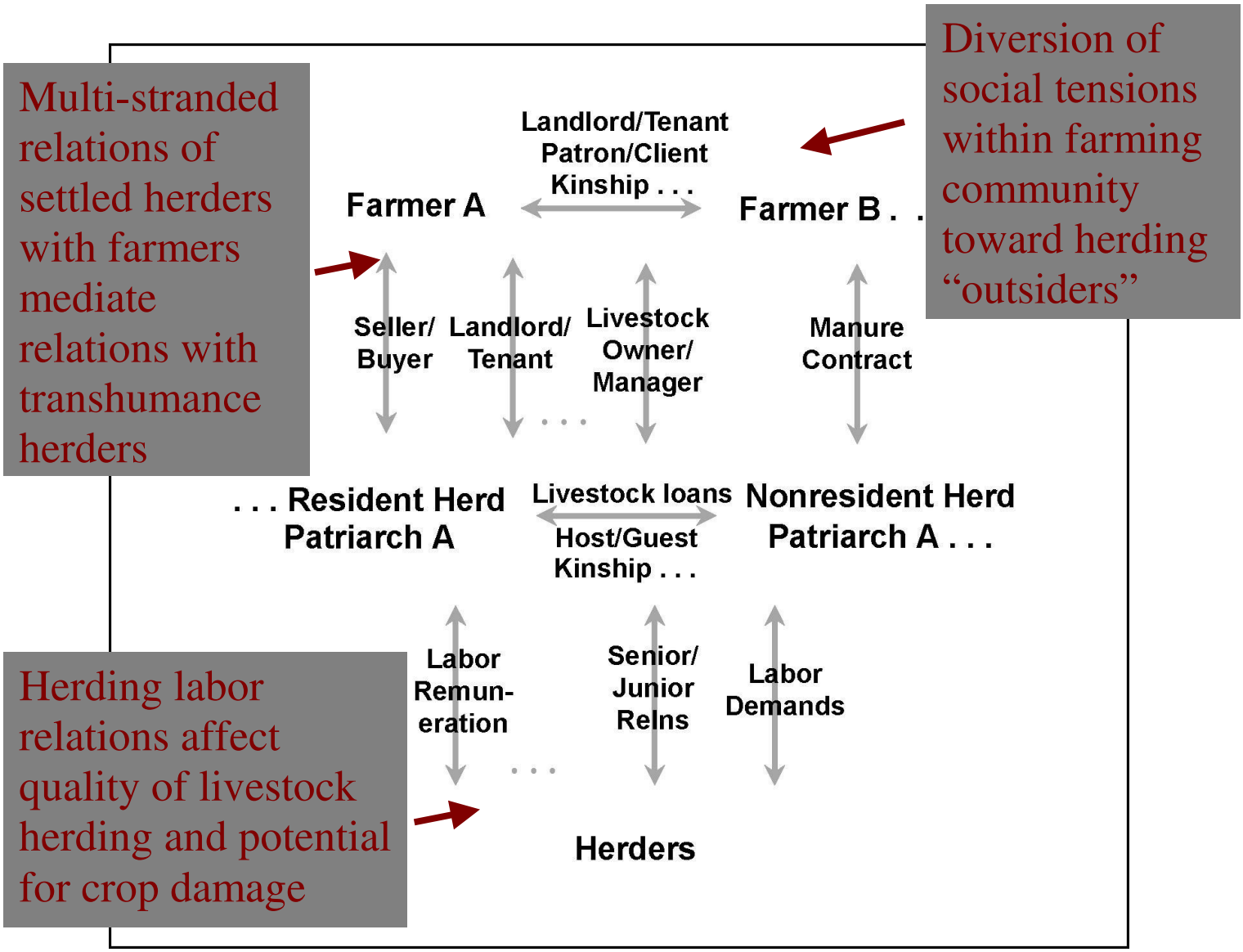

Figure 1. Multi-stranded relations among farmers and herders in agropastoral areas of semi-arid West Africa

2. Methodology

The research project sought to focus on the formal and informal institutional aspects of village, district-level, and national governance that affect lines of cooperation and conflict mediation among "farmers" and "herders" in four regions in southwestern and south-central Niger: Say (Bokki), Fakara (Katanga), Konni (Sabon Gida), and Tahoua (Tountoubé). The research regions were chosen to span a range of biophysical, social, and political conditions that affect the forms in which conflict and conflict management take (Table 1). Specific research sites (villages) in each region were selected based on a history of previous contact by persons involved in the research project, in order to capitalize upon established levels of trust.

Table 1. General characteristics of the four study villages relevant to farmer-herder relations based on observations of key informants

	BOKKI	*KATANGA*	*SABON GIDA*	*TOUNTOUBÉ*
Power of herding interests:	Medium	Low	High	Low
Organization of herders:	High	Low	High	Medium
Cropping pressure:	High	Medium	High	Medium
Mean rainfall:	High	Medium	Medium	Low
Access to ground water:	Medium	Low	High	Low

The research objectives of this project were to analyze natural resource (pasturage and water) use patterns, social relationships between farmers and herders, and past conflicts that were variously managed in four study sites in order to:

- Determine the proximate and long-term causes of conflict over natural resource use;
- Evaluate the appropriateness of existing institutional arrangements for managing conflict;
- Qualitatively assess the impact of farmer-herder relations on crop and animal husbandry;
- Through comparison among study villages, identify local factors that contribute to the ability of communities to manage farmer-herder conflicts successfully; and
- Identify the requirements and innovative approaches for improving conflict management.

Matthew Turner, a professor of Geography at University of Wisconsin, Madison, created the project objectives and research themes, which were then developed and translated into research survey tools. He engaged two MSc students of his, Dan and Kristen Patterson as

research assistants for the project. They both lived in Niger throughout the four-month project duration to oversee the formulation, translation, and implementation of the research survey tools by the field assistants and training of the field assistants. They implemented some of the more sensitive research survey tools. One Nigerien field assistant lived and worked in each of the four research sites for the duration of the project, gaining the trust of local residents while carrying out the research survey tools. The research assistants drew upon the expertise of the research advisor and experience of ILRI Niger scientist, Augustine Ayantunde, who also provided administrative and logistical support in Niamey for the project.

Field research was conducted over four phases. Each phase involved a mix of survey instruments and qualitative research activities. These phases were:

(1) Collection of general village-level information through group interviews stratified by major social groups within the village and gender. Topics covered in these initial interviews included: village history, ethnic composition, major livelihood strategies, distribution of resource access (livestock and cropland), and general information on farmer-herder relations. See Appendix I for a copy of the survey forms utilized to collect this information (forms 2a and 2bc).

(2) Basic demographic and socioeconomic data were collected from all households in the four study villages. These data were used to characterize the ethnic/caste, wealth, and demographic profiles of the four study sites. For each household, the following information was collected: the household's ethnicity/caste; name of household head and his wives and any brothers within the household; number of children remaining within the household for each wife; the total number of adults and children within the household; the number of working animals (donkeys, camels, horses, oxen), plows and carts owned by the household; the approximate number (0, 1-3, 4-9, >9) of goats, sheep and cattle owned by household; the number of fields farmed by the household stratified by ownership (inheritance, purchase, loan, rental); and the number of family individuals involved in particular nonagricultural pursuits (Islamic clergy, commerce, handcraft activities, wage labor, labor migration, traditional medical practice). See Appendix I for a copy of the survey form utilized to collect this information (form 3b).

(3) Seventy-nine households, representing the major social groups found within the four study villages, were surveyed as to their household composition, productive activities conducted by each household member, and the social networks implicated in these

livelihood pursuits. See Appendix I for a copy of the survey forms utilized to collect this information (forms 3cd and 4).

(4) Interviews of representatives of major social groups within each village were conducted to collect information on past conflicts, conflict management strategies, and impressions on reasons for farmer-herder conflict. Additionally, the research assistants interviewed governmental and non-governmental organizations (NGO) in Niamey that address conflict management and/or resolution at the regional and national levels. See Appendix I for a copy of the survey forms utilized to collect this information (forms 5, 6 and 7).

2.1. Timeline

This research project was funded under the 2003 USAID Linkages Program, which involved Tim Williams as principal investigator (ILRI scientist as at the time) and Matt Turner, Professor in the Geography Department at the University of Wisconsin-Madison (UW-Madison) as the U.S. academic 'link' for the proposed project.

The field study was conducted from August to December 2004. Three of the four field assistants involved in the project were recruited and installed in their respective research sites during the period of August 30 to September 1, 2004.[2] The fourth field assistant has been based in one of the study sites since 1996. The first phase of research, collection of village and household level socioeconomic information, occurred from August 30 to September 24, 2004. The general work plan entailed the research assistants spending one week (Monday – Friday) at each research site during each phase of research, in order to train the field assistants on the survey tools and practice implementing them, assess their work and address any questions or problems, and carry out any survey tools that required the guidance of the research assistants.[3] The second phase of research, social network mapping, began on October 4 and lasted until October 29, 2004. The third research phase, collection of conflict history and conflict management strategies, took place between November 1 and December 17, 2004. The research assistants spent a week in Niamey in November to attend a workshop on conflict management and resolution, and meet with researchers and professionals involved in conflict prevention and management.

[2] The field assistant in Katanga (Fakara region) has been employed by ILRI and living in the village since 1996.
[3] Two-thirds of the time, both research assistants worked in the research sites with the field assistants. Occasionally, one research assistant worked at the ICRISAT Sahelian Center to develop and translate survey tools, while the other research assistant worked in the field.

From November 2004 through January 2005, ILRI employed an individual to enter quantitative and qualitative data from the project. The research assistants completed their work duties and delivered their preliminary report to ILRI and UW-Madison on December 3, 2004. The field assistants based in Bokki, Sabon Gida, and Tountoubé finished their work and moved out of their respective research sites between December 8 and 10, 2004, and the field assistant in Katanga finished his work on December 17. The analysis of survey data was carried out between May-June 2005.

3. Niger: Current Affairs

3.1. Decentralization

In 2004, Niger began the process of decentralization, which entails devolving roles and responsibilities away from Niamey, the capital, to locally based units of governance. Nearly a decade in the making legislatively, the on the ground decentralization process is likely to take considerable time as well. Due to Nigeriens' unfamiliarity with this nascent process, during the research timeframe most people were not yet fully informed about the changes.

Niger is now separated into eight Regions (*Régions*): Agadez, Diffa, Dosso, Maradi, Tahoua, Tillabéry, Zinder, and the urban community of Niamey. The eight regions are divided into 36 Departments (*Départements*). Below the Department level, the country is divided into 52 urban districts (*communes urbaines*), 4 urban communities (*communautés urbaines*), and 213 rural districts (*communes rurales*). All four of the research sites are located in rural districts.

Decentralization created new positions of governance, including Governors (*Gouverneurs*) to head the Regions; Mayors (*Maires*) to head the rural districts (*commune rurale*); and Community Advisors (*Conseillers Municipaux*) to represent local residents at the rural district level (*commune rurale*). Departments continue to be led by a Commissioner (Préfet) and an Assistant Commissioner (Sous-Préfet). Municipal elections were held in July 2004. The elections were deemed free and fair, and marked the bona fide beginning of the decentralization process on the ground in Niger. The government in Niamey appoints Governor, Commissioner, and Assistant Commissioner positions, whereas the populace at the local level elects Mayors and Community Advisors.

The only visible effect that decentralization had on the research was related to the new Community Advisor positions, at the rural district level of governance. The number of Community Advisors per rural district is based on population (and land area in regions with very low population levels, e.g., northern Niger), and ranges from a minimum of 11 to a maximum of 25. Community Advisors serve on the district's board of advisors (*Conseil Municipal*) for four-year terms, and are not compensated, and can reside anywhere within the bounds of the rural district. In one of the research sites, Bokki, a newly minted Community Advisor played a role in addressing a conflict between the chief and other residents in October, 2004, just two months after he took office. Table 2 summarizes the decentralized governance classifications for the four study sites.

Table 2. Decentralized classifications of governance in the four research sites, Niger

	BOKKI	*KATANGA*	*SABON GIDA*	*TOUNTOUBÉ*
Région	Tillabéry	Tillabéry	Tahoua	Tahoua
Département	Say	Tillabéry	Birni N'Konni	Bouza
Commune Rurale	Tamou	Dantiandou	Malbaza	Bouza

3.2. Politics

In addition to being the year that decentralization was actualized, 2004 was a presidential election year in Niger. President Mamadou Tandja was Niger's first ever democratically elected President to complete his full five-year term of office (without being murdered, disposed by a coup d'état, or dying of natural causes). The electoral process, from the campaign to the actual voting, was momentous for Niger and for Nigeriens.

The campaign season officially opened October 14, and the first round of elections was held on November 16. Six major candidates competed in the first round of elections, and as none gained more than 50 percent of the vote, a second (and final) round of elections will be held on December 4. The Presidential campaign affected the research project on two levels. First, on Election Day, the research assistants were in Sabon Gida, one of the research sites. It was impossible to accomplish any work other than individual training with the field assistant the day before and the day of the election (it was, however, fascinating to observe the electoral process in a rural village in Niger). Second, virtually all government employees were and continue to be occupied with the campaign and organizing the elections during October, November, and early December. Thus, in November, when the research assistants sought out employees of various Ministries to interview regarding their involvement with conflict prevention and management in Niger, it was difficult to make contact with them, and more often than not, unsuccessful. People were simply not in their offices; they were on the campaign trail.

3.3. Geophysical

The locust invasion of 2004 coupled with below average harvest made the year a difficult one for the rural populations in Niger in terms of food security. The locusts arrived in Niger in August and September 2004, at the end of rainy season. Villages north of Niamey reported the worst damage: entire swaths of cultivated land left completely devoid of any trace of green vegetation. It seems that in most cultivated regions, the majority of farmers were able to quickly harvest their millet before the locusts arrived. The locust infestation compounded

the effects farmers were feeling from an already below average harvest. In two of the four research sites, Sabon Gida and Tountoubé, rainfall ceased abruptly in late August/early September, nearly a month early, and crops suffered, most notably beans and groundnuts. In the northern pastures of Niger (north of Tahoua), where herders from Sabon Gida spend the rainy season, rains were insufficient to produce ample pasturage for livestock.

The combined effects of below average harvest and the potential locust invasion looming over farmers' heads affected the research project. Stress over a poor harvest, and the need to harvest whatever crops one could before the potential arrival of the locusts, led farmers to spend more and longer hours in their fields, which made conducting interviews and holding meetings more challenging than usual, particularly in Sabon Gida and Tountoubé. Furthermore, men (ages 16 to 45) in Tountoubé (especially) and Sabon Gida (to a lesser extent) departed for exode earlier than usual in order to seek other sources of income to offset the poor harvest.

4. Research Site Descriptions

This section provides background information for each of the four research sites. Bokki (Say), Katanga (Fakara), Sabon Gida (Konni), and Tountoubé (Tahoua) reflect a range of biophysical, social, and political conditions that affect conflict and its management. These sites were also chosen because they had previous exposure to the researchers, allowing the project to capitalize upon established levels of trust. This section begins with a description of the sites in terms of their physical location, available resources, climatic constraints, and economic activities engaged in by the residents. Demographic information, history of involvement with development/research projects, and description of local and regional leadership resources comprise the balance of each description.

4.1. Bokki

Bokki is the largest research site and located closest to Niamey, the capital. Approximately 50 kilometers south of Niamey, Bokki is 15 kilometers southwest of Say, and 20 kilometers north of the Tamou Wildlife Reserve (*Reserve Totale de Faune de Tamou*). Each Wednesday, Bokki hosts a regional market that attracts many people. In addition to the market, there is a primary school (1975), a Friday mosque (2001), and a medical dispensary (2003) in the village. Household and livestock water consumption come from numerous wells found throughout the village. The majority of residents engage in farming (millet, sorghum, peanuts, and cowpeas) and/or animal husbandry (large and small ruminants) as a means of income; rainfall is generally sufficient most years to produce adequate harvests. Cold dry season gardening has become popular in recent years as a means of augmenting household incomes and diversifying diets. Bokki also has a strong commercial class, for whom the majority of income comes from buying and selling goods and services.

Made up of Fulani, Djerma, Hausa, and Tuareg households, Bokki is the most socially diverse of the research sites. These social groups are further defined by noting that the Fulani identify themselves as descending from nobility, the Djerma descend from noble and slave classes, and the Tuareg descend from a slave class. Local history holds that Fulani herders first founded the village nearly 200 years ago, and Djerma farmers followed; Hausa and Tuareg are relative newcomers. Immigration to Bokki from regions north and east of Niamey, especially during times of drought or famine, help explain the large number and diversity of people found at this site, which number over 2,500.

Bokki has profited from various international and local development projects over the last twenty years, helping it reach its current size and prosperity. Bokki's thriving savings and loan bank perhaps exemplifies this fact. Currently, it boasts a membership of 476 individuals and groups and carries a balance of over USD 56,000.

Local leadership in Bokki is, and has largely been, dominated by the Fulani. The current chief, Soumane Altiné, began his reign after his father's death in 2001. In reality, however, Soumane rules in absentia, leaving day-to-day matters to his younger brother, Issoufou Altiné. The Fulani also benefit from close proximity to a *rugga*, a traditional leader who manages Fulani herding activities on a regional level. In addition, at the village level, there are men's and women's leaders, as well as religious figures that assume roles of leadership within the community. In August 2004, Bokki elected a Community Advisor (*conseiller*). Creation of this position is part of Niger's move towards a decentralized government. In addition to these local leaders, residents of Bokki have relative easy access to the Chef du Canton and various government ministries based in Say.

4.2. Katanga

The second research site, Katanga, is approximately 70 kilometers east of Niamey, in a region known as the Fakara. Katanga is located sixteen kilometers north of Dantiandou, a large market village and home of this area's Chef du Canton. Yeda, fourteen kilometers east, and Dantiandou are the primary markets used by Katanga residents. The government constructed a primary school in 2002; the closest medical dispensary is in Dantiandou. Two cement wells provide households and livestock with water. The second well, dug in 2002, measures 55 meters deep. Limited access to water is a constraint in Katanga. The majority of residents engage in farming and/or animal husbandry as a means of supporting their households. Rainfall in this area is highly variable and Katanga's history is marked with frequent periods of drought and famine. Commercial activity within the village is limited in scale. Exode to countries like Nigeria, Mali, and Ghana is common among the young men, who typically leave after the harvest.

Katanga sits on a plateau just west of the valley of the Dallo Bosso, the ancient river that once seasonally flowed down from the Sahara when it was verdant. The village itself is small, rural, and consists of a village center, populated by Djerma households, and two Fulani hamlets on the periphery. Both social groups are descended from noble origins. The past

two decades have seen some influx into the region from immigrants, and currently, there are an estimated 450 residents in Katanga.

Research orchestrated by ICRISAT and ILRI in the Fakara area has been on going for the past decade. ILRI has supported a field assistant based in Katanga since 1996. Some residents are currently participating in a cattle-lending scheme (*haba'nai)* that ILRI is coordinating. Additionally, in 2001, the FAO implemented a seed bank project.

The Djerma dominate the local leadership in Katanga. The chief, Abdou Sounna, has reigned since 1987. A few elder men provide leadership for the Fulani. The Djerma have women's leaders, and both groups have religious leaders who are active in the community. The Chef du Canton, Abdou Hama, resides in Dantiandou and has ruled since 1993.

4.3. Sabon Gida

Sabon Gida is located in the Birni N'Konni region, 450 kilometers east of Niamey. It is only four kilometers west of Salewa, a village located on the Tahoua road, and six kilometers north of Giddan Iddar, the closest market. In addition to the Giddan Iddar market, well known for its livestock and diverse offerings, residents also frequent Dabnu, a market 10 kilometers north of Salewa. There are two primary schools: one built with the help of a Peace Corps volunteer in 2000, and the other built by the government in 2002. In addition, there is a Friday mosque (2001) and a government-built health dispensary, which was constructed in 2003, but is not yet open. Wells provide households and livestock with water. Interestingly, in addition to these public wells, there are also private wells, found in house concessions and fields that help meet daily and seasonal water needs. Rainfall in this area for the past five years has been sufficient to produce adequate harvests. The last episode of food shortage reported was in 1996-97. Residents engage in agriculture and animal husbandry to support their households. Cold dry season gardening is practiced in this area, specifically sugar cane and onion production. Commercial activity in Sabon Gida is limited in scale, and practiced by the Hausa.

Sabon Gida is composed of two ethnic groups, Hausa and Fulani. They live side by side, but residents consider themselves as belonging to two different villages; intermarriage between the two groups is not practiced. There is one Fulani hamlet, Gidan Daji, just northeast of the village. Fulani herders originally settled the area, and later were joined by a herding Hausa man. Later, more Hausa blacksmith and butcher families arrived. Among the Hausa, there are three lineages, blacksmiths, barbers, and marabouts, though they no longer

divide themselves strictly along these lines. Among the Fulani, there are original settlers and Fulani that populate Gidan Daji. About half of the Fulani reside in the village during the dry season; during the rainy season, they are herding animals in pastures north of Tahoua. The total population is roughly 875 inhabitants, with the Hausa outnumbering the Fulani.

Sabon Gida has benefited from six years of service from Peace Corps volunteers. Between 1997 and 2003, three volunteers lived and worked in the village for two years each, implementing community development projects. Examples of their work include: a village well reparation, primary school construction, seed bank creation, environmental youth groups, and numerous trainings, on topics such as soil restoration, HIV/AIDS prevention, participatory community analysis, and cold season gardening. In addition to Peace Corps, CARE International's *Mata Masu Dubara* program initiated women's savings and loan programs in 1997.

A Fulani and Hausa chief both hold leadership positions in Sabon Gida. El Hadji Djamarre Sabarra, the Fulani chief, has reigned since 1961. Moussa Kaptaou has been leader of the Hausa in Sabon Gida since 1993. There are five Fulani and five Hausa women's leaders, and one men's leader for the Hausa and one for the Fulani. The nearest Fulani regional leader (*rugga*) to Sabon Gida resides in Birni N'Konni, and the regional Chef du Canton is in Dogérawa, 30 kilometers east of Sabon Gida.

4.4. Tountoubé

Tountoubé is 20 kilometers north of Madaoua, approximately 600 kilometers east of Niamey. *Tuntubé*, in Hausa, means "to trip" and presumably, the village name originates from the ubiquity of rocks upon which to stumble. The nearest market, aside from Madaoua, is Madetta, five kilometers southeast from the village. A primary school was constructed in Tountoubé in 1993. Rainfall in this region of Niger, the Majia Valley, is highly variable, and lack of groundwater is a major problem and concern for the residents of Tountoubé. There is only one cemented well and it is located some distance from the main village. Hand-dug wells in the nearby dry riverbed provide the village with the majority of its water, but they do not provide water year-round. Farming and animal husbandry (particularly of goats) are part of resident's lives, however, the primary income-generating activity in the village is to leave on exode and remit earnings from abroad. Residents travel as far as Central African Republic, working as laborers or butchers.

Most residents of Tountoubé are Hausa, originating from Nigeria; members of this group refer to their lineage as *Bogobiri*. The next largest social group is the Tuaregs, who are descended from former slave classes. The balance of the households is a mix of Fulani and different Hausa lineages, distinct from the *Bogobiri*. Residents noted that intermarriage between social groups is common (the resident herders are partly Hausa and partly Fulani). According to village lore, Hausa families from Nigeria first settled the area of Tountoubé. Included in this first group of settlers was a magician who would use his powers to hold back the waters of a nearby river each morning to allow the men and women to go to their fields. In 2002, Tountoubé's population was 750 inhabitants.

Tountoubé has enjoyed positive interactions with development projects over the past fifteen years. Beginning in 1989, the project Taraka worked in this village for twelve years planting trees to halt the advance of soil erosion, improving animal husbandry techniques, and incorporating improved seed varieties. CARE International's *Mata Masu Dubara* program initiated three women's savings and loan accounts in 2000. In 2003, *Program d'Action Communitaire* (PAC) conducted a HIV/AIDS campaign in the village. In February 2004, a climate change project financed by AGRHYMET conducted a four-day rapid rural appraisal of the village.

Moussa Chaïbou, a Hausa, has reigned as chief since 1993. In addition to him, there are local men's and women's leaders, as well as religious leaders who assume roles of responsibility in the village. The Chef de Canton, Illa Chaulani, reigns from Bouza, 30 kilometers north of Tountoubé.

5. Results and Discussions

Conflict should be expected in an environment of highly fluctuating resource availabilities on unfenced land. A basic premise that we bring to this research is that conflicts that necessarily arise as people pursue diverse livelihood strategies are largely managed effectively at the level of local communities. Rather than focus our interviews of past "conflicts" – e.g. highly publicized, sometimes violent, confrontations that are produced in part by the failure of local conflict management approaches, we have focused our work on understanding how the interests of farmers and herders diverge, the social networks they utilize to pursue their livelihoods, and local strategies to manage conflict. This approach is directed at building upon local institutions and strategies in order to improve the effectiveness of conflict management at the local level. With these relationships in mind, we will discuss four inter-related topics: access to productive resources, livelihood strategies, social relations of livestock management, and farmer-herder relations and conflict management.

5.1. Access to productive resources in four study villages

People's ability to gain access to the productive resources that are required to pursue a livelihood plays a strong role in shaping resource-related conflicts such as those that exist between herders and farmers. For example, a herder who loses access to local pastures due to the encroachment of fields onto livestock paths will not only have a more difficult time moving his animals to pasture without causing crop damage but also may be less inclined to avoid causing crop damage. A poor farmer whose single field is damaged by a neighbor's livestock is likely to harbor bad feelings about his rich neighbor. A farmer who owns livestock is more likely to have relations with herders from other social groups and understand the constraints faced by herders. In these and other ways, the distribution of access to productive resources helps shape social relationships and how conflict is managed at the level of rural communities.

In this section, the distribution of access to five productive resources in the four study villages will be reviewed: natural pastures, cropland, labor, crop productive capital and livestock. Each of these topics will be explored using data collected from the exhaustive sampling of all households in the four village and the group interviews of representatives of the major social groups in each village.

5.1.1. Natural Pastures

The ability of rural producers to maintain access to the resources needed to support their livelihoods strongly influences the degree to which competitive/strategic relations intensify between different social groups. Productive resources include fodder, livestock, cropland, and labor. The overall magnitude of resource availability and distribution of productive resources both play a role in shaping conflict. Climate variability/change, land degradation, and land-use change affect the availability of fodder and cropland (Turner et al. 2005). In group interviews, informants from the main social groups in each village were asked to rank local pastures with respect to their quality to support cattle, sheep and goats during the cropping and dry season. Table 3 tabulates these responses. Except for the village of Tountoubé, local pastures are seen as of lower quality in the later period (2003 – 2004) compared to the period 1988 - 1990. Among the three villages at which groups were asked to assess changes in the quality of pastures (Bokki, Tountoubé, and Katanga), it is at the most southerly site of the highest mean rainfall, Bokki, where interviewees expressed the most concerns about the loss of pasture quality.

Table 4 presents the reasons given by informants for declines in pasture quality during the period at the other three villages. The most commonly stated reason is the extension of crop fields. This is especially true in the case of the village of Bokki where both pastoralist groups (FulBe) and others cited the extension of fields as the most important reason for pasture quality decline. In the other two villages, there is a stronger difference between FulBe, who generally see cropland extension as the major cause and farming groups, who are more likely to cite declines in the productivity of natural pastures.

5.1.2. Access to Cropland

As described briefly above, the four study villages have different land endowments, different social histories, and different forms of local governance. These differences help shape variations within and across villages with respect to the distribution and security of cropland access. Since herding families rely on farming as part of their livelihood strategies, the relationship between farmers and herders is strongly mediated by how land access is distributed between and within these groups. Table 5 presents information on cropland access experienced by major social groups of four villages as reported by their members in group interviews.

Table 3. Characterizations of local pasture quality[a] in 1988-1990 and 2003-2004 for major livestock species (goats, sheep and cattle) as reported by representatives to major social groups of three study villages.

Village	Social Group (ethnicity/caste)	Pasture Quality					
		1988 – 1990			2003 - 2004		
		Goats	Sheep	Cattle	Goats	Sheep	Cattle
Bokki	Fulbe (women)	S	S	G	LS	LS	NS
	Djerma (former slaves)	S	S	G	NS	NS	NS
	Fulbe	S	S	G	LS	LS	NS
	Djerma	S	S	G	LS	LS	NS
	Hausa	S	G	NS	S	LS	NS
Katanga	Fulbe (1)	G	G	S	S	S	NS
	Fulbe (2)	G	G	G	S	LS	NS
	Djerma	G	G	S	S	S	NS
Tountoubé	Bouzou	LS	LS	LS	G	NS	LS
	Hausa	G	LS	NS	LS	NS	NS
	Fulbe	NS	LS	NS	G	G	G

[a]Pasture quality is characterized by good (G), sufficient (S), less than sufficient (LS), and not sufficient (NS). Data were extracted from completed survey form 2bc (see Appendix I).

Table 4. Reasons[a] given for changes in pasture quality between 1988 and 2004 by social group informants in group interviews. In cases in which multiple reasons were given, they are ranked from the most important (1) to least important.

Village	Social Group (ethnicity/ Caste)	Reasons for Changes in Pasture Quality 1988-2004						
		Crop Fields	Pasture Species Comp	Pasture Productivity	Livestock Pop.	Harvesting of Fodder	Tree/shrub density/comp	Other
Katanga	FulBe (1)	1	3	2		5	4	
	FulBe (2)	3	2			4	1	
	Djerma	4	5	3	2		1	
Sabon Guida	FulBe (Gidan Daji)	1	5	3	4	2	6	
	HaoussaM (1)		2	1				
	Haoussa M (2)	2	6	5	4	7	1	3
	HW		3		2			1
	FulBe	1	5	2	6	3	4	
Bokki	FulBe (women)	1					2	
	Djerma (former slaves)	1	2				3	
	FulBe	1					2	3
	Djerma	1					2	3
	Haoussa	1					2	3

[a]Common reasons given include: decline in pasture area due to the extension of cropped area (crop fields), changes in the composition (pasture species comp) or productivity (pasture productivity) of local pastures, changes in the pressure on local pastures due to changes in local livestock population (livestock); changing availability of natural pastures due to harvesting of grasses by humans (harvesting of fodder); changes in the density or composition of tree and shrubs on natural pastures; and other causes (other). Data were extracted from completed survey form 2bc (see Appendix I).

In all villages, women gain access to land through loans from their husbands or from neighbors with greater land endowments. Bokki and Katanga, two villages lying to the west, show much lower rates of land rental or purchase. For many households in these villages, access to cropland is generally less secure – relying on the loans from a relatively small group of land owners. In Katanga for example, the FulBe report that their claims to cropland is highly insecure with Djerma land owners often taking back land once it has been manured by FulBe-managed livestock. Land in this village remains in the hands of a relatively small group of Djerma land owners. Seventy percent of the land farmed by the Djerma is accessed through land pledging or loans – Katanga has the lowest level of tenure security of the four village territories. In Bokki, while access to new cropland has historically been controlled by FulBe chiefs, their decisions over years seem to have done little to retard the rapid expansion

Table 5. Access to cropland by village and social group (ethnicity x caste x gender) as reported by social group informants in group interviews (see Appendix I: survey form 2a)

Village	Social Group (ethnicity/ Caste)	Gend	Cropland Tenure (% group's cropland)[1] I	P	R	PL	L	Available cropland?[2] R/B	Fallowing by Group[3] P	?	%Lnd	Years	Cropping Constraint?[4] Lnd	Lab	Oth
Bokki	Hausa	M	0	0	0	0	100	Y (s)	Y	Y	5	3	Y		
		F	0	0	0	0	100	N	Y	N	0		Y	N	
	FulBe	M	30	0	0	0	70	N	N	Y	25	2	N	Y	
		F	0	0	0	0	100	N	N	Y	25	2	N	Y	
	Djerma (former slaves)	M	66	0	0	0	33	N	N	N	0		Y	N	
		F	0	0	0	0	100	Y (s)	N	Y	66	3	N	Y	Y[a]
	Djerma	M	100	0	0	0	0	N	N	Y	25	3	Y	N	
		F	0	0	0	0	100	N	N	Y	0	2	N	N	
Katanga	FulBe (1)	M	0	0	0	25	75	Y (s)	Y	N	0				
	FulBe (2)	F	0	0	0	0	100	Y (s)	Y	N	0		N	N	Y[b]
		M	0	0	0	0	100	Y (s)	Y	N	0		N	Y	Y[b]
	Djerma	M	25	5	0	20	50	Y (s)	Y	Y	75	6	N	N	Y[b]
Sabon Guida	FulBe (Gidan Daji)	F	100	0	0	0	0	N	N	Y	0			Y	
		M	100	0	0	0	0	Y (l,s,m)	Y	Y	75	1			
	Haoussa M (1)	F	25	25	50	0	0	Y (s)	Y	N	0		Y	Y	Y[b]
		M	25	25	50	0	0	N	N	N	0		Y	Y	Y[b]
	Haoussa M (2)	F	0	0	50	0	50	Y (s)	Y	N	0		Y	Y	
		M	0	25	0	0	75	Y (l,s)	Y	N	0		Y	Y	
	Haoussa W	M	25	75	0	0	0	Y (l,s)	Y	N	0		Y		Y[b,c]
	FulBe	F	50	50	0	0	0	Y (s,m)	Y	N	0		Y	Y	Y[d]
		M	75	12.5	12.5	0	0	Y (l,s)	Y	N	0		Y		
Tountoubé	Bouzou	F	60	20	20	0	0	N	Y	Y	10	1			
		M	20	40	20	0	20	N	Y	N	0				
	Haussa	F	40	40	0	0	20	N	Y	N	0				
		M	90	5	3	0	2	Y (m)	Y	N	0				
	FulBe	F	100	0	0	0	0	N	Y	N	0				
		M	40	50	10	0	0	N	Y	N	0				

[1]Estimated percentage of the group's cropland area under the following tenure regimes: inherited land with locally-accepted cropping rights (I); land acquired by purchase (P); land acquired through rental agreements (R); land acquired through pledging (PL); and land acquired through a loan (L).

[2]The availability to the social group of cropland to rent or borrow (R/B) or to purchase (P) in proximity of the village. For cases where cropland is available to rent or borrow, the most common form of payment is presented in parentheses: share of crop (s); provision of labor (l); and provision of money (m).

[3]The importance of fallowing on croplands farmed by the social group is measured by whether or not any fallowing is practiced (?) and for those cases where some fallowing is practiced, an estimated percentage of the group's cropland that is presently fallowed (%Lnd) and the average number of years land is left in fallow (Years).

[4]The constraint to increasing crop production named by the group. Lack of land (Lnd) and labor (Lab) were the most commonly mentioned constraints with other constraints (Oth) mentioned being:

[a]Lack of seeds; [b]lack of cash; [c]lack of water; and [d]lack of water. If the particular constraint was mentioned explicitly in the interview as a constraint (Y) or as not a constraint (N) – otherwise the cell is left blank.

of cropped area fueled by immigration into the area (beginning with the droughts in the Ouallam region to the north during the early colonial period). Similar to the case of Katanga, a large fraction of cropland is accessed through loans. Unlike Katanga, land ownership, as interpreted by informants, is not solely tied to the chieftaincy. A higher fraction of Djerma fields are reported as being owned than fields of the FulBe. Hausa farmers are newcomers to the area and therefore depend on borrowing land to farm.

In Sabon Guida and Tountoubé, informants report much higher rates of traditional field ownership supplemented by measurable fractions of purchased fields which are virtually nonexistent in the Bokki or Katanga. This finding based on the group interviews is consistent with data collected from an exhaustive sampling of households (Table 6). Households in Sabon Guida and Tountoubé have higher rates of field ownership than other two villages. As a result, the reliance on borrowed or pledged fields is much lower and therefore security of cropland access presumably higher. An important caveat to the use of these characterizations by different social groups is that there may be significant differences in the meaning attached to these different categories. For example, the dividing line between "locally-accepted cropping rights" and loans of fields is actually somewhat blurred in reality with real possibilities that different social groups categorize similar situations differently.

In group interviews, informants were asked to assess the availability of cropland to rent/borrow or purchase; estimate the fraction of the land farmed by their group in fallow and average fallowing times; and the degree to which access to land is a major constraint to increasing agricultural production. Table 5 presents the responses to these questions. In general, cropland shortage is felt strongest in Sabon Guida and Tountoubé followed by Bokki and Katanga. In all four villages, land is available for purchase (although land sales are uncommon in Katanga and Bokki) and the availability of land for borrowing/renting is less in Tountoubé and Bokki. The high fallowing rate as reported by the Gidan Daji FulBe in Sabon Guida is surprising and would need to be verified. While cropland scarcity in Sabon Guida is largely driven by high population densities, shortages in Tountoubé are also largely due to the severe soil and geomorphological constraints to farming within its territory. Land scarcity is felt differentially by different social groups within villages. Women, who largely depend on the land loaned to them by husbands experience land shortage as illustrated by no fallowing. In Bokki and Katanga where the physical shortage of cropland is not as extreme as the other two study villages to the east, measures of land shortage are tied to land tenure. For example, the FulBe of Katanga, who must rely on borrowing land from Djerma, fallow no land but do not perceive land access as a major impediment to their agropastoral livelihoods.

Table 6. Demographic and economic characteristics of surveyed households in four study villages. For each village, the number of censused households, total censused population, and the major ethnic groups in each village are listed. For each ethnic group, the number of households, average number of people per household, average number of adult equivalents per household, estimated value of "equipment" (working animals, plows, and carts) for agricultural production, the percentage of households owning 0, 1-3, 4-9, and >9 cattle, sheep, and goats, the percentage of households not farming fields "not owned" and "owned" by the household (No%), and for those households farming at least one "not owned" and "owned" fields, the average number farmed. These data were self-reported by households during an exhaustive survey (survey form 3b1) of all households within villages.

Village	# of Cens Hshlds	Cens Pop	Social Group	# of Hshlds	Avg # People	Avg # Adult Equiv[1]	Avg. Product Capital (FCFA)[2]	Cattle Wlth Category %				Sheep Wlth Category %				Goat Wlth Category %				Number of Crop Fields per Household					
																				Not Owned		Owned		Total	
								0	1-3	4-9	>9	0	1-3	4-9	>9	0	1-3	4-9	>9	No(%)	Avg	No(%)	Avg	No(%)	Avg
Bokki	237	2,008	Bella	16	7.9	6.6	40313	81	19	0	0	31	56	13	0	56	31	13	0	19	1.3	31	1.5	0	2.9
			Haousa	21	7.6	5.9	76429	71	24	5	0	24	43	24	10	67	24	10	0	33	1.6	48	2.7	7	4.4
			FulBe	86	7.0	5.5	36860	9	31	20	40	27	10	20	43	36	12	16	36	60	1.8	30	2.1	13	3.8
			Djerma	112	9.9	8.0	199375	63	18	12	8	42	29	19	10	68	21	6	5	67	1.6	9	3.6	0	5.1
Katanga	66	601	FulBe	34	7.6	5.9	47500	9	24	9	59	26	21	18	35	15	29	21	35	0	1.8	100	---	0	1.8
			Djerma	32	10.7	8.2	103750	69	25	3	3	38	44	19	0	38	41	22	0	50	3.4	47	6.8	0	10.3
Sabon Guida	168	1,167	Gidan FulBe	9	6.0	4.3	8333	11	56	22	11	44	33	22	0	11	33	33	22	100	---	0	1.9	0	1.9
			Haousa	97	6.3	4.8	18351	59	40	1	0	73	21	6	0	81	12	5	1	84	1.3	4	1.7	5	2.9
			FulBe	60	8.0	5.9	17417	25	55	12	8	17	37	35	12	20	40	25	15	92	1.0	7	1.8	20	2.8
Toun Toube	157	1,159	Bouzou	23	5.2	4.0	43478	96	4	0	0	61	22	17	0	35	57	9	0	83	1.3	26	2.2	23	3.5
			Haousa	121	8.0	6.2	83636	83	10	5	2	48	32	16	4	26	31	34	8	74	1.3	5	4.7	2	6.1
			FulBe	12	5.2	4.0	130417	75	0	17	8	50	25	17	8	17	33	25	25	83	1.5	0	4.0	0	5.5

[1]Children (0-14 years) are equal to 0.5 adult equivalent

[2] The economic value of agricultural working capital was calculated by using these average prices: donkey cart (130,0000 FCFA), plow (35,000 FCFA), ox (50,000 FCFA), camel (70,000 FCFA), donkey (15,000 FCFA), and horse (40,000 FCFA).

In Bokki, with the exception of the former slave caste of the Djerma, it is those groups that enjoy more secure forms of cropland tenure that fallow land. Sabon Guida represents somewhat of an anomaly with respect to the various measures of cropland scarcity considered here. While the village shows low fallowing rates and consider land as a major constraint, land remains available for renting/borrowing and for purchase. There may be a number of reasons for this – one possibility is that the availability of land for renting/borrowing is positively influenced by higher rates of secure control over cropland that exist in Sabon Guida (but also Tountoubé). Further work would be required to clarify these uncertainties.

5.1.3. Access to Labor

Along with land, the availability of labor is a major constraint to both crop and animal husbandry. Particularly during the cropping season, the simultaneous labor demands from cropping and animal husbandry contribute to less than desirable husbandry of crops (weeding) and animals (herding). Withdrawals of labor from herding can not only lead to more constricted grazing patterns, which threatens animal nutrition, but an increased potential for livestock-induced crop damage—a major cause of farmer-herder conflict. Labor shortage can also be a major inducement for inter-household pooling of labor the "purchasing" of labor of others through various means. In this way, the relationship between labor shortage and social conflict is complex. In the case of the farmer-herder conflict, labor shortages reduce the local capacity to accommodate livestock and crop husbandry. At the same time, seasonal labor shortage has historically led households to develop cooperative relationships across ethnic lines that have worked to counter the erosive power of livestock-produced crop damage.

The major source of labor for most households in the four study villages is family—particularly family of the household concession.[4] Family labor is strongly influenced by the age of the family unit with respect to the family development cycle. Young families, made up of a husband, wife and small children are notoriously labor deficient. Labor availability in the household grows from this point on until sons (if/when they leave) and daughters leave the concession for marriage.[5] Large concessions are established when the nuclear families of

[4] One major exception to this is that of households headed by marabouts who often benefit from the labor power of their students.

[5] "Household" can be defined in many different ways – from the group of people that live in the same house, to those that share the same cooking pot, to those that live in the same walled concession. For the purposes of this research, we define the household as those living within the same walled concession which for the ethnic/caste

brothers, nephews, and sons of the household head remain in the concession. Their proclivity to remain varies by ethnicity/caste, the social relationships of the household head to others; the control of cropland land and livestock by the head; and the wealth of the head. Table 6 presents basic demographic information on households found within the four villages. In general, the Hausa and FulBe households of Sabon Guida and Tountoubé are generally of smaller size than the sizes of the households in Bokki and Katanga – particularly the Djerma households.

Social groups were asked about whether they perceive labor as a major constraint to agricultural production for their social group. While responses were not collected in Tountoubé, responses by social groups in the other villages show some interesting patterns. Women generally perceive a greater labor constraint than men. In Bokki, there is generally less of a perceived shortage of labor than the other two villages. While the Djerma and one FulBe group in Katanga stated that labor was not a major issue, they also stated that the real shortage was cash since one can use cash to hire labor. Cash wealth and the availability of labor were depicted as strongly correlated by informants not only in Katanga but Sabon Guida as well.

5.1.4. Access to agricultural productive capital

Effective farming requires access to land, labor, and the necessary productive capital to plow and weed the land and to bring the harvest to granaries or market. Productive capital includes: plows and carts and working animals such as donkeys, horses, camels, and oxen. All household heads were asked to enumerate the number of these forms of productive capital and Table 6 and Figures 2-3 present the estimated value (FCFA) held by households within the major social groups of each village. As shown in Figure 2, there are strong differences between households with respect to their control over these productive resources. As shown in Table 6, this variation is explained in part by social group with ethnicity/caste groups associated with livestock husbandry generally holding lower amounts of crop production capital than others in Bokki and Katanga. In Sabon Guida and Tountoubé, more complex patterns emerge with certain FulBe groups holding significant levels of crop production capital. As shown in the Figure 3, there is very little difference between "farming" and "herding" groups in the relationship between crop productive capital and livestock productive

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groups of this study, is generally associated with the kinship group that works common fields from which grain is stored in a common granary (individual fields are common within the household).

capital (cattle equivalents). This differs significantly from the Bokki and Katanga cases where at the same livestock wealth category, "herding" families generally hold significantly lower amounts of crop productive capital. The very low holdings of crop productive capital found in Sabon Guida need to be verified to ensure that they are not the result of the interview methods followed there.

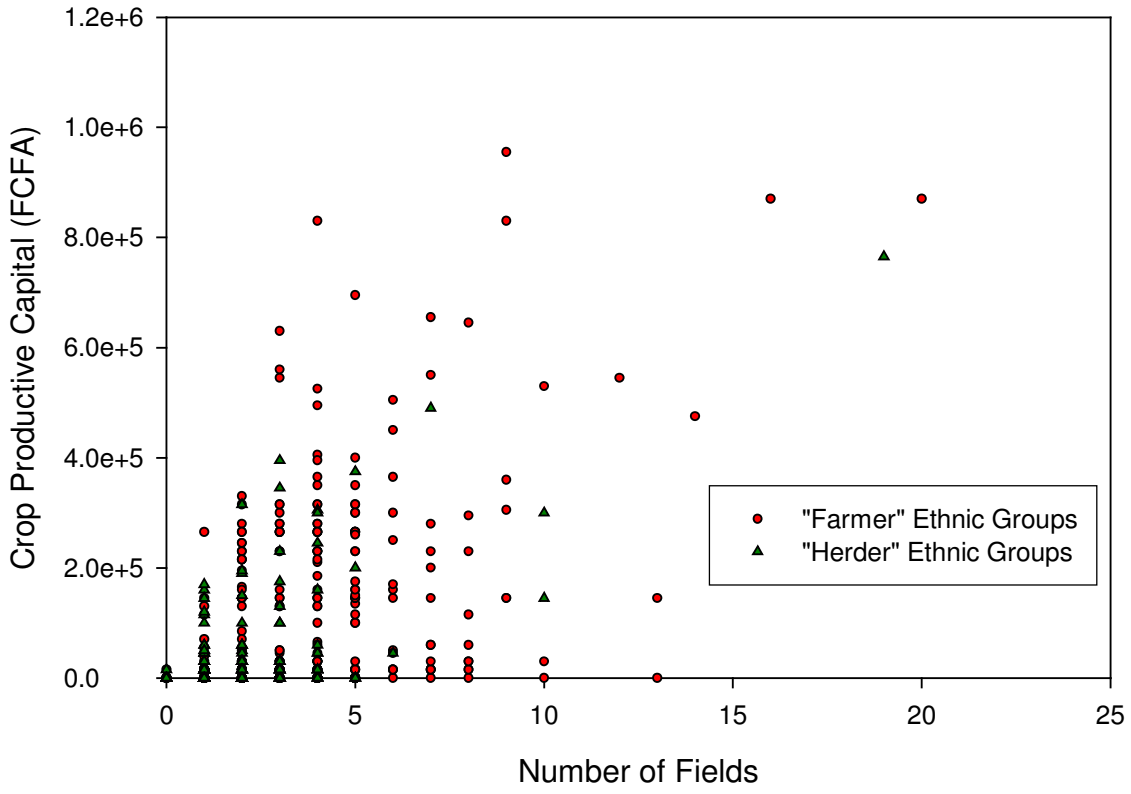

Figure 2. The crop productive capital (plows, carts and work animals) vs. the number of crop fields held by households in four survey villages. These data were self-reported by households during an exhaustive survey of all households within villages. Household symbols are distinguished by ethnicity with those ethnicities that have "farmer" identities (red circles) such as the Haoussa, Djerma, and Bella distinguished from those that have a "herder" identity such as the FulBe and Bouzou (green triangles). Data were extracted from completed survey form 3b1 (see Appendix I).

5.1.5. Access to Livestock

Livestock is both a store of wealth and a means of production. Livestock also play an important role in the mediation between farmer and herder interests. Farmers that invest in livestock are more likely to have developed a working relationship with a herder. This

relationship can be used to facilitate communication between affected parties when conflicts arise.

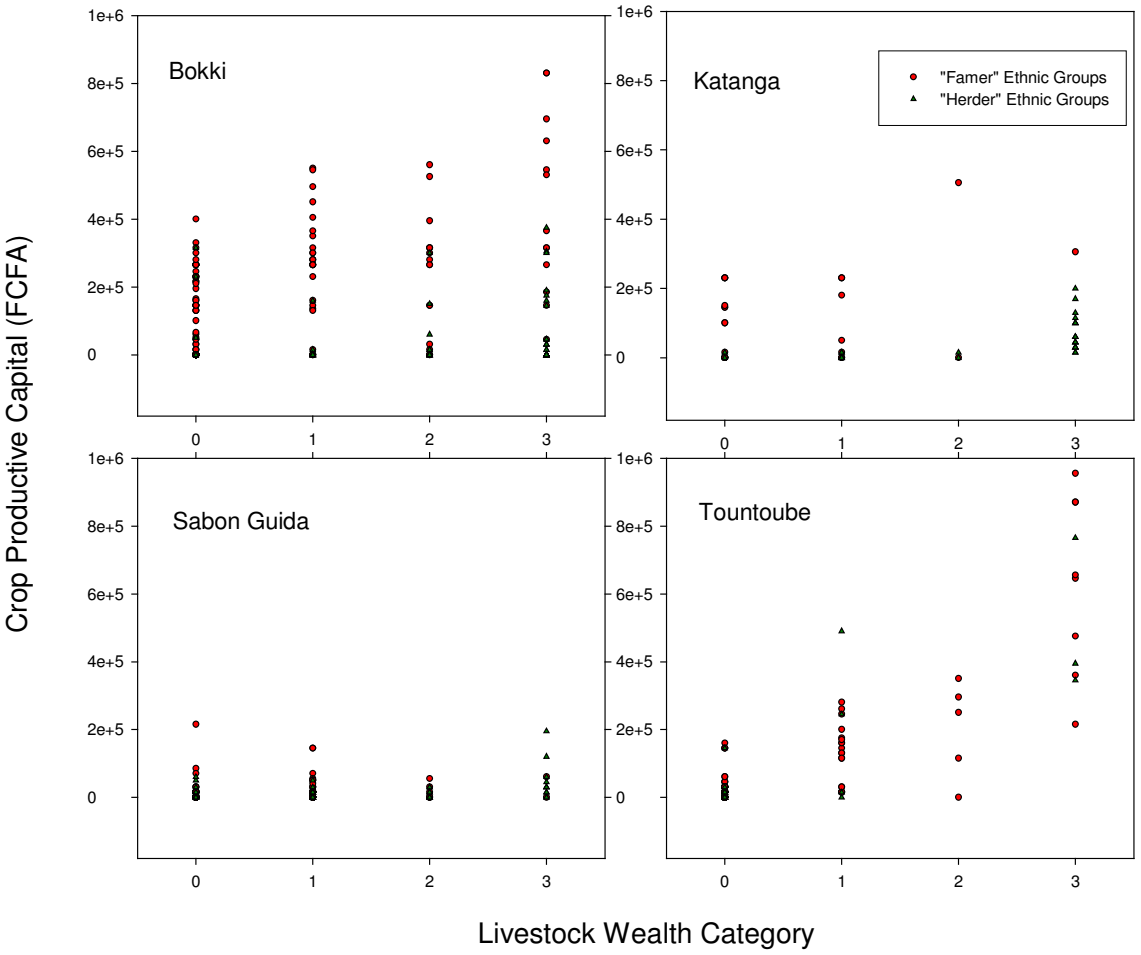

Figure 3. The crop productive capital (plows, carts and work animals) vs. the livestock wealth category (0=0, 1=1-3, 2=4-9, and 3=more than 9 cattle equivalents) held by households in four survey villages. These data were self-reported by households during an exhaustive survey of all households within villages. Household symbols are distinguished by ethnicity with those ethnicities that have "farmer" identities (red circles) such as the Haoussa, Djerma, and Bella distinguished from those that have a "herder" identity such as the FulBe and Bouzou (green triangles). Data were extracted from completed survey form 3b1 (see Appendix I).

Self-reported livestock ownership is highly skewed in the study villages (Figure 3). It is clear that while there remains a clear difference between ethnic groups that have historically managed livestock (FulBe) and those that have been historically farmers (Djerma and Haussa) in Bokki and Katanga, there is no such difference in Sabon Guida and Tountoubé. In the latter two villages, the relationship between investments into the productive capital

necessary for cropping and livestock husbandry are similar while in the case of Bokki and Katanga, FulBe show a much higher preference for investing in livestock. In group interviews, informants were asked to rank different social groups within their village with respect to the wealth of the largest owner in the social group and with respect to the livestock owned within the social group not owned by the largest owner. Table 7 presents the average ranks of the major social groups for the three villages in which livestock wealth ranking was performed in group interviews. Consistent with the findings of the analysis of self-reported livestock ownership, the FulBe in Katanga are seen as larger owners of livestock than Djerma farmers. In Sabon Guida and Tountoubé however, there is no clear distinction with Hausa groups in both villages ranked as owning more livestock than the FulBe in each village.

Table 7. Averages of ranks of livestock ownership for the richest livestock owner within a social group and for the livestock owned by the rest of the social group (excluding those of the richest) as reported by representatives of each group.

Village	Social Group (ethnicity/ Caste)	Rank of Richest Owner of Livestock Species			Excluding richest, Rank of Livestock Owned by Group		
		Cattle	Sheep	Goats	Cattle	Sheep	Goats
Katanga (3)	FulBe (1)	2.00	2.00	1.00	1.00	1.67	1.00
	FulBe (2)	1.00	1.00	2.00	2.00	1.33	2.00
	Djerma	3.00	3.00	3.00	3.00	3.00	3.00
Sabon Guida (4)	FulBe (Gidan Daji)	4.75	4.75	4.25	4.75	5.00	4.25
	Hausa M (1)	3.00	2.75	3.25	2.75	2.75	3.00
	Hausa M (2)	1.50	2.00	1.75	1.50	1.75	2.00
	Hausa W	3.75	3.00	3.25	3.25	2.50	3.00
	FulBe	1.75	2.50	2.50	2.50	2.75	2.50
Tountoubé (3)	Bouzou	3.00	3.00	3.00	3.00	2.33	2.33
	Hausa	1.67	1.33	1.67	1.33	2.33	1.67
	FulBe	1.33	1.67	1.33	1.67	1.33	2.00

Lower ranks represent individuals or groups with greater livestock wealth. The number of interviews that produced ranks used to generate averages are given in parentheses after the name of the village. Data were extracted from completed survey form 3b1 (see Appendix I).

5.2. Livelihood strategies

Livelihood strategies represent the mix of the agricultural and nonagricultural economic activities that family members use to sustain their households. Livelihood strategies both affect and reflect a household's access to productive resources. For example, a household that has very few livestock will have a difficult time pursuing a livelihood that heavily relies on animal husbandry. Likewise, a farmer who has secure access to only a small piece of land, is not likely to invest much capital into crop production. Still, access to productive resources can also in turn reflect the livelihood choices of rural producers. For example, a successful farmer may not choose to invest in livestock but instead purchase crop production capital and land. While significantly different from a capitalist economy, natural pastures, cropland, labor, crop production capital and livestock are somewhat exchangeable at a local level. As a result, while the resources available to rural producers are in large part imposed on them, there is a degree of choice as to which resources to pursue.

5.2.1. Agricultural Production Strategies

Crop production represents a major component of the livelihood strategies of all social groups within the four villages. Livestock represent important wealth stores into which economic surpluses are commonly invested. A major dimension of variation in the four surveyed villages is the degree to which households allocate their investments of capital and labor into crop and livestock husbandry. For this project, we did not conduct labor and investment studies. We can therefore only compare the relative importance of crop and livestock investments in households' investment portfolios. As shown in the Figure 3, ethnicity plays a role in the investment strategies of producers in the villages of Bokki and Katanga. Bokki and Katanga are on quite different development paths with the former attracting significant amounts of outside investment and technology support. This explains in part the higher and wider range of crop production capital investments in Bokki compared to Katanga. In these two villages, the FulBe whose historical identity is strongly linked with livestock husbandry, while all farming, show a significant bias away from the crop production capital investments toward investments in livestock compared to the Djerma and Hausa. As discussed previously, this ethnic contrast with respect to crop and livestock investments is not seen in Sabon Guida nor Tountoubé. In these two villages, FulBe investments do not strongly contrast with those of the Hausa. In this way, one could argue

that the productive interests of "herding" and "farming" groups in these two villages are more congruent than for either Bokki or Katanga.

Clearly, livestock investment is affected not only by livelihood choices but by wealth status of the household. Poor households, no matter what their ethnicity or livelihood interest, are not able to accumulate livestock of any numbers. In order to disentangle the effects of these multiple factors on a household's livestock wealth, cattle equivalent wealth category was regressed on village dummy variables, dummy variable of herding social group, and crop field ownership. The results of this analysis are presented in Table 8.

Table 8. Coefficients (b), standard errors, standardized coefficients (β) and significance levels (p) of multiple-regression model used to estimate livestock owner classes expressed in cattle equivalents, or CE (0=0 CE; 1=1-3 CE; 2=3 to 9 CE; and 3=greater than 9 CE) for households in four study villages.

Independent Variables	**Livestock Ownership Class (cattle equivalents)**			
	B	SE	B	P
Constant	0.38	0.08	0.00	$2x10^{-6}$
Herding Social Group (HSG)	1.77	0.12	0.75	10^{-15}
Katanga	-0.26	0.17	-0.07	0.11
Sabon Guida	-0.08	0.11	-0.03	0.45
Tountoubé	-0.42	0.11	-0.16	10^{-4}
Number of Owned Fields	0.11	0.01	0.25	$3x10^{-13}$
Katanga*HSG	0.41	0.24	0.08	0.09
Sabon Guida*HSG	-0.87	0.18	-0.24	10^{-6}
Tountoubé*HSG	-1.62	0.20	-0.33	$3x10^{-15}$

Independent variables include: the number of fields owned by the household and dummy variables for whether (1) or not (0) the household is from: a herding social group (e.g. FulBe or Bouzou); the village of Katanga; the village of Sabon Guida; or the village of Tountoubé. Data (n=628) were extracted from completed survey form 3b1 (see Appendix I). Adjusted coefficient of determination for the model is equal to 0.44.

The analysis (Table 8) shows that land ownership is significantly correlated with livestock ownership. Those social groups whose ethnicity is tied to livestock husbandry (e.g. FulBe and Bouzou) tend to own more livestock than others. In addition, Bokki and Katanga households generally own more livestock than households in Sabon Guida and the Tountoubé. Moreover,

the difference between "herding" and "farming" social groups is less in these two villages as well.

5.2.2. Nonagricultural livelihood strategies

Due to resource scarcity, climatic risk and underdeveloped markets for agricultural commodities, the livelihood strategies of households in Sudano-Sahelian West Africa often rely on a range of economic activities that are not strictly agricultural. Members of the household will seek cash and in-kind income both within the village and outside. Household heads were asked to enumerate the numbers of household members involved in a range of nonagricultural pursuits including: Islamic study/teaching, trade/commerce, fabrication/building of various products (e.g. blacksmith, tailor, mat/rope weaver, house construction…etc.), the collection and processing of traditional medicines, working as a paid laborer; involved in labor emigration to work elsewhere, or other forms of nonagricultural economic pursuits. Table 9 provides the fraction of all adults that are involved in each of these pursuits along with their sum. Given that a single individual may be involved in more than one of these activities, the sum of these fractions can exceed one. Traditionally "herding" ethnicities (FulBe) are generally less involved in these nonagricultural pursuits than "farming" ethnicities (e.g. Djerma, Haoussa, Bella). Labor migration rates are higher for the two northern villages – Tountoubé and Katanga although the low rates for Bokki and Sabon Guida are suspect and need to be confirmed. The lower labor migration rates among the FulBe are consistent with previous work (Turner and Hiernaux, 2002) arguing that the year-round labor demand of herding inhibits involvement in seasonal labor migration patterns observed among farming families (Turner 1999). Consistent with the higher livestock husbandry specialization noted for the FulBe of Bokki and Katanga, the inter-ethnic differences in labor migration participation is higher in these two villages than for Sabon Guida and Tountoubé. The exceedingly high rate of involvement in Islamic study/teaching in Sabon Guida is surprising and may more reflect differences in interviewers' questioning and categorization of what Islamic study/teaching is. It seems likely the interviewer in Sabon Guida recorded children receiving Islamic schooling under this category.

The clear difference between "herding" and "farming" groups in their involvement in labor migration and nonagricultural pursuits has a number of implications for understanding farmer-herder conflict. Certainly, it means that it is more likely that households from "farming" groups are likely to be more buffered economically from the local vagaries of

climate, livestock loss, and crop failure than "herding" groups. Certainly, the higher rates of livestock ownership among the FulBe also provides a buffer to the vagaries of production failure but the nature and effectiveness of this buffer is different than off-farm income streams. Second, off-farm economic activities may draw labor away from agricultural pursuits which may lead to less effective husbandry of crops and livestock. Third, off-farm economic activities are important sources of cash to the rural economy that both provide households a means to gain access to productive resources and an opportunity to resolve conflicts in their favor. Fourth, some of these activities (e.g. commerce) provide opportunities for investment and alternative wealth stores to livestock leading to an uncoupling of the interests between investors and livestock managers. Fifth, off-farm economic activities provide opportunities to develop social ties across social groups within and outside of the village that can be utilized in times of conflict.

Table 9. The number of adults involved in nonagricultural economic activities as reported by household heads in exhaustive survey of study village households.

Village	Social Group (ethnicity/ Caste)	Fraction of Adults Involved in the Nonagricultural Pursuits							
		Islamic Study	Commerce	Fabrication (artisinal, construction…etc.)	Traditional Medicine	Paid Labor	Labor Migration	Other	Sum
Bokki	Bella	0.00	0.06	0.11	0.02	0.01	0.05	0.08	0.34
	Hausa	0.02	0.26	0.07	0.02	0.02	0.06	0.08	0.52
	FulBe	0.06	0.07	0.02	0.00	0.02	0.04	0.19	0.39
	Djerma	0.07	0.12	0.05	0.01	0.03	0.15	0.15	0.59
Katanga	FulBe	0.09	0.00	0.00	0.00	0.00	0.18	0.00	0.27
	Djerma	0.14	0.13	0.03	0.03	0.00	0.42	0.02	0.77
Sabon Guida	Hausa	0.50	0.06	0.01	0.01	0.01	0.07	0.02	0.68
	FulBe	0.13	0.07	0.04	0.00	0.00	0.02	0.06	0.32
Tountoubé	Bouzou	0.04	0.03	0.09	0.00	0.00	0.48	0.06	0.70
	Hausa	0.07	0.06	0.11	0.05	0.00	0.28	0.03	0.59
	FulBe	0.03	0.00	0.00	0.04	0.00	0.22	0.07	0.36

Data were extracted from completed survey form 3b1 (see Appendix I).

5.3. The social relations of livestock management

A household's agricultural production is affected not only by the actions of household members but those outside of the household within the same social group or outside of the

household's social group. Crop production often involves the hiring or sharing of labor, renting/borrowing fields from land owners, engaging in contracts with herders for manure or for herding services, managing disputes concerning field boundaries, and managing disputes concerning crop damage …etc. Livestock production involves herding contracts with livestock owners, managing disputes concerning crop damage, negotiations to gain access to pasture outside of village territory, negotiations to gain access to water for livestock… etc. While most social relationships implicated in agricultural production occur within the household, inter-household relationships are very important. Members of representative households of the major social groups in the four study villages were interviewed about the productive activities they are involved in and how these activities are meaningfully affected (if at all) by people outside of their household. Of the 500 identified social relations enumerated in these interviews, 43% involved people of the interviewee's social group while 57% involved people outside of the interviewee's social group. Sixty-two percent of the social relations outside the interviewee's social group were relations between farmers and herders. This finding supports the argument that agricultural production does not involve members of the "decision unit" but relies for better or for worse on relationships within and outside kinship and ethnic/caste groups. Farmer-herder relations are not only important for local politics but also for increasing agricultural productivity.

Livestock husbandry as a productive activity plays a particularly important role in shaping farmer-herder relations because it implicates important social relations between these two groups: herding contracts, manure contracts, crop damage disputes, milk sales… etc. Crop damage disputes, involving largely adversarial social relations, are what many local informants and outside observers first think about when they think of farmer-herder relations. These disputes are largely seasonal and if cooperative relationships exist, likely to remain ephemeral. In this way the cooperative ties between members of herding and farming groups can be thought of as important social networks that can be utilized to manage conflicts that necessarily arise in unfenced rural areas. Building from our prior discussions of the distribution of resource access and livelihood strategies, it is important to recognize the variable fraction of producers that have sufficient numbers of livestock to invest their own labor or to enter into management contracts with livestock-rearing specialists. Such rural producers are more likely to have established working relationships with herding specialists but also to identify more strongly with livestock and the difficulties of livestock management.

Table 10 presents information, gathered through the exhaustive surveys of village households, on the fraction of "farming" and "herding" households who report owning no

livestock (cattle, sheep, goats) and who report owning livestock equal to more than three cattle equivalents. Members of households in the first category of livestock ownership would not be expected to have entered into productive relations with herding specialists and would be less likely to have positive views of livestock compared to those in the second category. An important caveat to these data is that there may be variation in the degree to which the interviewers clearly articulated our interest in knowing the livestock owned by all members of the household rather than the person being interviewed (normally, the household head). In all villages, the majority of "farming" families do not own livestock while the majority of "herding" families own more than 3 cattle equivalents (greater than nine sheep and goats).

Table 10. The fraction of households from "farming groups" (e.g. Hausa, Djerma) and "herding" groups (FulBe) that own no livestock and that own greater than three cattle equivalents based on interviews of household heads.

Village	Social Group Type	Fraction owning no livestock	Fraction owning greater than 3 cattle equivalents
Bokki	Farming	.62	.20
	Herding	.06	.78
Katanga	Farming	.63	.09
	Herding	.06	.71
Sabon Guida	Farming	.58	.04
	Herding	.19	.38
Tountoubé	Farming	.78	.09
	Herding	.67	.25

Data were extracted from completed survey form 3b1 (see Appendix I).

The very low livestock ownership rates for "farming" households, while inconsistent with statements made about the prevalence of livestock ownership in group interviews,[6] does support the view that a significant fraction of farming families (probably lower than stated in this table) do not own livestock and therefore are more likely to lack the cooperative ties with herding specialists. The data from Tountoubé are noteworthy in the very low rates of livestock ownership among "farming" and "herding" households alike. There, more than in the other three villages, farmer-herder relations may be best seen as relations between villagers and outside herders moving through the area on seasonal transhumance.

[6] The data from Sabon Guida are particularly suspect in this regard. Group interviews show that Hausa groups have the largest livestock owner and have larger numbers of livestock once the largest owner's livestock are excluded (Table X). Although mathematically possible, given the large number of Hausa households, this finding from group interviews seemly inconsistent with the data from household interviews of only 4% of farming families having greater than 3 cattle equivalents. The Sabon Guida data should therefore be viewed as suspect.

In group interviews, representatives of the major ethnic/caste groups in each village were asked about how households owning livestock within their group manage their grazing. Table 11 summarizes these discussions. In general, households with few livestock are more likely to have another herd their livestock for them either through a wage or entrustment contract. Grazing during the dry season is more likely to be self-managed since many livestock, especially small ruminants, are not herded but are left to graze on their own during much of the grazing period (herd-release, free pasture). During the rainy season, livestock need to be herded simply to avoid crop damage. Reflecting the connection between ethnic identity and livelihood strategy, FulBe are more likely to have another herd their livestock only if they have very few livestock while "farming" groups (Hausa, Djerma) are more likely to manage the grazing of their livestock themselves if they only have a few (often through staking in fields, or stall feeding). Detailed interviews of household composition and productive activities of a sample of households within each of the villages' social groups (see Appendix I: form 3cb), provides information that is consistent with this finding that those ethnicities that have historically specialized in animal husbandry (FulBe and Bouzou) still committing a higher fraction of family labor to herding. Of the 296 males above nine years of age censused among the 63 survey households, 50% of those from ethnic groups tied to livestock husbandry (FulBe and Bouzou, n=121) and 7% of those from other ethnic groups (Hausa, Djerma, Bella, n=175) were described as herding animals during some part of the year. A major deviation from this pattern is revealed by statements Djerma informants in the Katanga group interviews that members of their group manage their own livestock during the rainy season no matter the size of their livestock holdings.[7] Such a situation is indicative of poor relations between the Katanga Djerma and FulBe.

People report contracting the labor of others to graze their livestock through two different contracts. The first is a wage contract in which the owner pays a fee per head with fees most commonly expressed by season (cropping season and dry season) but can also be expressed by month or even week. While cash is the most common form of payment, fees can be paid in grain or some combination of cash/grain. Table 12 presents the cash fees for herding small ruminants (sheep and goats) and cattle cited by informants as the typical fees charged in their villages for livestock grazing. When female cattle or goats are in milk there are generally no fees charged to the livestock owner. Lost animals are the responsibility of

[7] This anomalous finding may be due again to how the questions were posed by interviewers. We are aware of the use of Djerma of hired herders during the rainy season. It may be that if these herders are "strangers" – not from the local FulBe – the Djerma may characterize this as herding the livestock themselves.

Table 11. Most common modes of grazing management utilized during the rainy and dry seasons by different social groups within three study villages as reported in group interviews by group members.

Village	Social Group (ethnicity/ Caste)	Rainy Season				Dry Season			
		Hire other	Entrust to other	Herd Self	Free/ Attach Self	Hire Other	Entrust to other	Herd Self	Free/ Attach Self
Katanga	FulBe (1)			CcSs				CS	cs
	FulBe (2)		cs	CS				C1	C2cSs
	Djerma			Cc	Ss				CcSs
	FulBe (Gidan Daji)	S	C	S	c			CcSs	
Sabon Guida	HM (1)	CcSs				CcSs			
	HM (2)	CS		Cs		Cc2S		c1s	C3
	HW	CcSs				CcSs			
	FulBe	cs	CS			Cs	c		S
Tountoubé	Bouzou	S1s1		C1c1S1s1	C2c2	CcS1s1		S2s2	
	Haussa	C1c3S1s1	C3S2s2	c1S1s1	C2c2	C1c1S1s1	C2c2S3s3	S2s2	
	FulBe	C3c2S1s1	C2c3S2s2	C1c1S3s3		C1c3S1s1	C2c2S2s2	C3c1S3s3	

The most common management modes utilized for households owning 1-3 cows (c); >3 cows (C); 1-3 small ruminants (s); and >3 small ruminants (S) were identified. In cases where more than one management mode was mentioned, the prevalence rank (1 being most prevalent) follows the particular household ownership class. Management modes include: hiring someone outside of household to graze animals (hire other); entrusting livestock to someone outside of the household (entrust to other); someone within the household herding the animals to pastures (herd self); or the household managing animals by attaching animals in pasture or releasing them for free pasture (free/attach self). Data were extracted from completed survey form 2bc (see Appendix I).

Table 12. Fees for herding services as reported in group interviews.

Village	Price for Herding Services (FCFA)			
	Rainy Season		Dry Season	
	Cattle	Small Ruminants	Cattle	Small Ruminants
Bokki	1000	500	1000	
Kitanga	1000-2000	500	1000-1500	300-400
Sabon Guida	1000	250	1000	250
Tountoubé	1500	500	1500	500

Data were extracted from completed survey form 2bc (see Appendix I).

the manager – if the herder fails to give proof of the death of the animal or fails to be pardoned by owner, he is expected to compensate owners for any lost animals. Paying for the medical treatment of animals are the responsibility of the owners. Informants generally report that in cases of crop damage incurred under the management of the hired herder, it is the owner of the livestock that is expected to pay for their share of the crop damage (based on percentage of implicated livestock owned by the individual). An important variant to this was expressed in interviews in Bokki where entrustment contracts are more common. There, if herding services are through wage contract, it is the herder that pays for damage while if the animals are entrusted, it is the owner(s) who is liable for crop damage. In the case of the wage contract, informants cite much greater control over where the animals are grazed compared to entrustment contracts with "farming group" informants in Bokki stating that they have never allowed a herder to take animals farther than 15 kilometers from the village.

Herding services can also be provided owners who entrust their animals to a herder. Entrustment is similar to a loan and, while not requiring a grazing fee paid, does require that some fraction of entrusted animals in milk be left with the herder. In this way, the herder is paid for grazing animals by the milk produced. It is for this reason that livestock entrustment is most common among cattle compared to small stock (sheep and goats) and that when male livestock are sold out of an entrustment, the owner pays the herd manager a portion of the proceeds of the sale (e.g. 5000 FCFA). Entrustments are also more common among the FulBe than between members of different social groups.[8] Compared to herding for a fee, the herder retains greater autonomy with respect to the destinations outside of the village territory and less scrutiny with respect to livestock losses. Crop damage and medical costs are paid by the livestock owner.

While all social groups hold some interest in livestock and manage their livestock during some portion of the year, the FulBe in each of the four study villages are the only social groups that practice longer-range transhumance (defined here as movements away from the home village exceeding 30 km). Given the strong connections between FulBe management and herd mobility, the proclivity of livestock owners in a community to enter into wage or entrustment contracts with FulBe herding specialists will have an effect on the mobility of the community's livestock. Table 13 presents estimates given by informants of major social groups of the percentage of livestock owned by social group that remain in the

[8] *Haba-nai* is a particular type of entrustment between FulBe that is seen as a herd rebuilding loan. The livestock owner loans the manager a heifer that stays with the manager for 1-3 births with a portion of the offspring remaining in the manager's herd.

village territory, move short distances away from village (5-30km) or move farther away from the village (> 30 km) during the rainy and dry seasons.

Table 13. Estimated percentages of social groups' livestock that are left in the village (stay), on short transhumance of 5-30 km away from village (STR); and long transhumance of greater than 30 km away from village (LTR) as reported by members of social groups in group interviews.

Village	Social Group (ethnicity/ Caste)	Rainy Season						Dry Season					
		Small Ruminants			Cattle			Small Ruminants			Cattle		
		Stay	STR	LTR	Stay	STR	LTR	Stay	STR	LTR	Stay	STR	LTR
Bokki	Djerma (former slaves)	100	0	0	5	20	75	100	0	0			
	FulBe	20	80	0	10	0	90				60	0	40
	Djerma				10	0	90				70	0	30
	Hausa	0	100	0	10	30	60	100	0	0	100	0	0
Katanga	FulBe (1)	0	20	80	10	20	70	100	0	0	80	20	0
	FulBe (2)	5	25	70	10	0	90	100	0	0	80	20	0
	Djerma	100	0	0	100	0	0	100	0	0	100	0	0
Sabon Guida	FulBe (Gidan Daji)	50	25	25	50	25	25	25	25	50	25	25	50
	Hausa M(1)	100	0	0	0	100	0	25	75	0	0	100	0
	Hausa M(2)	75	0	25	75	25	0	75	25	0	100	0	0
	Hausa W	50	0	50	75	0	25	0	75	25	75	0	25
	FulBe	75	25	0	0	100	0	75	25	0	0	100	0
Tountoubé	Bouzou	100	0	0	100	0	0	100	0	0	100	0	0
	Hausa	100	0	0	50	50	0	100	0	0	50	50	0
	FulBe	80	20	0	25	75	0	100	0	0	100	0	0

Data were extracted from completed survey form 2bc (see Appendix I). When data are missing, cells are left blank.

In general, livestock are more likely to be managed outside of the village territory during the rainy season. This has a real benefit in reducing the potential of farmer-herder conflicts in the village since a greater fraction of village's livestock are kept away from village fields. Return of the livestock after harvest provides a benefit to field owners from the manure of animals. Cattle are more likely to be moved away from the village territory than small ruminants. FulBe owners have a greater proclivity to move their animals away from the

village territory than farming groups. Still, there is a fair amount of variation among the FulBe and among farming social groups with respect to their proclivity to move animals outside of the territory. The FulBe of Bokki and Katanga are more inclined to send their cattle on longer-range transhumance than FulBe of Sabon Guida and Tountoubé. This may reflect in part their larger herds. All social groups of Sabon Guida tend to rely on short-range movements of livestock out of the territory. In Tountoubé, the herds of all social groups show surprisingly little mobility with a significant fraction of village-owned livestock remaining in the village territory year-round.

Similar to other findings concerning the variation of resource access and livelihoods in the four villages, we find strong differences between "herding" and "farming" groups in Bokki and Katanga with respect to livestock mobility compared to that observed in Sabon Guida and Tountoubé. The limited differences in grazing management across social groups in these latter two villages likely results in less social distance between "herding" and "farming" groups. However, one would expect, given the more continual presence of livestock in these two village territories (especially Tountoubé), that each livestock unit owned in these two villages to produce a greater degree of harm with respect to farmer-herder relations. The fact that livestock wealth is lower in these two villages is most likely an important reason why more sedentary management systems can be maintained.

More in-depth discussions were conducted with informants from each social group as to the division of livestock management tasks by age and gender typical for those members of the group who manage their own livestock. Table 14 summarizes the results of these discussions. There are strong ethnic/caste distinctions in the division of management tasks. The FulBe generally display much stronger gender divisions of labor compared to "farming groups" with men and boys expected to water and herd livestock while women may gather and process feed supplements and in the case of the eastern two villages, milk animals. While farming groups display much greater flexibility in management roles, there are some interesting ethnic distinctions. For example, Hausa women are expected to not only water small stock but cattle as well.

Social relations that surround livestock husbandry not only involve the relationship of local "farming" and "herding" groups but also villagers and "stranger" herders that pass through the territory sometime during the year. In our group interviews of representatives of major social groups, we asked them to characterize their relationships with outside herders, ranking them in order of prevalence within their social groups. Table 15 presents the results of these discussions. As would be expected, kinship ties to outside herding groups are most

prevalent among the FulBe.[9] The importance of adversarial relations of farming groups with outside herders is reportedly higher in Bokki than other three villages.

Table 14. Division of labor by gender and age for common animal husbandry tasks performed during the rainy (during field closure) and dry seasons (field opening) by households within the social group that manage their own livestock as reported by members of social groups in group interviews.

Village	Social Group (ethnicity/ Caste)	Rainy Season					Dry Season				
		Water	Herd	Feed suppl	Milk	Trade	Water	Herd	Feed suppl	Milk	Trade
Bokki	FulBe (women)	M	M	Mm/Ff	M	M	Mm	M	MFf/Ff	M	M
	Djerma (former slaves)	M/F	M	m/F	M/F	M/m	M/F	M/F	M/m	M	m/M
	FulBe	M	M		m	M	m	M	F	M	M
	Djerma	All	M	M/m	Mm	M	M/m	M	M/m	M/m	M
	Haoussa	F	MF	M	M	M	F	MF	M	M	M
Katanga	FulBe (1)	m	Mm/m	MFf	F	M	Mm	M	MFf/M	M	M
	Djerma	MF	M	M	M	M	Mm		M/MF	M	M
Sabon Guida	FulBe (Gidan Daji)	M	M	M	M	M	M	M	M	M	M
	HM (1)	F	m/M	M	F	M	F	M/m	M	F	M
	HM (2)	F	MF	M	F	M	F/M	MF/F	M	F	M
	HW	F	f/M	M	F	M	F	M	M	F	M
	FulBe	F/M	F/m	M	M	M	M	M	M	M/F	M
Tountoubé	Bouzou	m/Ff	m/M	m/Ff	/Ff	M	Mm/Ff	M	m/Ff	/Ff	M
	Haussa	All	m/all	M	MF	M	all	All	M	MF	M
	FulBe	All	M	MmF	F	M	all	M	MmF	F	M

Major tasks enumerated include: watering (water), herding (herd), collection and preparation of feed supplements (feed suppl), milking (milk), and livestock commerce (trade). The common participation of men, boys, women and girls in these tasks are designated by M, m, F, and f respectively. In cases, where division of labor differs between cattle and small ruminants, participant codes associated with cattle husbandry proceed a forward slash (/) followed by the participant codes for small ruminant husbandry. Data were extracted from completed survey form 2bc (see Appendix I). When data are missing, cells are left blank.

[9] The high prevalence of kinship ties to outside herders as reported by the Djerma of Bokki and the Hausa of Sabon Guida is surprising and needs to be verified.

Table 15. Ranked characterizations of the relationship of social group members to outside herders as reported by representatives of each social group in four study villages.

Village	Village Social Group (ethnicity/Caste)	Relationship with Outside Herders (rank of prevalence)					
		Host through kinship	Host through friendship	Contractual (manure)	Adversary	None	Other*
Bokki	FulBe (women)	1					
	Djerma (former slaves)	1.5	1.5	3.5	3.5		
	FulBe	1.5	1.5	4	4	4	
	Djerma	4.5	4.5	2	2	2	
	Hausa		2		1		
Katanga	FulBe (1)	1		2			
	FulBe (2)	2				1	
	Djerma	4	1	2		3	
Sabon Guida	FulBe (Gidan Daji)	1	2	3			
	HM (1)		1				
	HM (2)	1	2	3			
	HW	3	1	2	5	4	
	FulBe	1	2	3	4	5	
Tountoubé	Hausa	6	1	2	3	4	5
	FulBe	3	2	1	4	5	6

Data were extracted from completed survey form 2bc (see Appendix I).

5.4. Farmer-herder relations and conflict management

The results that have been presented above demonstrate that each of these four villages are experiencing different levels of resource scarcity; show different social distributions of resource access; show quite variable divergences between the production goals and logics of "herding" and "farming" groups; and the political configurations affecting the nature of local governance. All of these factors contribute to: the prevalence of farmer-herder conflicts; the social actors actually involved in these conflicts; and the prospects for managing conflicts that arise. In this research, we attempted to trace out the social networks that people use when conflicts arise in relation to their productive practices. We did this by interviewing members of the seventy-nine households representing the major social groups about the people that they rely on to help them manage conflicts as they arise in their production activities (Appendix I: forms 4 and 5). Some of the research assistants wrote copious notes during the course of the research on farmer-herder conflicts – these notes also provide additional information on past conflicts experienced by the interviewees in each study sites.

The underlying causes of the farmer-herder conflict are complex – so complex that not only researchers but local people having quite different understandings of their genesis. In all the study villages, at least 75% of the cases of farmer-herder conflict between 2002 and 2004 reported by the informants during our interviews were resolved (Figure 4). In Tountoubé all cases of conflict were resolved. The results support a basic premise that conflicts that necessarily arise as people pursue diverse livelihood strategies are largely managed effectively at the level of local communities. In all the villages, the elders, marabouts and chiefs are the main channel for mediation. For example, all resolved conflict cases in Sabon Guida and Tountoubé were through village elders and chiefs. The high level of success of internal mediation in both villages could be attributed to the high respect for the authority of village chiefs and council of elders by all social groups. The opposite is the case in Bokki where the village chief is much less respected. Hence, there is a relatively high involvement of external mediators in resolving conflict in the village (five of 16 cases of conflict reported to be resolved by the informants were by local court and police). From the responses of the informants in all the four villages, damage to crops was the first reported cause of conflict between farmers and herders (Figure 5). Crop damage is not limited to damage to growing crops on the field but also included unauthorized grazing of crop residues after harvest.

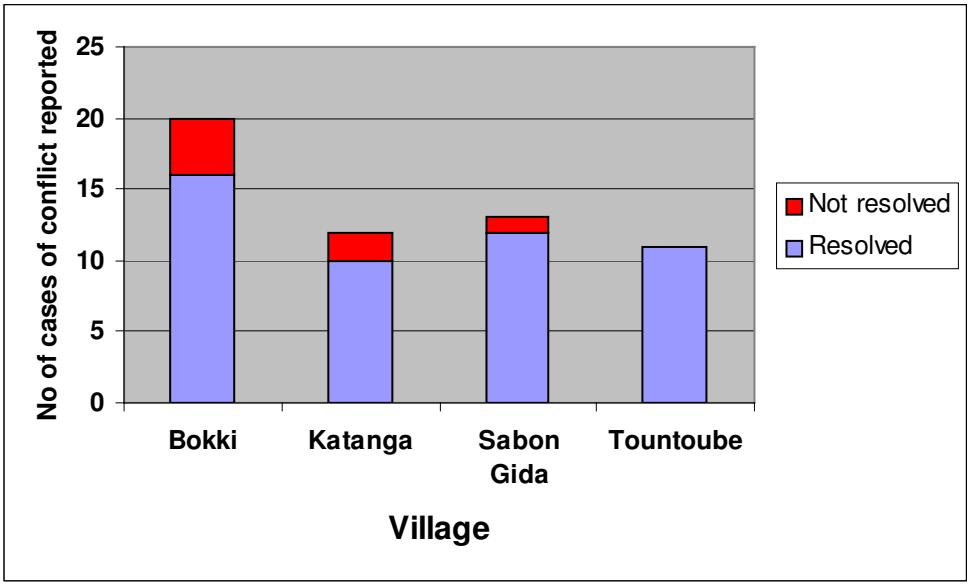

Figure 4. Reported cases of farmer-herder conflict in study sites between 2002 and 2004.

The increasing number of conflicts due to unauthorized grazing of crop residues is a reflection of the change in farmer-herder relations from that of mutual trust that characterized manure and entrustment contracts to more inherently conflictual relationships based on wage and tenancy contracts (Turner 2003). Other causes of conflict reported were access to watering points, expansion of crop field to corridors for animal passage and theft of animal.

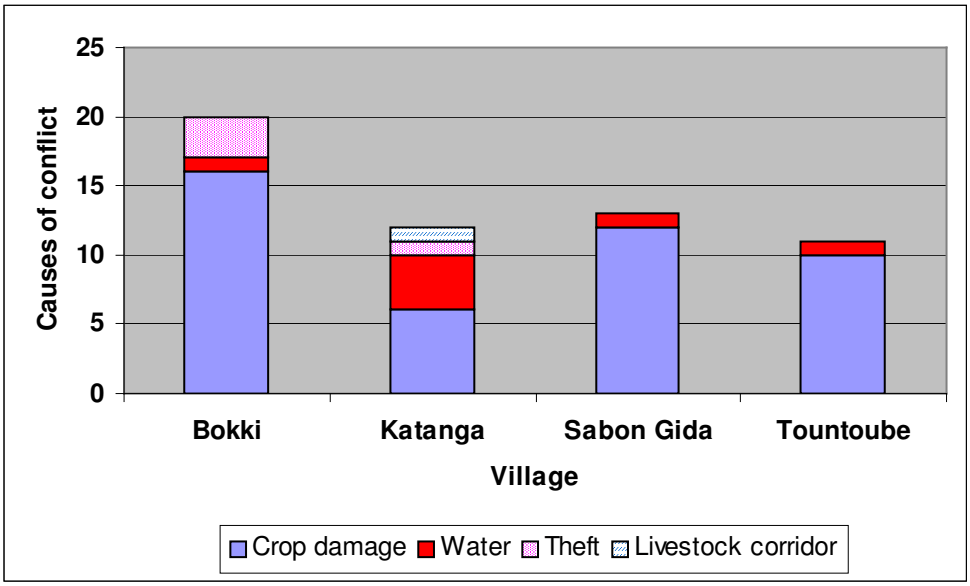

Figure 5. Reported causes of farmer-herder conflict in study sites between 2002 and 2004.

Table 16. Reactions to different propositions concerning the causes and consequences of farmer-herder conflict by thirty small groups (2-3 people) of informants representing major social groups in four study villages.

Proposition	Bokki				Katanga			Sabon Guida					Tountoubé		
	Djerma Slaves(2)	FulBe (3)	Djerma (2)	Haoussa	FulBe 1	FulBe 2	Djerma(4)	FulBe (GD)	Haoussa M1	Haoussa M2 (4)	Haoussa W	FulBe (2)	Bouzou	Haussa (5)	FulBe
Cultivation rights are stronger than pasture rights	T+=	T+	T+	T+	T=	T	T+	T-	T-	T=	T-	T+	T=	T=	T+
Pasture rights are stronger than cultivation rights	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
There is a conversion of fields to pasture	T=F	F/T+	T=F	F	F	F	F	F	T+	T+	T+	F	F	F	F
There is a conversion of pasture to fields	T+=	T+	F	T+	T=	T+	T=+	T-	T=	T=	T-	T=F	F	T=	T-
There is a loss of livestock corridors to fields	T=F	T+	F	F	T+	T+	T=/F	T-	T=	T+	T+	T+=	T=	F	F
The salary paid to herders is low	T=F	F/T+	T=+	F	F	F	F	T-	F	T-=/F	F	T+=	T=	F	F
The salary paid to herders is high	T+=	F	T=F	T+	F	F	F	F	T=	F	T=	F	T=	F	F
There are too many outside herders in the village lands	T+=	T+/F	T=F	F	F	F	F/T+	T+	T+	T+	T+	F	T-	T+-	T
The village lacks relations with outside herders	T+=	T=/F	T=F	T+	F	F	F/T=	T+	T+	T=/F	T+	F	T+	T-/F	T+
There are too many herders who live in the village lands	T+=	T+	T=+	T+	T+	F	T=+	T-	F	T-	F	T+=	T+	T+	T+
There are too many farmers who live in village lands	T+=	T+	T=+	T+	T+	T=	T=+	T-	T-	T-	T=	T+=	T+	T+	T+
There are too many fields in village lands	T=	T+	T=+	T+	T=	T=	T=	T=	T=	T=	F	T+=	T=	T=/F	T+
There are too many gardens in village lands	T+=	T+	T=+	T+	F	F	F	F	T=	T=/F	F	F	F	F	F
Too many livestock in village lands prior to harvest	T+=	T+/F	T=+	T+	F	F	F	F	F	T+=	F	T+F	T-	T+	T+
Too many livestock in village lands after harvest	T+=	T+	T=+	T+	T-	T=	T+=	T-	T=	T+	T+	T+=	T-	T+	T+
Livestock return too early during harvest	T+=	T+	T=+	T+	F	F	F	T-	T+	T+	T+	T+	T-	T+	T+
Livestock manure applied to fields is not sufficient	T=	T+	T+F	T=	T=	F	T=/F	T=	T=	T=	F	T=	T-	T-	T-
Crop residues are not sufficient for livestock	F	T+	T+F	T=	F	F	F	T=	T+	T=	T=	T=	T+	T-	T-
There is lack of livestock after harvest that does not permit the creation of beneficial relns with herders	F	F/T+	T=+	F	F	F	F	F	T=	T=F	T=	T=	T+	T-/F	T-
There is a lack of land tenure security	F	T+/F	T=+	T+	F	F	F/T=	T=	T-	T=+-/F	T+	T=	T+	F/T+	T+
There is a lack of water during the rainy season	T+=	T+/F	T=+	T=	T=	T=	T=	T=	F	T-	T=	T=	F	T+=	T+
There is a lack of wells to provide water to livestock	F	F/T+	F	F	T-	T+	T+	T=	F	T=	F	T=	T+	T+	T+
There is a lack of milk being sold in the village	T+F	T+/F	T=+	T+	F	F	F	T=	T-	F	F	T=F	T+	T+/F	T+
The species composition of pastures has changed	T+=	T+	T+F	T+	T=	T=	T=	T=	T=	T=	F	T=	T-	T+/F	T+
Movements of livestock are restricted in village lands	T+=	T+	T+F	F	T+	T+	T+F	T-	F	T+	T=	T+-	F	F	F
There is a lack of quality herders in territory	T+F	T+/F	T=+	F	T+	T+	T+	T-	F	F/ T+	T=	T=F	T+	T+/F	F
There has been an increase of crop damage in territory	T+=	T+/F	T=+	T+	T+	T+	T+	T-	T=	T+	T+	T=	T+	T+	T+

Informants were asked to comment on the veracity of the proposition (T=true, F=false) and in cases where seen as true whether it would tend to augment (+), diminish(-) or have no effect (=) on farmer-herder relations. The number of interviews performed for a particular social group is provided in parentheses after the group's name (unless 1). In cases where informants from a single social group do not agree, the most common response is provided followed by a backslash (/) – if responses are stated in equal numbers, the responses are listed together with no backslash. Data were extracted from completed survey form 6 (see Appendix I).

Table 16 summarizes the results of key informant reactions to a number of propositions posed to them that could be considered factors affecting farmer-herder conflict. The data reveal a fundamentally different way of thinking among different groups. Some (largely from "farming" groups) view the decline of local pastures and livestock corridors as changes that work to reduce farmer-herder conflict while others (largely from "herding" groups) view these changes as leading to increased farmer-herder conflict. The difference between these two understandings rests on quite different assessments of local power relations with those seeing these changes leading to a reduction in farmer-herder conflict assuming that pasture losses would lead the FulBe and other herding groups to stay away from the area. This fundamental difference in perspective will shape people's attitudes about the varied land-use planning approaches to reducing conflict (e.g. gestion de terroirs villageois).

Table 17 summarizes the impressions of the two field researchers (Kristen and Dan) about the nature of conflict and conflict management capacity at the four research sites.

Table 17. Field research impressions of study sites

	BOKKI	*KATANGA*	*SABON GIDA*	*TOUNTOUBÉ*
Role of pasturage in conflicts: (rank)	1	4	3	2
Deviation in the productive interests between local "herders" and "farmers"	2	1	3	4
Strength of internal institutions:	High	Low	High	Medium
Level of internal cooperation:	Low	Low	High	High
Degree of conflict (intra-village):	High	High	Medium	Low
Degree of conflict (inter-village):	Medium	Medium	High	High
Role of internal mediators:	Medium	Low	High	High
Role of external mediators:	High	High	Low	Medium

The table reveals a constellation of factors that influence conflict and its management (i.e., source, prevalence, and prevention). Among the research sites, the role of pasture in conflict is not clear, except that in places where the area of pasture is reduced and/or the quality of pasture is low, there is a tendency to encounter more incidents of conflict around this resource. In the immediate village territory, Bokki suffers from a marked lack of pasture area, while Tountoubé's territory lacks both area and quality pasture for its livestock. Climate shocks and the availability of pasture on a larger, regional scale affects conflict as well. This year, for example, Fulbe herders from Bokki returned from their transhumance near Park W

and Tamou too early (including the chief's 400 head of cattle). Fearing possible crop damage, village residents responded to this threat by calling for soldiers (*gendarmes*) to come and monitor the herds, and ensure that the animals do not gain access to non-harvested fields.[10] At this initial point of analysis, it is difficult to identify how groundwater access translates into conflict. In Katanga, where groundwater access is very limited, incidents of conflict occurring around watering points comprised nearly one-third of all anecdotes recounted (two stories out of seven).

The impressions gained from the field research suggest that a cooperative attitude helps communities better manage their conflict. Bokki, Sabon Gida, and Tountoubé all possess a high level of involvement of internal mediators (a rough proxy for institutions). Yet, of these three, only Sabon Gida and Tountoubé articulated a truly collaborative attitude that was shared between all village residents, regardless of social group. This difference could explain why these two sites experience lower levels of involvement from external negotiators.

The results from this study indicate that strong, consistent, and predictable leadership encourages the use of internal mediators. In Sabon Gida and Tountoubé, the recounted incidents of conflict show a distinctive pattern of resolution. As soon as a conflict becomes public, a series of events and actors are put into motion to ensure that the conflict will be swiftly and justly settled. As soon as the chief is involved, disputants can expect to have their stories corroborated by witnesses and receive input from village elders and marabouts (resources for counseling) before a decision is made by the chief. In Bokki, by contrast, the chief often refuses to listen to disputes. Alternatively, when the chief does decide to participate, public perception is that the outcome will favor the disputant with the most money.

5.5. Conflict Mediation Resources

In Niger, multiple agencies, including national NGOs (non-governmental organizations), international NGOs, international governments, and government ministries, address conflict prevention and management. For select agencies, conflict management is the only work in which they are engaged; for most, conflict management is simply one facet of their mission. If the four research sites are representative of Niger as a whole, the average rural Nigerien has

[10] The newly elected Community Advisor, who resides in Bokki, was instrumental in bringing the soldiers to Bokki.

little contact with agencies that address conflict. Village leaders, on the other hand, are more likely to interact with such agencies. There are inherent difficulties in securing and maintaining contact with people potentially involved in conflict, due to the seasonal migrations of much of the herding population, and the high illiteracy rates of rural Nigeriens as a whole. Two of the four research sites have had contact with agencies that address conflict: AREN in Bokki and AGRHYMET in Tountoubé,[11] however, only one village had experience in independently seeking an outside agency to deal with a conflict (Bokki).

The research found that the ability of rural communities to prevent and manage conflict is largely based on the routes and strength of communication between herding and farming interests, respected community leaders, and leaders in neighboring communities. Below are preliminary accounts of conflict resources available in the four research sites, as well as agencies based in Niamey that are working to address conflict between herding and farming interests.

5.5.1. Bokki

Residents in Bokki, perhaps due to its size (over 2,500 people), as well as its proximity to Niamey, have had more contact with outside agencies than the other research sites. In 2003, six Fulani herders from Bokki were jailed for herding livestock in Park W. Families of the herders contacted the chief of Bokki, who refused to take action. One of the fathers of an imprisoned herder contacted and received assistance from AREN. AREN drafted a proclamation and sent a delegation of representatives to the prison, who were successful in liberating all six herders from jail.

Bokki has a local committee designated to manage conflict. According to the local men's leader (*mai samari*), village-based councils were formed in villages throughout Niger in the early 1970's (during Hamani Diori's Presidency) to assist with settling local disputes that tend to arise between farmers and herders at harvest time. An informal committee in Bokki (a vestige of the old village-based council) that consists of elder Djerma representatives (and occasionally other community members) seeks to manage agropastoral disputes in Bokki. Significantly, the chief of Bokki (who is a Fulani) is not a member of the committee. It is common for the chief to refer individuals who have suffered field damage to the committee in order to corroborate the damage and estimate compensation. Compared with

[11] Tountoubé was selected as a research site for this study based on its inclusion in AGRHYMET's Pilot Project on the effect of climate change on farmer-herder relations.

the other three research sites, the chief in Bokki has a less direct role in mediating and managing conflict. This is probably because he is not the genuine chief of Bokki (his older brother, who is nearly always on exode from the village, is the authentic chief), and community members generally regard him as corrupt and open to bribery (which may or may not be a valid perception). If the committee is unable to regulate conflict in Bokki, there is a tendency for disputes to be brought directly to the Chef de Canton, rather than to the chief, in order to obtain a fairer judgment for the disputants.

5.5.2. Katanga

Katanga's primary resources for conflict management are the chief, the Chef de Canton of Dantiandou, and the Chef de Canton of Balléyara (the two Cantons are implicated in the management of an international livestock corridor which passes through the Katanga territory). Neither of the two Fulani hamlets in Katanga are represented by a recognized chief (or other Fulani leader, e.g. *garso, rugga*), and the lack of a designated leader appears to diminish the ability of the Fulans to organize and coherently represent themselves when conflicts arise. The Fulans and the Djerma both utilize the two regional Canton chefs to manage conflict.

5.5.3. Sabon Gida

The Hausa and the Fulani populations of Sabon Gida are represented by separate chiefs. The Fulan chief is in his 43rd year of power, while the Hausa chief has only been in power for a decade. In addition, the Fulan chief's literacy, fluency in French, and overall political acumen accents the parity of power between the two men. Whether it is the will of one or both chiefs or the will of the people is hard to decipher, but it is evident that conflict between herders and farmers is tightly managed in Sabon Gida. The Hausa chef has a designated assistant who assesses field damage when it is reported, and representatives of both communities are used as mediators to settle conflict when it occurs. In addition to the two chiefs, village elders and religious leaders are relied on to mediate and manage conflict. The Chef de Canton in Dogérawa and the regional Fulan leader (*rugga*) in Birni N'Konni settle conflicts that cannot be settled at the village level.[12]

[12] The FulBe chief and his two eldest sons spend a significant amount of time settling disputes (e.g., field damage) that occur outside of Sabon Gida territory, but are committed by Fulans whose official 'home of record' is Sabon Gida. This can entail traveling to Birni N'Konni, Madoua, Dogon Dutchi, Nigeria, or northern

5.5.4. Tountoubé

In 2003, a council was formed to mediate and resolve conflict among neighboring villages in the region around Tountoubé.[13] Council members include the chiefs of Tountoubé, Linkett, Kajiki, Madatta (three chiefs), and Tchégoum. It is common for people to live in one village and own or cultivate property in a neighboring village territory, thus disputes are often among members of the different communities. The chief of Tountoubé spoke positively of the benefits of the council for managing conflict. In Tountoubé, as in Sabon Gida, a core group of village elders and religious leaders are accustomed to mediating and managing conflict within the village territory.

5.5.5. Niamey

Table 18 provides a list of agencies in Niamey that address conflict prevention, mediation, and management. All are based in Niamey, but several have regional offices in other parts of Niger. Some agencies only work in selected regions of the country, while others are engaged at the national level. Representatives of the agencies interviewed by the research assistants expressed the intergenerational problem of conflict in Niger, and the tendency of "herders" and "farmers" to rely on negative preconceived notions of one another.

The director of AREN spoke of the degree to which the products of herding and farming, and therefore the lifestyles of herders and farmers, are integrated in Nigerien culture (e.g. *hura*, the millet and milk drink that is the staple of the Nigerien diet). Animals are important culturally, for baptisms and for religious holidays (e.g., Tabaski). Most Nigeriens prefer animal manure to chemical fertilizers in their fields, and Niger is climatically well suited for animal production. In his opinion, conflicts and their level of gravity are escalating in Niger, but it's not due to a simple question of natural resource availability. Demographics and the rapid rate of fertility in Niger contribute to conflict. He also noted that the lack of new laws, adapted to the present state of Niger, continue to impact land rights of herders, and perpetuate the inequalities that exist between herders and farmers. For instance, presently, communal pastureland is seen as a resource that can be tapped by farmers for cultivation if

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Niger to settle payments or free herders from jail. These disputes were outside of the parameters of the research, as they did not occur within the bounds of Sabon Gida's territory.

[13] It is likely that the council was formed as a result of the AGRHYMET Projet Pilote, "Impact des changements climatiques sur la gestion des patûrages au Sahel et sur les rélations entre éleveurs et agriculteurs à Tahoua au Niger," as all five of these villages are part of the project. The NGO COSPE, based in Tahoua, is coordinating the project, which began in November 2003 (a rapid rural appraisal was conducted in Tountoubé in February 2004).

they need more land, rather than the communal herding resource that it is. Increases in intensity and frequency of drought (e.g., cyclical periods occurring, on average, once every ten years) have led to increased conflict.

The research assistants interviewed representatives of two human rights agencies, Timidria and ANDDH, both of whom stressed the role of education and civil rights in alleviating conflict in Niger. In their view, increasing literacy among transhumance and sedentary populations is a crucial step towards empowering Nigeriens so that they may better understand what their rights are, where their freedom stops, and where that of others begins, in order to prevent conflicts.

Table 18. Conflict Prevention and Management Resources in Niamey

Agency	*Created*	*Contact Person*	*Phone*	*Email*	*Type of Work*	*Partners / Funders*
AREN [14]	1990	Boureïma Dodo, Secrétaire Exécutif	73.66.22	aren@intnet.ne	Conflict management and prevention, development work with herders, demarcation of pasture areas and animal corridors, animal vaccination	Government, IIED, Swiss Cooperation, DED, NOVIP, other NGOs that deal with pastoralists and conflict
Code Rural [15]	1993	Abdoul Karim Mamalo, Secrétaire Permanente	73.20.93	codrural@intnet.ne	Legislate and track rural land ownership and use	Ministries of Interior, Justice, Agriculture, and Livestock
Timidria	1991	Weïla Ilguilas, Président	72.41.29	timidria@intnet.ne	Promote human rights, combat slavery, and engage in conflict prevention sensibilization	AREN, CAPAN
ReGENOVICO[16]	2003?	Tahirou Sy	72.39.81	genovico@intnet.ne	Train Nigerien animators to promote non-violent resolution of conflicts	LUCOP/GTZ, EIRENE, PASEL, SOS Sahel, DDRL, other NGOs
PASEL[17]	1998	Tidder	72.23.25	—	Limit conflicts in agro-pastoral production zones, reinvigorate livestock management, and promote equitable access to natural resources	Swiss Cooperation
PADET[18]	2004?	Raphaël Yimga	96.37.80	yimga@intnet.ne	Promote peace, decentralization, and democracy; support non-violent prevention and resolution of conflicts	EIRENE, Ridd-Fitila
ANDDH[19]	1991	Zeinabou Halidou	73.22.61	anddh@intnet.ne	Promote, defend, and protect human rights; secure rights and seek justice for all parties involved in conflicts	Multiple international NGOs, governments, and foundations (SNV, EU, OXFAM, USAID)
EIRENE[20]	—	Christoph Van Edig	72.35.92	eirene-n@intnet.ne	Includes conflict prevention and management	German funding

[14] Association pour la Redynamisation de l'Elevage au Niger
[15] Housed in the Ministry of Rural Development
[16] Réseau Nigérien des Formateurs en Gestion Non Violente des Conflits
[17] Programme d'Appui au Secteur de l"Elevage
[18] Promotion de la Paix et de la Décentralisation dans le Département de Téra
[19] Association Nigerienne pour la Defense des Droits de l'Homme
[20] Service pour la Paix et le Développement

6. Conclusion and Recommendations

6.1. Major Conclusions

The results from this study have shown that conflict, in some form or another, is a part of every community in Niger. It is clear that conflict has the potential to affect the livelihoods of farmers and herders alike. There is potential for learning more about how communities manage their conflict when it arises. Major conclusions from this study on farmer-herder relations and conflict management include the followings:

- In all the villages except Tountoubé, pasture quality is reported to be declining. The major reason given for the decline is the extension of crop fields. Other reasons are pasture productivity, harvesting of folder and inter-annual fluctuations in floristic composition of the pasture.
- Access to land or field ownership in the study sites is ethnic-biased in Bokki and Katanga whereas there is no effect of ethnicity in Sabon Gida and Tountoubé. The major source of field ownership in Sabon Gida and Tountoubé, the major source of field ownership is by inheritance with locally accepted cropping rights whereas in the other two study sites it is mainly through land rental. For many households in Bokki and Katanga, access to cropland is generally less secure – relying on the loans from a relatively small group of landowners.
- Self-reported livestock ownership is highly skewed in the study villages. Ethnic groups that have historically managed livestock (Fulbe) generally have more animals than those that have been historically farmers (Hausa). However, in both Sabon Gida and Tountoubé the relationship between investments into the productive capital necessary for cropping and livestock husbandry are similar.
- Labor migration rates are high in both Sabon Gida and Tountoubé compared to Bokki and Katanga. Across social groups, a lower labor migration rate was reported among the FulBe than among the Hausa. This confirms that the year-round labor demand of herding inhibits involvement in seasonal labor migration patterns observed among farming families.
- In Sabon Gida and Tountoubé, the herds of all social groups show surprisingly little mobility with a significant fraction of village-owned livestock remaining in the village territory year-round whereas in Bokki and Katanga, the livestock owners are more inclined to send their animals, especially cattle on longer-range transhumance,

which is a reflection of larger herds in these two villages. FulBe owners have a greater proclivity to move their animals away from the village territory than farming groups.

- There are strong ethnic/caste distinctions in the division of livestock management tasks. The FulBe generally display much stronger gender divisions of labor compared to "farming groups" with men and boys expected to water and herd livestock while women may gather and process feed supplements and milk animals.
- From the responses of the informants in both villages, damage to crops accounted for about 80% of reported cases of conflict between farmers and herders. Crop damage is not limited to damage to growing crops on the field but also included unauthorized grazing of crop residues after harvest. Other causes of conflict reported are access to watering points, expansion of crop field to corridors for animal passage and theft of animal. In both villages, all reported cases of farmer-herder conflict were resolved, mostly, by the village chiefs.
- The underlying causes of the farmer-herder conflict are complex – so complex that not only researchers but local people having quite different understandings of their genesis. For example, some (largely from "farming" groups) view the decline of local pastures and livestock corridors as changes that work to reduce farmer-herder conflict while others (largely from "herding" groups) view these changes as leading to increased farmer-herder conflict.
- The ability of rural communities to prevent and manage conflict is largely based on the routes and strength of communication between herding and farming interests, respected community leaders, and leaders in neighboring communities.

6.2. Future recommendations

- *Lengthen the timeline*. Four months was too short to implement all the survey instruments fully. The research assistants were overwhelmed with the tasks of creating, translating, and training the field assistants with the research survey tools. This deprived the research assistants of time to process and analyze data as it was collected. One-month intervals between site visits also created stress for the field assistants, who were not able to finish their previous surveys before receiving new ones.

- *Add more sites*. Originally, the research project proposed studying pairs of villages in each of the four regions. In August, after traveling to each of the sites, it became clear that, for the time allotted, only one site per region could be studied effectively. In the future, ILRI could revisit this goal of pairing villages. As it is now, the results are subject to criticism that any differences in conflict management strategies derive mainly from geographical variations. If similar sites within each region were studied, a more nuanced picture of conflict management might emerge. The decision to incorporate this recommendation would influence the number of field assistants needed, as well as the timeline for execution.
- *Site selection.* Ensure that the site size is not too large to be effectively managed by the field assistant. For instance, Bokki, with a population greater than 2,500, proved to be too big of a site for one field assistant to handle for the research project. In the future, if large villages such as Bokki are included in the research, assign two field assistants to the village or extend the timeframe of the project to allow additional time to complete the research survey tools.

6.3. Research questions for future study

- *Land tenure and Code Rural*. The Nigerien government has been in the process of implementing its Code Rural law, which defines land ownership more specifically. As part of this process, new institutions at all levels of municipalities were created, which are generally referred to as land tenure commissions (*commissions foncières*) (COFO). However, only select villages have actually adopted these changes. An interesting element to this research would be to investigate whether a village with a COFO manages conflict differently than a village without one.
- *Decentralization***.** As previously described, in 2004 Niger began the on the ground process of decentralization, which has resulted in the creation of new municipal designations and positions such as Governor, Mayor, and Community Advisor. In Bokki, a Community Advisor called for the presence of soldiers when the village chief's herd of 400 cattle returned to the village territory from transhumance before most villagers had finished with their harvest. It would be interesting to learn how these newly elected officials might be employed to mediate conflict.

- *Intergenerational conflict*. Farmer-herder conflicts can be caused or exacerbated by younger generations who defy the wishes of elder generations. It might be revealing to investigate conflicts based on whether they were caused by people of younger (e.g., ages 15 to 25) generations versus people of older generations.
- *Targeted inclusion of external mediators*. There was not sufficient time during the research project to adequately include external mediators in the research. Government officials, most notably Chefs du Canton, play an integral role in settling issues of conflict on a regional basis (which might change with decentralization). Interviewing individuals to gain an understanding of their approach towards conflict mediation would add depth to future studies.

7. References

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Appendix I.
Survey instruments used for the conflict study

THEME 1D: **AVAILABILITY AND PERCEIVED QUALITY OF LOCAL RESOURCES**

Agricultural resources
What type of crops are grown?
Quels types de produits agricoles cultivez-vous?

Quels types de produits agricoles sont cultivées plus aujourd'hui que les années (1988-1990) juste après le mort de Kountche? (1987)

Do you consider your lands fertile?
Les sols de votre terroir, sont-ils fertiles?

Are there large differences in fertility of land surrounding your village?
En traversant le terroir villageois, est-ce qu'il y a des grands differences en fertilité du sol?

Where is the more fertile land?
Ou est-ce qu'on trouve le terrain plus fertile?

Where is the less fertile land?
Ou est-ce qu'on trouve le terrain moins fertile?

What makes some land more fertile? for millet, for sorghum, for peanuts....etc.
Est-ce que les gens cherchent les moyens pour augmenter la fertilité de leurs champs? Comment? Quel pourcentage approximatif utilisent l'engrais (fertilizer) (0, 25, 50, 75, 100)? Quel pourcentage approximatif utilisent le fumier (manure) (0, 25, 50, 75, 100)? Comment- ils gagnent l'engrais? Comment-ils gagnent le fumier?

Is there land available for opening new fields? Where? How many hours to walk there?
Est-ce qu'il y a du terre disponible pour l'etablir les nouveaux champs dans le terroir villageois? Ou? À quelle distance à pied du village? Est-ce que le sol est-il fertile là-bas?

Has the availability of land significantly declined over the past twenty years? If so, why?
Est-ce que la disponibilité de la terre a diminué depuis les années juste après le mort de Kountche?

Who controls access to this open land?
Ce terre et à qui? La terre est controllé par qui?

If an outsider wants to come and settle can he easily obtain access to fertile land? Under what type of arrangement?
Si un étranger veut s'installer dans le terrior, est-ce qu'il peut gagner accès facilement à un champ? Comment est-ce qu'il peut trouver un champs? Ou droit-il payer quel qu'un? Combien? Pour quelle periode de temps?

What are major constraints limiting crop production?
Quels sont les contraints le plus graves pour la production agricole dans le terroir?

QUESTIONS GÉNÉRALES SUR L'ELÉVAGE VILLAGEOIS

Est-ce que la plupart des ménages posédent le bétail (livestock)? (les bétails= cattle)

Quelle espèce (species) est la plus nombreuse dans la village? Quel type de bétail est-ce que les villageous preférent? Parmi (among) les Peuls? Parmi les Djerma? Parmi les Haussa? Parmi les Touareg? Parmi les

femmes? Parmi les hommes?

Faire un comparaison entre l'importance des bovins (cattle) et des petits ruminants dans le terroir. Pendant l'hivernage (rainy season)? Après la récolte? Pendant la saison froide? Pendant la saison sèche chaude?

Les animaux du village restent-ils au village pendant tout de l'année? Sinon, ou vont-ils? Pendant quelle saison? Normalement, ce sont les animaux de quelles groupements qui vont au grande ou petite transhumance?

Dans les troupeaux (herds)de votre village, est-ce qu'il y a des animaux posédés par les étrangers?

Pendant quelles saisons est-ce qu'il y a des troupeaux étrangers dans le terroir villageois? Pendant saison X, est-ce que les animaux étrangers sont plus nombreuses que les animaux locaux? Par combien de fois (un, deux, trois, quatres)?

Are there many deaths among young animals? Do females give birth often? Are you satisfied with the productivity of your animals? If not what is the cause for poor productivity?

Êtes-vous content à la productivité de vos animaux? Est-ce qu'il y a beaucoup de morts entres les jeunes animaux? Est-ce que les femelles mettent bas souvent? Sinon, pourquoi est-ce que la productivité est-elle faible? Est-ce qu'il y a un changement en productivité des animaux depuis les années qui suivent le mort de Kountche? Comment?

<u>Pasture resources</u>

Is the fodder produced on fields and pastures sufficient for village-based livestock during a good year? If not, why not?
Est-ce que le pâturage villageois est suffisant pour les animaux? Est-ce qu'il y a un changement en productivité animale depuis les années qui suivent le mort de Kountche?

Les pâturages villageois conviennent-ils (suitable for) pour quelle espèce d'animaux?

What are the principal locations or land-types used by village X-based livestock for water [wadi, ephemeral ponds, names of permanent ponds, wells] and fodder (land-types and location)?
Quels sont les sources de l'eau utilisés pour l'abreuvement des animaux pendant l'année? (les puits, les mares permanents, les mares non-permanents, les marigots (wadi-ephemeral streams)).

Quels sont les types de pâturages/terres principaux utilisent par les animaux villageous pendant l'année? (les plaines sableuses, les bas-fonds, le plateau). Depuis le mort de Kountche, est-ce qu'il y a des changements de la localisation des pâturages utilize par les animaux du village?

Who controls access to these resources and what are the conditions for gaining access? (e.g. if I was an outside herder). How do these conditions vary depending on who makes the request.
Qui régle (maitrise) l'utilization de ces ressources? Comment est-ce qu'on obtient accès à ces ressources?

How enforceable are these rights? Do outsiders come anyway and "steal" resources?
Est-ce qu'il y a des gens qui volent ces ressources?

What are the major constraints limiting the productivity of village livestock?
Quels sont les contraints plus graves pour la production de bétail dans le terroir?

L'ÉLEVAGE ET LE CALENDRIER DE BROUTAGE (grazing)

The interview strategy for this section is to ask the following questions for each season of the year -- e.g. rainy season to harvest (June-October); cold dry season (November - February); and hot dry season (March-May).

Demandez les questions suivants pour chaque saison (l'hivernage, la récolte, la saison froide, la saison sèche).

Pendant _____, ou se trouve les caprins (goats), les ovins (sheep) et les bovins (cattle) posédés par les villageois?

Pendant _____, combien de troupeaux sont pâturés du village? Ou est-ce qu'il passent la nuit?

Pendant _____, ou est-ce les vaches sont-ils traitées?

Comment on décide de placer ses animaux dans un troupeau particulaire?

Est-ce qu'il y a des ménages qui place leurs animaux dans plus qu'un troupeau?

Who are the herders? How are they paid?
Qui sont les bergers? Comment-est-ce qu'ils reçoivent de l'argent?

Where are animals milked?
Ou est-ce qu'on trait les animaux?

Where do animals spend the night when not grazing?
Ou est-ce que les animaux passent la nuit quand on ne les broutent pas?

Where are animals watered?
Ou est-ce qu'on donne de l'eau aux animaux?

Quels sont les types principaux d'alimentation pendant cette période?

Quels types d'alimentation donnent aux animaux la force et aident conserver/augmenter le poids?

Décrivez une journée typique de broutage: Les animaux quittent à quelle heure? L'itinéraire de pâturage? Les types des paturages visitées? L'heure de rétour?.

What other animals graze on pasture grazed by Village X-based animals? Do they come every year? If not, how frequently? Are there problems of mixing of herds? Animals managed by (petits et grands) transhumance herders. Where do they camp?
À qui sont les animaux qui broutent les mêmes pâturages utilisées par les troupeaux de votre village? (pendant les années sèches: pendant les années bonnes). Est-ce qu'ils viennent chaque année? Si non, quel est la fréquence? Est-ce qu'il y a des problems entre les troupeaux, comme le ménage des troupeaux? Ou sont leurs gîtes d'étapes?

Les animaux dans les troupeaux transhumants
Les animaux des villages voisins
Les animaux des étrangers qui se sont fixés dans le terrain villageois.

Qu'est-ce qu c'est l'importance de tels animaux en comparaison des animaux villageois?

Ou sont les gîtes d'étapes (encampment points) principaux des troupeaux transhumants?

LA GESTION DE FUMIER ET RESIDUES AGRICOLES

Quand discussant l'élevage pendant la saison de la recolte, posez les questions suivants:

After fields are harvested, what do farmers do with the crop residues? What final uses are made of crop residues?
Après la récolte, que faites-vous avec les residues agricoles (crops residue—i.e. millet stalks)? Quels types de résidues sont rémasser (gathered) pour donner aux animaux possede par le proprietaire du champ? Pour quelle pourcentage (0, 25, 50, 75, 100) des champs du village est-ce que les résidues agricoles sont recolté comme ça? Est-ce que le rémassage des résidues est plus commun aujourd'hui que des années qui suivent le mort de Kountche? Quels types de résidues sont laissés dans les champs? Quels types de résidus sont utlisés pour la construction?

Qui posséde les animaux qui broutent le champ d'un paysan?

Pour combien de temps est-ce les résidus agricoles toutes seules peuvent nourir les animaux?

Pour combien de temps est-ce que les animaux restent dans les champs?

Est-ce qu'il y a des paysans qui enferme les animaux dans un corral ou les attache au piquet (stake/post) dans leurs champs?

Est-ce que le fumier (manure) est-il apporté (brought) aux champs? Si oui, d'ou?

Est-ce qu'il des paysans qui a creusé des puits dans leurs champs pour attirer les animaux? Combien de tels puits sont dans le terroir villageois?

LES MARCHÉS

Quelle marché allez-vous pour acheter les vivres (provisions/food supplies)?

Quelle marché allez-vous pour vendre le bétail?

Questionnaire 2A

Date _____ Village: _____ Groupe: _____

Les personnes interogées: _____ _____ _____

_____ _____ _____ _____

En groupe des ménages, demander la situation de terre agriculture. On voudrais savoir la distribution des champs dans chacun village, par la grandeur famille, ethnie, et genre. Demander au personnes interrogées comment-ils gagnaient accès à leur terres. En général, est-ce qu'il y a des gens qui sentent les contraintes d'un manque de terres, ou un manque des agricoles, ou tous les deux? Discuter avec eux les liens entre gandeur de champs, grandeur de famille, et la séparation de champs parmi les enfants et femmes.

Employer les questions au-dessous.

1. Comment est-ce que les gens obtiennent leur terre pour l'agriculture?

   (oui/non) l'heritage _____ / achat _____ / location _____ / prête _____

   A votre avis, quel pourcentage (25, 33, 50, 66, 75, 100) pour chacun?

   Heritage _____
   - Achat _____
   - Location _____
   - Gage _____
   - Prête _____
   - L'autre _____

2. Est-ce qu'il y a des femmes dans le groupe qui font du cultivation ? oui _____ / no _____
   a. Si oui, comment elles obtiennent leur terre ? (oui, non)
   - Heritage _____
   - Achat _____
   - Location _____
   - Gage _____
   - Prête _____
   - L'autre _____

3. Pour les femmes, leur terre provient de qui ?
   - leur mari _____
   - leur père _____
   - l'autre _____

3. Est-ce qu'il y la terre disponible au membres de groupe pour louer ? (oui, non). _____

a. Dans quel terroir villageois est-ce qu'on trouve cette terre ?

b. Quels types de remboursement on trouve pour la location ?
   - L'agricole/main d'œuvre (laborer) : (oui, non) _____
   - Donner un parti de la recolte : (oui, non) _____
   - L'argent (oui, non) _____
   - L'autre (oui, non) _____

c. Le contrat de location durèe pour combien du temps? (par example : par année, toute la vie, dix ans, l'autre)

4. Est-ce qu'on peux achéter la terre ?
   a. Si oui, ça coute (à peu près) combien pour…
      i. un champ moyen ? _____
      ii. un champ bien fumé à cote du village ? _____
      iii. un champ loin du village nonfumé ? _____

5. Généralement, est-ce qu'il y a des cultivateurs qui laissent leur terre en jachère ?

   a. Si oui, quel pourcentage (25, 33, 50, 66, 75, 100) de la terre de groupe est en jachère ? (cercle)
   b. Si oui, le durée du jachère c'est combien d'ans ?

6. Dans le village, existe-t-il un problème d'un manque du champs ; ou existe-il un problème d'un manque des main d'ouevres/agricoles ? (Ou toute les deux – ou quel que chose d'autre). Expliquer.

7. Si tous les cultivateurs avaient plein accès de la terre (si l'espace n'était pas un problème), pouvaient-ils/elles avoir les moyen d'entrentenir des main d'ouvres/agricoles ?

8. Faire un discussion des contraints—la présence / l'absence—qui confrontent les cultivateurs (hommes et femmes, les ethnics différents) dans le groupe. Faire attention à ton choix de mots—il ne faut pas améner les idées des gens.

9. Typiquement, est-ce que les champs des pères sont assez grand pour les divisent entre leur fils ?

10. À ton avis, voies-tu des liens entre la grandeur d'un champ, le nombre des enfants dans un famille, et la division du terre entre les fils du famille (quand ils se grandisseront) ?

    C'est un question difficile à poser, mais on peut penser à la réponse maintenant et aussi qu'on discute les thèmes 5 et 6.

Questionnaire 2BC

Date _____ Village: _____ Groupe: _____

Les personnes interrogées: _____ _____ _____

_____ _____ _____ _____

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1. Faire une liste des groupes (par example, ethnies/caste/lineage) dans le village au-dessous. Demander aux personnes interrogées de se classer parmi les groupes du terrroir villageois selon la plus riche ménage en betail (bovins et puis, moutons, et puis caprins). Dans les colonnes 2-4 de tableau, écrire un 1 pour le groupe qui avoir le plus riche ménage en espèce X …2 pour le prochain….etc. Si on exclut les bovins, moutons ou caprins de le plus riche dans chaque groupe, quel groupe posséde en total le plus grand nombre des têtes? Demander aux personnes interrogées de se classer parmi les groupes du terrroir villageois selon leur propriété des bovins, moutons ou caprins après l'exclusion des animaux du plus riche ménage en betail (même espèce). Dans les colonnes 5-7 de tableau, écrire un 1 pour le groupe qui reste avec le plus grand nombre des bovins, moutons, et caprins après l'exclusion. …2 pour le prochain….etc.

Groupe	Rang de plus riche famille en espèce donné			Rang des animaux qui restent		
	B	M	C	B	M	C

Questions qui concernent leur propre groupe….

2. Il y a combien de ménages dans leur groupe? (voire 3AB) _____

3. Dans leur groupe, combien des ménages possédent les caprins? _____

4. Parmi les ménages qui possédent les caprins, quel pourcentage (25, 33, 50, 66, 75, 100) posséde:

   1-3 têtes: _____ 4-9 têtes: _____ >9 têtes _____

5. Dans leur groupe, combien des ménages possédent les moutans? _____

6. Parmi les ménages qui possédent les moutans, quel pourcentage (25, 33, 50, 66, 75, 100) posséde:

   1-3 têtes: _____ 4-9 têtes: _____ >9 têtes _____

7. Dans leur groupe, combien des ménages possédent les bovins? _____

8. Parmi les ménages qui possedent les bovins, quel pourcentage possede:

   1-3 têtes: _____ 4-9 têtes: _____ >9 têtes _____

9. Pour les animaux possédées par la groupe, quel pourcentage sont aux femmes?

   Caprins _____ Moutons _____ Bovins _____

10. Demandez au personnes interrogées de se classer parmi les moyens utilisés par des familles de groupe pour pâturer leur animaux non-embouchés en ordre de leur importance selon la saison (saison agricole et saison seche) et la grandeur de troupeau (1-3 têtes et plus que 3 têtes). Les moyens incluent: l'engagement d'un berger (engagement), confier au berger (confiance), surveiller les animaux eux-memes pour toute la journée (surveiller eux-memes), surveiller and laisser les animaux au pâturage (nonsurveillés), attacher les animaux au pâturage, ou le pâturage libre. Pour les trois plus important moyens – donnez un 1 pour le plus répandu parmi les ménages du groupe…

Moyens	Le periode de la cloture des champs (hivernage plus)				Saison seche après le recolte			
	B		MC		B		MC	
	<=3	>3	<=3	>3	<=3	>3	<=3	>3
Engagement de quelqu'un d'autre								
Confiance (taalfi) a quelqu'un d'autre								
Gérés eux-memes Surveillés								
Gérés eux-memes Nonsurveillés								
Gérés eux-memes Paturage libre								
Gérés eux-memes Attaché au paturage								
Autre:								

Pour les ménages qui ne gérent pas leurs caprins/moutons pendant la saison agricole ou pendant la saison seche,

11. Comment est-qu'on trouver un gestionaire pour les petits ruminants pendant chaque saison?

12. Normalement, on paie combien pour la gestion de paturage (par tête, par saison, par mois….?) pendant la saison agricole? Pendant la saison seche?

13. Quelles sont les conditions de tels contrats? (les pertes, mobilité de gestionaire, la traite, en cas de dégats de champs.. …)

Pour les ménages qui ne gérent pas leurs bovins pendant la saison agricole ou pendant la saison seche,

14. Comment est-qu'on trouver un gestionaire pour les petits ruminants pendant chaque saison?

15. Normalement, on paye combien pour la gestion de paturage (par tête, par saison, par mois….?) pendant la saison agricole? Pendant la saison seche?

16. Quelles sont les conditions de tels contrats? (les pertes, mobilité de gestionaire, la traite, en cas de dégats de champs …)

17. Pour les animaux gérés par les ménages de groupe, qui, normallement, fait ces taches de gestion d'animaux dans le ménage (H=homes, F=femmes, FL=filles, G=garcons):

Tache	La periode de la cloture des champs (hivernage plus)		Saison seche après le recolte	
	B	MC	B	MC
Abreuvement				
Faire paturer (berger)				
Preparation/ramassage des supplements				
Traite				
recherche des pertes				
attachment des petits				
Commerce d'animaux				

18. Pour les ménages qui gérent le paturage de leurs petits ruminants (PR) pendant la saison agricole, quel pourcentage:

Rester dans le terroir avec les PR_____ Partir en petit transhumance avec les PR (5-30 km) _____

Partir en grand transhumance avec les PR(>30 km) _____

19. Pour les ménages qui gérent le paturage de leurs petits ruminants (PR) pendant la saison seche, quel pourcentage:

Rester dans le terroir avec les PR_____ Partir en petit transhumance avec les PR (5-30 km) _____

Partir en grand transhumance avec les PR(>30 km) _____

20. Pour les ménages qui gérent le paturage de leurs bovins (B) pendant la saison agricole, quel pourcentage:

Rester dans le terroir avec les B_____ Partir en petit transhumance avec les B (5-30 km) _____

Partir en grand transhumance avec les B(>30 km) _____

21. Pour les ménages qui gérent le paturage de leurs bovins (B) pendant la saison seche, quel pourcentage:

Rester dans le terroir avec les B_____ Partir en petit transhumance avec les B (5-30 km) _____

Partir en grand transhumance avec les B (>30 km) _____

22. Qui sont les groupes de transhumance qui traversent le terroir?

Nom ou Origine	Nombre approximatif de troupeaux	Saison de passage	Durée approximative (en semaines)	Les rapports avec le groupe villageois (B=bon, S=satisfaisant, M=mauvais)

23. Demandez aux personnes interrogées de se classer parmi les rélations avec les éleveurs étrangers selon leur importance dans leur groupe:

Rélation	Classe d'importance (1….6)
Hôte (lien de parentage)	
Hôte (lien d'amitié)	
Contractuel (contrats fumier)	
Adversaire	
Rien	
Autre:	

24. Décrivez la qualité de nutrition au paturage (non-supplementé) dans le terroir pour trois espèces de bétail après la mort de Kountché (1988-1990) et au present (2003-04):

Espèce	Qualité du paturage au terroir*	
	1988-1990	2003-2004
Caprins		
Moutons		
Bovins		

*B=bonne; S=suffisante; MS=moins que suffisante; NS=nonsuffisante

25. Comment est-ce que les paturages locaux sont différents actuellement des quelques années après la mort de Kountché (1988-1990)? (pour les cas qu'il ya plusiers raisons données, il faut les ordiner avec A,B,C..)

Raisons données:

Les champs (changement de l'espace de paturage	
Changements de composition de l'herbe	
Changements de la productivité des paturages	
Changements de l'effectif du bétail broutant le meme espace pastoral	
Changements du prélevement humain de l'herbe sauvage et des résidus de culture	
Changements de la densité et composition des arbres ou arbustes	
Autre:	

FORM 3B

1. Numéro de ménage	**2.** Nom de chef et ses femmes	**3.** enf	**4.** Nom des freres du chef dans la concession Fem Enf Nom	**5.** Nombre animaux		**6.** Nombre anim bat	**7.** Nombre champs	**8**. Metiers nonagricoles
___ groupe: _____	C:		FR1 ____ ____	B	1-3	Anes	proptr	Islam
				4-9	>9		Achat	Com
	F1, Origine:			M	1-3	Chevaux	Prêt	Fab
			FR2 ____ ____	4-9	>9			Med
Adultes: _____	F2, Origine:			C	1-3	Chameaux	Loc	Sal
			FR3 ____ ____	4-9	>9			Exode
Enfants: _____	F3, Origine:			rette	rrue	Boeufs	Gage	Autre

Questionnaire 3C

Terroir Villageois ____ (B=1, K=2, SG=3, T=4, E=5) Date _____

Groupe _____ Numero de ménage _____

Avec le Questionnaire 3C, nous cherchons l'information plus spécifique au niveau de quelques ménages dans chaque groupe social/ethnique. Le but de ce questionnaire est d'augmenter encore les renseignements des rapports quotidiens (économique et social) entre les éleveurs étrangers, les éleveurs locaux, et les cultivateurs qui sont importants pour maintenir la productivité agricole et l'élevage.

Pour traiter le Questionnaire 3C, choisir, avec le conseil des chercheurs, cinq (5) ménages qui répresentent la diversité (de l'âge, l'économie, et l'influence social) de chaque groupe. Par exemple, s'il y a quatre (4) groupes dans le village, traiter le Questionnaire 3 avec cinq (5) ménages pour chaque groupe, vingt (20) ménages totals. **Traiter le questionnaire avec le chef du ménage et sa femme. Les interviewer séparés, mais utiliser les mêmes fiches (une série des fiches pour chaque ménage).**

Questionnaire 3C y comprit de cinq (5) sections:

1. Question 3C_A: Introduction (homme)
2. Formulaire 3C_B: La composition des membres du ménage (homme et femme)
3. Question 3C_C: D'autres personnes (homme)
4. Formulaire 3C_D: Les animaux possèdés par les membres du ménage (homme et femme)
5. Formulaire 3C_E: Où se trouve les champs cultivés ou possèdés par les membres de ménage (homme et femme)

A. Introduction : Le ménage – sa situation et son histoire

Depuis quand est-ce que le ménage est établi dans le terroir? Comment est-ce que le ménage a pu avoir accès le aux terrains cultivés? Depuis quand est-il établi sur son emplacement actuel?

A. La composition du ménage

Remplir le Formulaire 3C_B en écrivant tous les noms des membres du ménage. Commencer par la petite famille du chef du concession. Nous savons que pour quelques ménages, il n'y a plus qu'une seule petite famille. Mais pour les ménages avec plus qu'une famille, après avoir écrit les noms de la petite famille du chef du concession, écrire les noms des membres des familles de ses fils, ses petits frères et de leurs fils qui restent dans la même concession (y compris ceux qui sont présentement absents du village en exode). **Pour les femmes, écrire leur village d'origine à coté de leur nom.**

Méthode pour remplir Formulaire 3C_B

Colonne 1 : Écrire le nom de chaque personne (adultes et enfants) qui est associée au ménage, commençant par le plus vieux chef du ménage et sa famille.

Colonne 2 : Noter comment cette personne est liée au chef du ménage. (C) = lui-même, (F) = épouse, (Fr) = frère, (Sr) = soeur, (Fs) = fils, (Fl) = fille, (A) = autre (donner l'explication). Pour les frères, femmes, et enfants, écrire un numéro après le code pour signifier le rang parmi les frères, femmes, ou enfants. Par exemple, «C, Fs2, F1» veut dire la première femme du deuxieme fils du chef.

Colonne 3 : Noter l'âge (approximatif si necéssaire) de chaque personne.

Colonne 4 : Noter le sexe de chaque personne. (M) = mâle, (F) = femelle.

Colonne 5 : Noter si la personne possède du bétail. (O) = oui, il/elle possède du bétail, (N) = non, il/elle ne possède pas du bétail.

Colonne 6 : Pour chacun (e) qui possède du bétail, demander quelles espèces il/elle possède.
(B) = bovins, (M) = moutons, (C) = caprins. **Ne demander pas le nombre d'animaux.**

Colonne 7 : Demander le genre de travail fait par chaque personne **pendant la saison sèche et pendant l'hivernage**. On considére trois types de travail:

1. *Travail pastorale*, qui inclut des activités liées à la production animale ;
2. *Travail agricole*, lié à la production des récoltes (y compris produits d'arbres) ; et
3. *Travail nonagricole*, qui inclut les activités spéciales, non-agricoles.

Des codes qui décrivent les activités spécifiques pour chacun des trois types sont situés au fond du Formulaire 3C_B.

B. D'autres personnes

Est-ce qu'il y a d'autres personnes (en dehors des membres du ménage) qui ont participé à l'élevage du bétail du ménage ou à la culture des champs du ménage **pendant la dernière année ?** En quelle saison? Décrire leur relation en-dessous. ***Si oui, ajouter les noms de ces gens au formulaire 3C_B, en écrivant le type de salaire sous le colonne de lien de parenté.***

B. Les animaux possèdés par les membres du ménage

S'il y a des animaux possédés par des membres de famille, remplir le Formulaire 3C_D. Ce tableau concerne la gestion de pâturage. **Traiter le formulaire pour chaque éspeces (B, M, C) séparés. Faire attention avec cette formulaire : dans quelques cases, peut-être il y aura du bétail gérent par plus d'une personne, comme une moitié par un membre de la famille et l'autre moitié par un étranger.**

3C_B : LA COMPOSITION DES MEMBRES DU MÉNAGE

Terroir Villageois ____ (B=1, K=2, SG=3, T=4, E=5) Date _____

Groupe _____ Numero de ménage _____

1	2	3	4	5	6			7	
Nom	Lien de parenté avec le chef du ménage	Age	Sexe (M/F)	Bétail ? (O/N)	Espèces			Travail	
					B	M	C	Saison sèche	Hivernage

- **Lien de parenté :** (C) = lui-même, (F) = épouse, (Fr) = frère, (Sr) = soeur, (Fs) = fils, (Fl) = fille, (A) = autre (donner l'explication).
- **Travail pastorale:** B = berger; BT = berger du transhumance; AB = abreuvement, PR = preparation/ramassage des supplements; T=traite; P= recherche des pertes; AT = attachment des petits; RT = Responsable du troupeau; C = commerce d'animaux; F = transport/ramassage du fumier; VE = vente du lait; BN = berger de nuit, (A) = autre (donner l'explication)
- **Travail agricole:** DC = défrichement; PC = préparation des champs; S = semis; SC = sarclage; R = récolte; BM = battage/vannage; CG = confection des greniers; TR = transport/vente récoltes; RB = ramassage bois; CB = coupe/transport/vente bois; AE = apporter de l'eau; RR = autres récoltes (préciser), (A) = autre (donner l'explication)
- **Travail nonagricole:** AR = artisant au village; CV = commercant au village; AV = autre au village (préciser); EX = exode (préciser periode, lieu et type de travail) ; TI = tissage ; VN = vende nourriture, (A) = autre (donner l'explication)

3C_B : LA COMPOSITION DES MEMBRES DU MÉNAGE (continue)

1	**2**	**3**	**4**	**5**	**6**			**7**	
Nom	Lien de parenté avec le chef du ménage	Age	Sexe (M/F)	Bétail ? (O/N)	Espèces			Travail	
					B	M	C	Saison sèche	Hivernage

3C_D : LES ANIMAUX POSSÈDÉS PAR LES MEMBRES DU MÉNAGE

Terroir Villageois ____ (B=1, K=2, SG=3, T=4, E=5) Date _____

Groupe _____ Numero de ménage _____ **Espèce : B M C**

1 : Saison et Période	**2 : La gestionnaire et son contrat**				**3 : Mode de gestion**
Hivernage 1 (avant clôture de champs) (16 mai au 15 jul 2004)	GS1	NM1	NG1	Contrat :	MG1 :
	GS2	NM2	NG2	Contrat :	MG2 :
Hivernage 2 (clôture de champs) (16 jul au 15 oct 2004)	GS1	NM1	NG1	Contrat :	MG1 :
	GS2	NM2	NG2	Contrat :	MG2 :
Sèche 1 (broutage champs) (16 oct au 15 dec 2004)	GS1	NM1	NG1	Contrat :	MG1 :
	GS2	NM2	NG2	Contrat :	MG2 :
Sèche 2 (froide) (16 dec 2003 au 15 mar 2004)	GS1	NM1	NG1	Contrat :	MG1 :
	GS2	NM2	NG2	Contrat :	MG2 :
Séche 3 (chaude) (16 mar au 15 mai 2004)	GS1	NM1	NG1	Contrat :	MG1 :
	GS2	NM2	NG2	Contrat :	MG2 :

3C_E : OÙ SE TROUVENT LES CHAMPS CULTIVÉS OU POSSÈDÉS PAR LES MEMBRES DU MÉNAGE ?

Terroir Villageois _____ (B=1, K=2, SG=3, T=4, E=5) Date _____

Groupe _____ Numero de ménage _____

1	2	3	4	5	6	7		8
Champ/Jardin Code et nom	Terre de quel village	Type de propriété du champ T/A/P/L/G	Durée de culture	Campagne agricole 2004				Pourcentage Fumé dupuis la Campagne 2003
				Types de Cultures	Partie du champ effectivement cultivé	1er sarclage (jours x nombre)		
						Adultes	Enfants	
1								
2								
3								
4								
5								
6								
7								
8								

TABLEAU 4_AB: ACTIVITÉS AGRICOLES ET LEURS RAPPORTS Terroir _____ Date _____

(B=1, K=2, SG=3, T=4, E=5)

Code de famille _____ Personne Intérogée _____ Page _____ de _____ (totale)

1	**2**
Activité Agricole	Associés en Rapports entre Ménages
1	
2	
3	
4	
5	
6	

TABLEAU 4_CD: RAPPORTS SOCIALS Terroir _____ Date _____
(B=1, K=2, SG=3, T=4, E=5)

Code de famille _____ Code de groupe _____ Page __ de __ (totale)

Personne Intérogée _____

Décrire le malentendu, le mésentente, ou le litige:

1	2	3
Ordre (des mesures)	Mesure (s) prise (s) pour trouver une solution (1 jusqu'a 4; s'il y a plus que quatre mesures, les décrire dan ton bloc)	Médiateur (nom, et code de famille s'il/elle réside au village)
1 Numéro de 4_AB: —		
2		
3		
4		

Jamais expérimenté? Oui ou non? Si oui, décrire comment cette mésentente s'est développée et comment elle a été résolue.

Questionnaire 5 :
L'histoire des disputes au terroir villageois

Le premier but du Questionnaire 5 est de caractériser les anciennes disputes qui se sont développés dans le terroir villageois pendant 2004 et 1988, les derniers dix-sept (17) ans (aujourd'hui jusqu'au l'année après la mort de Kountché). **La stratégie est de commencer avec les événements les plus récents, et revenir sur le passé.** Commencer par discuter la période au cours des dernières cinq (5) années (les années 2004, 2003, 2002, 2001, et 2000). Pour les dernières (5) années, nous cherchons tous les incidents du conflit : entre cultivateurs et cultivateurs, éleveurs et éleveurs, et cultivateurs et éleveurs. **Après les dernières cinq (5) années, l'accent sera mis spécialement sur les disputes entre les cultivateurs et les éleveurs**. Donc, si possible, pour les années entre 1999 et 1988, se concentrer sur les disputes entre cultivateurs et éleveurs.

Le deuxième but du Questionnaire 5 est de demander aux disputants de raconter leurs propres expériences avec les disputes. Nous nous sommes intéressés à comprendre pourquoi une stratégie de gestion est choisie au-lieu d'une autre, pour faire les comparaisons entre les stratégies adoptées par les groupes ethniques/sociaux différents pour gérer les disputes. Nous nous sommes intéressés aussi à comprendre pourquoi quelques disputes deviendraient publiques et les autres résolus en privées. Nous voulons développer une compréhension des stratégies politiques utilisées par les villageois pour la gestion de conflit.

Faites attentions : les enquêteurs ne doivent causer aucun nouveau malentendu, car ces types de sujets sont toujours sensibles.

Il y a quatre sections du Questionnaire 5 :

(1) Passer en revu des disputes locaux: **Travaillant avec les chercheurs, utilisez les renseignements de Tableau 4_CD de faire une liste de référence des disputes et leurs dates (s'il y en a). Utiliser cette liste préliminaire pour faire un calendrier des disputes d'aujourd'hui (2004) depuis l'année après la mort de Kountché (1988) pour le terroir villageois pour votre référence.**

(2) Construir le Calendrier des Disputes : **Créer un Calendrier des Disputes depuis l'année après la mort de Kountché (1988) au présent (2004) avec les chercheurs, le (s) chef (s) du village, le conseiller, *malam, garso, et mai samari*. Dans quelques villages, vous pouvez faire ce calendrier avec tous les personnes importants ensemble, mais dans les autres, il faut faire les discussions séparés, à cause des conflits en cours. C'est avec le calendrier des disputes que nous introduisons le sujet des disputes au villageois importants dans chaque site.**

Il y a deux sections du Calendrier des Disputes :
(1) Les années 2004 – 2000
Pour cette section, chercher toutes les disputes publique, sans tenir compte du sujet.
(2) Les années 1999 – 1988
Pour cette section, l'accent sera mis spécialement sur les disputes entre les cultivateurs et les éleveurs**.**

Employer bien les résultats du Calendrier des Événements Historiques (1A) pour découvrir les dates des incidents du conflit et comprendre quand les incidents se sont passés.

Instructions pour remplir le Tableau 5 :
Colonne 1 : **Nom, Date, et Saison**. Noter le nom, le date (2004 – 1988), et la saison du conflit. Il y a cinq (5) choix pour les saisons : (1) H1= L'hivernage 1 (avant la clôture de champs) ; (2) H2= L'hivernage 2 (la clôture de champs) ; (3) S1= Sèche 1 (le broutage champs) ; (4) S2= Sèche 2 (la période froide) ; (5) S3= Sèche 3 (la période chaude).

Colonne 2 : **La cause, le sujet, et le numéro des gens impliqués dans la dispute**. Noter le numéro de personnes qui étaient directement et indirectement impliquées dans la dispute. S'il est difficile d'obtenir un numéro exact, une approximation est suffisante.

Colonne 3 : **Noms des disputants, leur origine, leur groupe sociale, et leur location aujourd'hui**. Écrire les noms des disputants, identifier ou habitent-ils, et noter ou habitent-ils au présent. Aussi, identifier le groupe social/ethnie des disputants. Il est utile de savoir si l'incident était limité à moins d'un groupe, ou s'il faisait participer des membres de plus d'un groupe social. Si les disputants étrangers étaient impliquées, demandez d'où viennent-ils.

Colonne 4 **:** Nom des médiateurs, leur origine, et leur location aujourd'hui**. Voir les directions pour Colonne 3.**

Colonne 5 **:** Les résultats de la dispute**. L'incident a-t-il été résolu ? Comment ?**

(3) Sélectionner des disputes : **Après avoir fait le Calendrier des Disputes, travailler avec les chercheurs pour choisir quelques disputes que nous enquêterons plus. Nous considérons (1) La gravité de la dispute ; (2) Si les médiateurs en dehors du village était utilisé (3) Si la dispute s'est passée entre les gens de la même ethnie ou des ethnies différentes ; et (4) Si les cultivateurs et les éleveurs ont impliqué dans la dispute. Après avoir choisi un groupe des disputes d'enquêterons plus, travailler avec les chercheurs pour classer l'ordre dans lesquelles vous travaillerez.**

(4) **Préciser les détails des disputes :** Enquêter sur chaque dispute que nous avons choisie d'étudier plus. Si possible, parler avec chaque disputant, s'il/elle réside toujours dans le terroir villageois, pour gagner leur perspective au sujet de la dispute. **Après avoir fait quelques enquêtes ensemble avec les chercheurs, les enquêteurs continueront le Questionnaire 5 tout seul.**

Nous cherchons les origines des disputes. Quelque fois, les gens pensent que l'explication d'une dispute est simple, mais en effet, c'est vraiment compliqué. Nous voudrions prendre le problème à la racine. Donc, voilà quelques questions de s'adresser quand parlant au disputants :

- Qu'est-ce qu'était la relation sociale entre les disputants, s'il y en avait ? Préciser, avant la dispute, la fréquence de l'interaction entre les disputants (quotidien, hebdomadaire, mensuelle, de façon saisonnière, annuelle, autre) ? Cette fréquence a-t-elle changé après la dispute ?
- À part la dispute, comment est-ce qu'on caractérise le rapport entre les disputants, entre les groupes sociaux des disputants, et entre les disputants et les médiateurs au temps de la dispute ? Est-ce qu'il y avait les événements qui ont touché ces relations pendant la période avant la dispute ?
- Faire un compte-rendu de sa version de ce qui s'est passé, et des causes de la dispute.
- Quelque fois les disputes sont résolues en privé, avant que les autres gens ou même tout le village sachent qu'il y avait une dispute. Nous nous sommes intéressés à comprendre pourquoi les stratégies normales ne marchent pas dans ce cas pour résoudre cette dispute discrètement. Souvent, avec les disputes entre cultivateurs et éleveurs qui sont devenus publiques, la majorité des gens pensent que ça concerne les choses simples. Mais, la réalité est qu'il y existe les plus grands problèmes (par exemple, au niveau du mariage, la jouissance du droit au terrain, ou les politiques nationales). L'interprétation des grandes disputes publiques est souvent simple, mais quelquefois les vraies causes sont un peu cachées. Nous voudrions découvrir les causes cachées de ces disputes. Faites attention, parce-que quelque fois il serait difficile à trouver les origines qui ont provoqué une dispute privée à une dispute publique.
- Si on a utilisé les médiateurs, comment ont-ils choisi quelqu'un, ou quelque agence ? Y a-t-il des avantages de gérer les disputes?
- Qu'est-ce qu'était le résultat de la dispute ? L'incident a-t-il été résolu ? Quelles sont les pertes et quels sont les avantages ?
    - Plus d'espace pour les champs
    - Plus d'espace pour le pâturage
    - La perte des contrats fumiers ou des contrats de confiance
    - La relocation des disputants

TABLEAU 5 : 2004 – 1988 CALENDRIER DES DISPUTES

Terroir Villageois _____ Numéro de ménage _____ Date _____
(B=1, K=2, SG=3, T=4)

Groupe _____ Nom (s) _____

1	**Nom, Date et Saison (H1, H2, S1, S2, S3)**	
2	**La cause, le sujet, et le numéro des gens impliqués dans la dispute**	
3	**Noms des disputants, leur origine, leur groupe sociale, et leur location aujourd'hui**	
4	**Nom des médiateurs, leur origine, et leur location aujourd'hui**	
5	**Les résultats de la dispute**	
1	**Nom, Date et Saison (H1, H2, S1, S2, S3)**	
2	**La cause, le sujet, et le numéro des gens impliqués dans la dispute**	
3	**Noms des disputants, leur origine, leur groupe sociale, et leur location aujourd'hui**	
4	**Nom des médiateurs, leur origine, et leur location aujourd'hui**	

5	**Les résultats de la dispute**	

TABLEAU 5 : 2004 – 1988 CALENDRIER DES DISPUTES

Terroir Villageois _____ Numéro de ménage _____ Date _____
(B=1, K=2, SG=3, T=4)

Groupe _____ Nom (s) _____

1	**Nom, Date et Saison (H1, H2, S1, S2, S3)**	
2	**La cause, le sujet, et le numéro des gens impliqués dans la dispute**	
3	**Noms des disputants, leur origine, leur groupe sociale, et leur location aujourd'hui**	
4	**Nom des médiateurs, leur origine, et leur location aujourd'hui**	
5	**Les résultats de la dispute**	
1	**Nom, Date et Saison (H1, H2, S1, S2, S3)**	
2	**La cause, le sujet, et le numéro des gens impliqués dans la dispute**	
3	**Noms des disputants, leur origine, leur groupe sociale, et leur location aujourd'hui**	

4	**Nom des médiateurs, leur origine, et leur location aujourd'hui**	
5	**Les résultats de la dispute**	

Terroir Villageois _____ Numéro de ménage _____ Date _____
(B=1, K=2, SG=3, T=4, E=5)

Groupe _____ Nom _____

Préciser les détails des disputes.

Questionnaire 6 :

Les impressions concernant les relations sociales

Avec le Questionnaire 5, on a demandé à quelques villageois de raconter leurs propres expériences avec les différents genres de la dispute. Avec le Questionnaire 6, nous nous sommes intéressés dans les renseignements plus généraux de la dispute. **Le but de ce questionnaire est de caractériser les impressions des villageois concernant les relations sociales concernant les disputes dans leur terroir villageois.**

Traiter le Questionnaire 6 avec deux groupements des gens :

(1) Les chefs du ménage pour chaque groupe social du Questionnaire 3C, **ensemble** (SANS le chef du village si son ménage était inclurait dans 3C).
(2) Le chef du village, le chef des marabouts, le chef de femmes, et le conseiller **séparé**.

Donc, pour chaque village, vous ferez trois (3) jusqu'au cinq (5) réunions des chefs du ménage ensemble (de trois aux cinq hommes), basé sur le numéro des groupes sociaux dans le terroir villageois, PLUS les discussions individuellement avec les chefs du village. Nous divisons les chefs du village et les chefs du ménage pour que les chefs du ménage puissent parler librement pendant la réunion. Il sera nécessaire de traiter le Questionnaire 6 avec les petits groupes et les chefs en privé, PAS à l'espace publique, parce-qu'il ne faut pas rendre-leurs opinions publiques.

Il y a trois sections du Questionnaire 6 :

(1) Traiter le Tableau 6 avec chaque groupe et chaque personne.
(2) Demander aux chaque groupe et chaque personne de classer les déclarations par Vrai (V) ou Faux (F). Après, avec toutes les réponses **Vrai**, reclasser les réponses selon si la déclaration augmente (+), diminue (–), ou n'affecte pas (X) les disputes. Pour toutes les réponses dans la liste (**+**), demander à chaque groupe/chaque personne de les classer par leur ordre d'importance (1 veut dire la plus importante raison pour une détérioration des relations sociales entre les gens, et le dernier chiffre veut dire la moins importante raison pour une détérioration des relations sociales entre les gens). Ensuite, pour toutes les réponses dans la liste (–), faire la même chose. Vous n'avez pas besoin de classer la liste des réponses **X**. Cet exercice nous donne une idée des forces positives et négatives qui a la plus forte influence concernant les relations entre les villageois dans chaque terroir villageois et les disputes qui peuvent se développer.
(3) Demander si chaque groupe et chaque personne croient qu'il y avait un changement en niveau du conflit pendant les dernières dix-sept (17) années dans leur terroir villageois, et si oui/non, pourquoi ?

TABLEAU 6: Les impressions concernant les relations sociales

Terroir Villageois _____ Groupe Social _____ Date _____
(B=1, K=2, SG=3, T=4, E=5)
Nom (s) _____

_____

Toutes ces déclarations concernant les conditions par rapport aux relations sociales entre les cultivateurs et les éleveurs dan le terroir villageois. Pour chaque déclaration, demander aux gens si l'est vrai ou faux. Noter (V) ou (F) dans le carré. Alors, pour chaque déclaration dit **vrai**, demander comment-elle affecte les disputes entre les villageois. Les trois choix sont que la déclaration **(1) + augmente ; (2) — diminue ; ou (3) X n'affecte pas** les disputes entre les villageois dans leur terroir villageois.

	Vrai ou Faux (**V**, **F**)	Si **V**, l'effet sur les disputes (**+, -, ou X**)
Les droits de mise en culture sont plus forts que les droits de pâturage		
Les droits de pâturage sont plus forts que les droits de mise en culture		
Il existe une perte des champs au pâturage		
Il existe une perte de pâturage aux champs		
Il existe une perte des passages du couloir animaux aux champs		
Le salaire des éleveurs est bas		
Le salaire des éleveurs est élevé		
Il y a trop d'éleveurs étrangers dans le terroir villageois		
Il y a un manque des relations entre les éleveurs étrangers dan le terroir villageois		
Il y a trop d'éleveurs qui habitent dans le terroir villageois		
Il y a trop de cultivateurs qui habitent dans le terroir villageois		
Il y a trop de champs dans le terroir villageois		
Il y a trop de jardins dans le terroir villageois		
Il y a trop de bétail dans le terroir villageois avant la récolte		
Il y a trop de bétail dans le terroir villageois après la récolte		
Le bétail revient plus tôt pendant la récolte		
Le fumier du bétail dans les champs après la récolte ne suffit pas		
Les résidus agricoles ne sont pas suffisants pour le bétail après la récolte		
Il y a un manque de bétail après la récolte qui ne permet pas la création des relations bénéfiques avec les éleveurs		
Il y a un manque de la propriétaire foncière d'une année à la prochaine		
Il y a un manque d'eau pendant l'hivernage		
Il y a un manque de puits pour donner de l'eau au bétail		
Il y a un manque de lait à vendre dans le terroir villageois		
Il y a un changement dans la diversité des espèces pâturage		
Il y a des restrictions des mouvements du bétail entre les gîtes d'étapes, les points d'abreuvements, et les espaces pâturage		
Il y a un manque de bons éleveurs qui aggrave la possibilité du dommage aux champs		
Il y a une augmentation du dommage dans les champs pendant la récolte		
L'autre		

+ Augmenté (Déclaration)	**Rang** (#)	**— Diminué** (Déclaration)	**Rang** (#)

En général, est-ce que les villageois croient qu'il y avait un changement en niveau de la dispute (augmentation, diminution, ou toujours la même) pendant les dernières dix-sept (17) années **dans leur terroir villageois** ? Si oui, pourquoi ? Si non, pourquoi ?

Questionnaire 7: Instructions

Les ressources et les médiateurs disponibles pour la gestion du conflit

Avec ce questionnaire, nous recherchons les ressources et les médiateurs disponibles pour villageois dans la gestion du conflit. Nous voulons noter les ressources disponibles à deux niveaux: (1) local, au village ; et (2) national. Les chercheurs (Dan et Kristen) vont traiter le Questionnaire 7 au niveau national, à Niamey. Les enquêteurs traiteront le Questionnaire 7 au niveau de village.

La plupart des conflits se font résoudre au niveau du village, et il faut noter les noms des villageois (les médiateurs) qui les gèrent. **Mais, il y a toujours quelques conflits que les villageois ne peuvent pas ou ne veulent pas résoudre au niveau du village. Quand ce cas se présente, les enquêteurs cherchent** les personnes et les agences **concernées auxquelles les villageois font appel pour résoudre les conflits, et** les coûts (économiques et sociaux) associés **avec l'utilisation des ressources en dehors du village.**

Faire le Questionnaire 7 avec les villageois qui ont eu l'expérience dans la gestion des conflits spécifiques que vous avez déjà discutés dans le Questionnaire 5. Aussi, vous pouvez profiter pour parler avec le chef du village, *malam*, *rouga*, *garso*, et *mai samari* s'il y en a et s'ils n'ont pas déjà été mentionnés dans le Questionnaire 5. **Il est probable qu'il faut traiter ce questionnaire avec chacun individuellement à cause de la sensibilité de ce sujet. Traiter le Tableau 7_A et chaque série des questions avec chaque personne interrogée.**

FAITES ATTENTION!: Nous ne voulons pas aggraver les anciens conflits ou quand même créer des nouveaux.

Tableau 7_A: Les Ressources Disponibles dans la Gestion du Conflit

Les ressources disponibles dans la gestion du conflit peuvent y comprendre les autorités indigènes locales, dans et en dehors du village (*sarki, rouga, garso, mai gari, kungiya mata, mai samari*), les représentants régionaux du gouvernement (le chef du Canton, le Sous-Préfet, le Préfet, et maintenant le Gouverneur), les fonctionnaires (surtout au Ministère de l'Élevage et au Ministère de l'Environnement), les ONG (Organisation Non-Gouvernementale) Nationales (par exemple, Timidria, Congafen, ANDDH, JADE, et AREN), et les ONG Internationales (par exemple, Oxfam et CARE).

En remplissant le tableau, faites attention aux détails. Si le carré est trop petit, le noter et donner une explication dans votre bloc.

Colonne 1: Écrire le nom et titre (si applicable) de personne et d'agence (si applicable).

Colonne 2: Noter la localité dans laquelle la personne habite ou la ville dans laquelle l'agence est située.

Colonne 3: Expliquer leur méthode de travail dans la gestion du conflit. Est-ce qu'il est partisan d'une méthode participative ou autorité concernant la gestion du conflit? Est-ce qu'il cherche plus d'une version de l'histoire de chaque conflit avec les gens?

Colonne 4: Demander si la personne interrogée n'a jamais utilisé cette agence/personne pour gérer le conflit (oui ou non).

Colonne 5: Si la personne interrogée n'a jamais utilisé l'agence/la personne pour gérer le conflit, est-ce qu'il était satisfait avec les résultats? Si oui ou non, pourquoi? L'expérience était-elle positive ou négative? Pourquoi?

Colonne 6 : Noter les coûts (économiques et sociaux) associés avec l'implication des personnes ou des agences en dehors du village pour la gestion de chaque conflit (par exemple, les pots de vin, l'augmentation de surveillance).

Tableau 7_A: Les Ressources Disponibles pour la Gestion du Conflit

Terroir Villageois _____ (B=1, K=2, SG=3, T=4, E=5) Date _____

Groupe _____ Numéro de ménage_____ Nom_____

1 **Nom de personne et titre d'agence** (si applicable)	2 **Localité** (Arrondissement/Ville)	3 **Méthode du travail** (participative ou autorité?)	4 **Déjà utiliser?** (oui/non)	5 **Résultats?** (positif/négatif)	6 **Coûts ?** (économiques, sociaux)

Tableau 7_A: Les Ressources Disponibles pour la Gestion du Conflit—Continue

1 **Nom de personne et titre d'agence** (si applicable)	2 **Localité** (Arrondissement/Ville)	3 **Méthode du travail** (participative ou autorité?)	4 **Déjà utiliser?** (oui/non)	5 **Résultats?** (positif/négatif)	6 **Coûts ?** (économiques, sociaux)

Questionnaire 7: Les questions au niveau de village

Terroir Villageois _____ Date _____
(B=1, K=2, SG=3, T=4, E=5)

Groupe _____ Numéro de ménage_____ Nom_____

Après avoir rempli la liste des personnes et des agences disponibles au villageois, nous cherchons d'autres renseignements quand on a déjà fait recours à quelqu'un ou à quelque agence pour la gestion du conflit (dans le carré 4 du Tableau 7_A):

1. Est-ce que les villageois ont essayé de résoudre le conflit au niveau du village avant de chercher une solution en dehors du village ? Pourquoi ont-ils échoué au niveau du village ? Est-ce que le conflit était très grave ?

2. Préciser les coûts (économiques et sociaux) associés avec l'implication des personnes ou des agences en dehors du village pour la gestion de chaque conflit **(le carré 6 du Tableau 7_A).** Par exemple, est-ce qu'il faut donner les pots de vin (les pattes) aux personnes ou aux agences? Est-ce qu'il y a un risque d'une augmentation de la surveillance ? Par exemple, est-ce que les gendarmes garderont les villageois sous surveillance pour quelque période du temps après avoir gérer un conflit ?

Questions plus générales :

3. Dans leur village, existe-il des ONG (par exemple, AREN, Timidria, Congafen, JADE, ANDDH, Oxfam, CARE) qui font une campagne de pression en faveur des éleveurs, ou bien pour les cultivateurs?

4. Discuter les différences entre les façons avec lesquelles les conflits ont été gérés dans le passé, et les façons/manières avec lesquelles les personnes concernées **souhaiteraient résoudre et gérer** les futurs conflits dans leur région ?

Questionnaire 7: Les questions aux niveaux des agences à Niamey

Nom d'agence _____ Tel_____

Nom _____ Email_____

1. Dans quelles régions au Niger est-ce que leur agence travail ?

2. Quel type du travail fait-il concernant la gestion de conflit au Niger? Depuis quand ?

3. Est-ce qu'ils collaborent avec les autres agences ? Si oui, les quelles ?

4. Est-ce que leur agence suit une approche standard pour gérer les conflits, ou est-ce que leur façon de travail change avec chaque nouveau conflit?

5. Est-ce qu'il y a un (ou quelques-uns) Ministère (s) qui s'occupe de la gestion des conflits au Niger ?

6. Existe-il des règles pour la gestion de conflit au Niger ? Si oui, est-ce que les Ministères ou les officiels gouvernementaux enfreignent les règles, ou est-ce qu'ils les laissent quand les conflits éclatent?

7. À leur avis, quels sont les différents moyens de gérer le conflit entre les Ministères et les ONG? Entre les ONG Nationales et les ONG Internationales?

8. À leur avis, est-ce qu'il y a une augmentation ou une diminution de conflit au Niger depuis l'année 1988 (après la mort de Kountché) à aujourd'hui (2004)? Dans quelles régions ? Pourquoi ?

9. Ont-ils des idées pour améliorer les relations entres les cultivateurs et les éleveurs au Niger ?