

Göttingen Series in
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Georges Djohy

Pastoralism and Socio-technological Transformations in Northern Benin

Fulani Innovations in Pastoral Migration,
Livelihood Diversification
and Professional Association



Göttingen University Press

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To

my wife Tanson Nicole Sarah Djohy

my daughter Mercy Damarys Djohy

my son Yanis Forgive Djohy

and

my dad Lucien Djohy

my mum Sidonie Atokpon Djohy

my grandma Dansi Glitho Ahossouhé

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Foreword

The study of pastoralists and nomadic livelihoods in Africa was once an ethnographic basis for the structural and ecological analysis of presumably static segmentary societies shaped by adaptation to a seasonally variable savannah environment. The last three decades, however, have witnessed considerable economic and social transformation in pastoral societies. Anthropologists, therefore, have now turned to highlight and elucidate nomadic peoples' capacity not simply to adapt to broad patterns of ecological variability but also to deal with constant change and even major shocks in an ecological, economic and political environment marked by uncertainty. The assessment of African pastoralism under such circumstances alternates between two poles: the desperate fate of marginalization, displacement, impoverishment, loss of livelihood and disappearance of truly pastoral identity, culture and social structure, on the one hand; resilience and the capacity of adaptation to ever changing environments based on knowledge, social institutions, flexibility, opportunistic management, nomadic mobility, and creative innovation, on the other hand.

Georges Djohy has provided us with a rich and ethnographically detailed case study of the pastoral Fulani in northern Benin that covers most recent trends in West African pastoralism. His analysis takes a close look at the pastoral situation in the second decade of the 21st century and it does so by using a very interesting combination of theoretical perspectives. Georges Djohy clearly realizes that while certain ef-

fects of climate change have to be acknowledged for his research area, the Gogounou District in Alibori Province, this much-debated phenomenon does not explain the loss of pastoral resources that threatens Fulani livestock keeping. Nor does climate change constitute a framework of understanding and action upon which the Fulani herders themselves, suffering from deteriorating resource and living conditions, draw. Djohy selects political ecology as a more comprehensive theoretical perspective that allows considering the interplay of ecological, economic and political processes, the conflict dynamics of various stakeholders engaged in the appropriation of natural resources, the power of symbols and discourse, and the path dependencies established by history. To this, he adds an emphasis on technology as inspired by Science and Technology Studies (STS). This choice seems highly appropriate since technological innovations in the form of artifacts and procedures that are not simply adopted, but locally appropriated according to specific interests and goals, mark the changing relations among the various groups that compete for access to land and resources in northern Benin. The sophisticated understanding of technology, drawn from STS, not as a determinant of social action but as a crucial element in a locally specific configuration of actors, understandings and power relations allows Djohy to explain the changing relations between Bariba farmers and Fulani livestock keepers whose reciprocal actions are themselves caught in the economic and political dynamics of Benin as a whole.

Göttingen, December 2016
Nikolaus Schareika

1 General introduction: Pastoralism, technological change and associative struggle as concerns

The impetus for this study came from previous studies I carried out among Fulani pastoralists in northern Benin from 2008 to 2012. While working to obtain my degree in Agricultural Economics and Rural Sociology at the University of Parakou (Benin), I conducted a research through the province of Alibori (northern Benin), on the socio-political and organizational strategies of pastoralists in coping with climate change. This research was part of the socio-anthropological component of the “Transhumance and Climate Change” project funded by RIPIECISA (Interdisciplinary and Participatory Research on Interactions between Ecosystem, Climate and Society in West Africa), an EU-funded research program in West Africa. Similarly, I received a grant from the African Climate Change Fellowship Program (ACCFP), making it possible for me to carry out in 2012 a study on the vulnerability and adaptation of nomadic herders to water scarcity under a changing climate in the same region of Alibori. These experiences enabled me to have a basic knowledge of the complexities of pastoralism in northern Benin. This was reinforced by my own observations of the Fulani, who were normally known as “bush people with their animals”, but are now users of many technologies such as mobile phones, and motorcycles. They have also developed advocacy groups and leadership that appears to defend their rights for better access to productive resources and better socio-political integration. This

was the starting point of my thoughts for a study on these aspects. The research was guided by the desire to first understand the changes in pastoral resources availability and secondly, the socio-technological responses applied by Fulani herders to these changes. Beyond my scientific ambition, I also ultimately intend to contribute to the improvement of the precarious living conditions of Fulani pastoralists in my home country, Benin Republic. But, I will begin by first of all clearly setting out my research problem. I will then present the main objectives and research questions. I will end this chapter by showing the scope of my study as well as the outline of the whole document.

1.1 Research problem

The importance of livestock production for the West African economy is undeniable. It is an insurance against risks and an important source of food and income for many people (SWAC-OECD/ECOWAS, 2008: IX). The regional contribution to the Gross Domestic Product (GDP) is estimated at 35%, with a livestock population including more than 60 million head of cattle and 160 million small ruminants (ECOWAS, 2012). In Benin, livestock is the second economic activity accounting for 5.8% of the GDP and averaging 15% of the agricultural GDP. The size of the national animal population is estimated in 2012 at 2.11 and 2.52 million, respectively of cattle and small ruminants (MAEP, 2013: 6ff.). Despite this significant contribution to the economy, the animal production systems across the country remain largely traditional. The efforts addressing genetic performance, training, information and animal health have failed to transform significantly this old pastoral economy (Aregheore, 2009: 9).

According to the agro-ecological conditions, cattle farming in Benin can be exclusively transhumant, semi-transhumant or sedentary (Adjou Moumouni, 2006: 16ff.; 2012: 8; Mama Sambo, 2013: 4). The mobility of the herd, to varying extents, remains an important element within these different cattle husbandry practices. The sedentary agro-pastoral systems mobilize an average of 10 to 80 cattle, kept in a limited area strongly integrated with agriculture. In the semi-transhumant system, about 40 to 100 cattle are managed between a settled homestead and grazing areas through seasonal mobility, ranging from 10 to 50 kilometers (km). Transhumant pastoralism includes larger herds of 200 to 300 cattle and consists of the largest movements (on average 200–300 km) that are cyclic and synchronous with rainfall patterns (Adjou Moumouni, 2006: 16ff.; 2012: 8ff.).

In Benin, Fulani herders who settled mostly in the northern part of the country some decades ago, dominate the livestock sector by holding 85–95% of the national herd (Dehoux and Hounsou-Ve, 1993; UNESCO, 2007: 16; Mama Sambo, 2013: 5). This activity of the Fulani defines their social organization and their ethnic identity, distinguishing them from other ethnic groups and represents the great socio-economic wealth they rely upon (Bierschenk and Forster, 2004: 13). One might

conclude in light of the technical, economic and socio-cultural considerations involved, livestock management on rangelands is the dominant livelihood of Fulani (Van Driel, 2002: 9; Djedjebi, 2009: 2).

Despite the importance of livestock to the economy both locally and nationally, land access issues remain a long-standing problem. The Fulani herders, although they are citizens,¹ are still considered strangers, and they are *de facto* landless. They access land only with the permission of farmers who have the longest-standing rights (De Haan, 1995: 134; 1998: 212; Guichard, 2000: 114; Van Santen, 2000: 154). This situation has prevailed since pre-colonial times, but the French domination of the Colonial Period and the various changes of political regime since the 1960s have brought little change (Boutrais, 1999a: 33; Bierschenk, 1999: 196). Fulani herders are therefore subject to various forms of marginalization and have difficulties in accessing land and natural resources to meet the needs of their animals (De Haan, 1997: 12 & 30). This situation, which had deteriorated during the post-colonial era, resulted in a strong mobilization of Fulani in 1987 in order to claim a better socio-political situation from the central power. The first seminar of Kandi, organized by Fulani intellectuals, gave birth to the largest socio-cultural association, “Laawol² Fulfulde”. This opened the way for plurality and the emergence of many other Fulani associations in the pastoral areas of the country. During the last few decades, several pastoralist associations have been created to defend the interests of Fulani herders and to help them improve their access to resources and their socio-political conditions. There are more than twenty associations and organizations³ throughout the country working for the welfare of Fulani. With support from international donors and partners, guided by various development rationales and backgrounds, pastoralist associations now implement various projects oriented towards the development

¹ The issue of citizenship of Fulani does not generally pose a problem in Benin. The Fulani who have been settled for several decades are perfectly integrated into the socio-economic and political life of the country. The Fulani who speak the Pular or Fulfulde language are part of the map of ethnic identities in Benin (Heldmann, 2009: 109). They are often distinguished from transhumant Fulani from neighboring countries who return back to their country when the rainy season starts (Djenontin, 2010: 17). They are also different from the migrant Fulani who settled more recently (Adégbidi, 2003: 36; Droy *et al.* 2014: 87). The citizenship in Benin is defined by the age-old Law No. 65-17 of 23 June 1965 that established the Code of Citizenship in Dahomey (Government of Benin, 1965). According to this law, citizenship is obtained at birth or through parentage, marriage or residence. There are also possibilities for naturalization. Considering all these criteria, one could assume that most Fulani in Gogounou, where my research took place, are Beninese. Treating the Fulani as a whole as strangers as is often the case in rural northern Benin, appears to be a violation of the Benin Constitution of 11 December 1990; particularly its Articles 11, 22, 26 and 36 respectively on (i) Freedom of communities part of the Nation, (ii) Property right for all citizens, (iii) Equality of citizens and (iv) Ban on discrimination (Government of Benin, 1990).

² The writing “Lawool” is also available in the literature, but in this document, I will instead use “Laawol” confirmed locally as the most correct.

³ I made myself this appraisal based on the information I have collected during my exploratory visit to Benin in July-September 2013.

of pastoralism and the fulfillment of Fulani herders. Some of these associations are members of regional and international pastoralist networks, which are involved in building the capacity of their members, with a focus on advocacy and lobbying. Pastoralist networks have gained fame with some even becoming essential to both regional and international politicians as development actors in sub-Saharan Africa (IRDR/SOS-Faim, 2012).

In a globalized world of technological progress, there are now different technological tools used in pastoralism. Information and communication technologies, transportation technologies and many other modern conveniences are now being used in pastoral areas, where Fulani herders have access, using them in various forms. Similar to the Afar pastoralists in northeast Ethiopia, mobile and media technologies have improved livelihoods, even replacing their powerful indigenous information system called *dagu*⁴ (Menbere and Skjerdal, 2008). Through mobile phone calls, radio and TV programs, information is now rapidly shared on rangelands patterns, climate conditions, animal marketing prices, and political and safety issues along animal corridors (Tafere and Teklu, 2013). Similarly, other pastoralists (e.g. Maasai, Turkana) in Eastern Africa use mobile phones to access markets and get information on climate, pasture and water conditions to make decisions for mobility (De Jode, 2010). The use of mobile phones has also enabled Fulani herders of Douentza Province in Mali to maintain social ties with kinsmen and employers when grazing animals far away on open ranges (Sangare, 2010; Keita, 2015). Mobile phone technology is assumed to improve the integration of farmers in landlocked areas to the market, increasing their business sensitiveness (Muto and Yamano, 2009). The use of mobile phones reduces the informational asymmetry and transactional costs and increases economic productivity of farmers (Sife *et al.* 2010; Crandall, 2012). The access to the mobile phone network has improved the responsiveness and the adaptability of pastoralists in Niger to price fluctuations in the markets, with a positive impact on their food security (TSF, 2012). In short, access to mobile technology enables poor rural communities to reduce socio-economic boundaries between the “centers” and the “marginal peripheries” (De Bruijn, 2008; De Bruijn *et al.* 2013).

Other technologies are sometimes innovated by the pastoralists themselves to face the difficulty of access to pastoral resources and its corollaries. For example, donkey carts and inner tubes were technologies that favored the transport of water and livestock feeds among pastoralists in the Senegalese Ferlo (Santoir, 1994: 249; Juul, 1996; 2005a: 116ff.; 2005b: 98ff.; Adriansen and Nielsen, 2002: 218; Adriansen, 2006: 221). These facilitated greater mobility in a context where the animals were forced to travel longer distances, causing severe consequences on their production and reproduction. Phone calls from public phone booths allowed those pastoralists

⁴ *Dagu* is a traditional mode of communication through which all information of public relevance (social, economic, political, herding and security issues) is “transmitted in the form of relay where an Afar must quickly share with one or more people on his way to daily practice” (Menbere and Skjerdal, 2008: 19–20).

to disseminate their problems and be quickly connected with people (politicians, police officers, medical workers, etc.) necessary for the resolutions of their concerns and issues (Juul, 2005a: 126f.). Dieye and Roy (2012) also reported that Global Positioning Systems (GPS) and cell phones play a role in the mobility of pastoralists to fodder and water sites in northern Senegal.

Within this context, my research aims at understanding how “technologies”, on the one hand, and “associations”, on the other hand, have influenced pastoralism in the northern part of Benin Republic. This calls for analyzing how the current socio-technological transformations have enhanced the Fulani socio-economic adaptations in working out solutions to their daily challenges of resource access and livelihood improvement.

1.2 Research objectives

The main objective of my anthropological research has been to analyze how different technologies and pastoralist associations have influenced pastoralism in northern Benin. The specific objectives of my study include: (i) to investigate the situation of resource access for pastoralists in northern Benin; (ii) to explore how Fulani pastoralists individually address challenges to resource access with regard to the different technologies available; and (iii) to investigate the associative approach of handling the long-standing land rights and resource access problems encountered by Fulani pastoralists.

1.3 Research questions

After the brief presentation of the problem that addresses my research and the main objectives, it is important to highlight the key questions which guided me throughout the study. To obtain insight into the socio-technological transformations occurring within pastoral communities in northern Benin, three main questions were put forward: (i) to what extent is the access to pastoral resources for Fulani pastoralists determined by the technological revolution brought about by development policies and interventions in rural Benin? (ii) to what extent are the household-level adaptive strategies of Fulani pastoralists determined by various technological tools to which they have access in their communities?; and (iii) how do the pastoralist associations fare in defense of Fulani herders to ensure them better resource access, improved livelihoods and a secure future?

1.4 Scope of the study

My research is local in scope. I conducted the study in Gogounou District, located in Alibori Province, in the northern part of Benin Republic. I sought, essentially, to find out how the advent of pastoralist associations and technological tools has been transforming pastoralism in Benin Republic. In my study site, I focused on the shortage of pasture for Fulani pastoralists, as determined by the interactions of various socio-economic, political and technological forces. The ethnographic approach that I used to gather most of the field data used for this analysis, included participant observation in farms, herder camps, Fulani association headquarters and so on, and semi-structured interviews with different stakeholders at the local and regional levels. Secondary data, provided by Fulani associations, extension services, local and international partners with regards to their interventions in pastoralism, were also drawn upon. I tried as best I could, and within the limits of my research means, to travel to other districts of northern Benin (Kandi, Nikki, N'Dali, Bembéréké) to see briefly the trend regarding some phenomena I have studied in Gogounou. Some short stays in the economic capital of Benin (Cotonou) and the metropolis of northern Benin (Parakou) allowed me also to fulfill institutional steps, to gain access to documents and to have valuable discussions with key resource persons. My field research was divided into two phases: an exploratory phase for two months (July – September, 2013), and an in-depth study phase for eight months (February – October, 2014). I will give more details of my ethnographic approach in Chapter 5.

1.5 Structure of the book

This book contains nine chapters: An introductory chapter, a literature review chapter, a conceptual framework chapter, a field chapter, a methodological chapter, three empirical chapters and a concluding chapter. The introductory chapter addresses my personal motivation for this research, along with the problem statement, the research objectives and questions and the scope of the study, which help to understand the local perspective of the study. Throughout the second chapter, I have presented the overall scientific debate to which my research is intending to contribute, namely, to the sustainability of pastoralism in Africa. Through a comprehensive review of literature, I have recalled the main challenges of pastoralism in our contemporary world, and the main pathways perceived by scientists about its future. The third chapter deals with the conceptual framework of the study. The main concepts considered in my data analysis are clarified therein. By combining elements of political ecology, science and technology studies, and civil society organization politics, I have concluded this chapter by drawing the analytical framework that highlights the linkages investigated and illuminates the analysis of my field data. The fourth chapter presents general information for a better understanding of my study area. The first part is

devoted to placing the Republic of Benin in its geographic, socio-economic and demographic context. Then I have focused on the local context of Gogounou District, which was my research site. I have presented the most significant elements to understand pastoralism and its evolution with emphasis on the ecological, socio-cultural and economic context in which the Fulani herders practice their activity locally. The fifth chapter of the book is devoted to my ethnographic approach. I have tried to provide a detailed insight into how I have implemented research methods and collected empirical data. My exploratory visit and my in-depth fieldwork are presented in detail as well as the main challenges of the research. The sixth chapter of the book presents the conditions of pastoral resource access in the district of Gogounou. I have demonstrated how farmers, through the unequal power relations fed by different state rural development policies, control land and local rangelands to the detriment of the pastoralists. The agricultural development, natural resource management and land tenure policies are presented as well as their direct and indirect impacts on pastoralism. The seventh chapter exposes the pastoralist household-level adaptive options to deal with the dwindling of pastoral resources in Gogounou District. Three groups of Fulani are distinguished and their livestock farming dynamics are analyzed in relation to their mobility and settlement practices. Different technological tools (communication and transportation technologies) and various alternative livelihood options are also presented as they are used by pastoralists. The eighth chapter looks at the association politics to resolve the problem of resource access for pastoralists. I have comprised an analysis focused on the largest Fulani association of Benin, ANOPER and its local and regional branches operating in Gogounou District. Their structure, functioning and various activities are presented as well as their impact on the daily life of Fulani pastoralists. The ninth chapter of the book is the concluding one. First, I have summarized the main findings of the study to answer the research questions. Second, I have highlighted and discussed the key contributions of the study. Third, the policy implications and general recommendations are included in this chapter to contribute in some way to the improvement of the welfare of Fulani pastoralists of Gogounou in particular and Benin in general.

2 Once robust and vigorous: Does African pastoralism have a future?

The state of scientific debate

There is no doubt that livestock is the most important asset of African pastoralists, providing a set of socio-economic and symbolic services as significant as economic capital, social positioning, manure, draft power, and much more (cf. Djenontin *et al.* 2004; Hesse and MacGregor, 2006; Boureima, 2010; Alary *et al.* 2011; IRDR/SOS-Faim, 2012; Vigne *et al.* 2015). The concern is rather to what extent pastoralism will resist threats and be sustainable; to borrow the title of the Be-troplive⁵ symposium held in Brussels on 14 November 2013 “Pastoralism: where does it go in an ever-changing context?”. Researchers have been very concerned about the future of African pastoralism over the last three decades. The scientific discussions were much enriched in the period between the conferences “The Future of Pastoral Peoples” held in Nairobi on 4–8 August 1980 (cf. Galaty *et al.* 1981) and “The Future of Pastoralism” held in Addis Ababa on 21–23 March 2011 (cf. Catley *et al.* 2013a). In a global context of uncertainty and complexity, driven by issues of socio-economic, ecological, technological and political order, questions about development in marginal areas have become commonplace. Questioning the future by assessing the past,

⁵ Be-troplive is the Belgian Platform on Tropical Animal Health and Production (cf. <http://www.be-troplive.be>, last accessed 20/07/15).

observing the present-day situation and generating substantial knowledge and then theorizing the likely routes of transformation constitute the way researchers contribute to sustainability. In these discussions, pastoral systems and peoples in Africa and other parts of the world have been at the heart of the scientific debate. Range managers, economists, ecologists, geographers, ethnologists and other specialists have done extensive research that has led to various assumptions. Pastoralism is almost always perceived to be in a sorry state, described by several types and stereotypes of which I would like to cite a few: “pastoralism under pressure”, “pastoralism under stress”, “pastoralism in crisis”, “pastoralism in distress”, “pastoralism under shock”, “pastoralism under uncertainty”, “pastoralism under insecurity”, “pastoralism in decline”, “pastoralism in collapse”, “pastoralism doomed to extinction”. I could fill all the pages of this book with these melodic turns of phrase feeding the dialectic about pastoralism. Most of these terms, rightly or wrongly, could fall into what Ramisch (1996: 5) called populism, which emotionally sees the imminent end of the pastoralist. But what is the fate of pastoralism in Africa as seen by scholars? The answer to this question is explored throughout this chapter, which is devoted to examining the main assumptions and debates on the future of pastoralism in Africa, to which my study is intended to contribute.

2.1 Will African pastoralism be sustainable?

The scientific world seems divided on the future of pastoralism in Africa. With a negative view on various aspects of its practice and in light of the threats to which it is subjected, some authors have proposed the idea of rethinking African pastoralism (cf. Hodgson, 2000; Kandagor, 2005; Sandford, 2011). It seems to be a scientific drive which is crystallized around saving pastoralism in order to have more “viable pastoralists” or “sustainable pastoralists” facing an increasing trend of “ex-pastoralists” or “vulnerable pastoralists” who could not withstand the various shocks (climate, socio-economic, political, etc.) to which they are subjected, or are enrolled in a vicious cycle of poverty, vulnerability and marginality (Eneyew, 2012: 95). Two main types of narrative about the future of pastoralism in Africa can be summarized as: The pessimist discourse that postulates the disappearance of this type of livelihood and the optimistic discourse that reveres the resilience and adaptive capacity of pastoral systems. Now, I will present the main content of each discourse.

Pessimist narratives on pastoralism

Uncertainty over the fate of pastoralism has increased over years. Many authors who have studied various pastoral societies in Africa and have also followed the development trends in these communities ended up doubting a secure future for this lifestyle. The concern becomes especially great where mobility and flexibility are challenged by various stressors with ecological, socio-economic or political foundations. Com-

paring the past of the superbly resilient pastoral peoples to the unfavorable present-day indicators of their livelihoods, Grayzel (1990: 64) emphasized that the future of pastoralism remains enigmatic and cannot be accurately guessed. Fratkin (1997: 254) also argued that “The future of pastoralist populations is far from certain”. The author based his argument on the fact that pastoralists, who have always survived various shocks to living and producing in the harshest environments, are increasingly stuck and have become unable to cope with their current situations in many regards. Population growth, increasing urbanization, agricultural expansion, wildlife conservation and land implications, and insecurity issues weigh heavily on pastoralists and their livelihoods. Regrettably, their responses are not likely to overcome all the inequalities and injustices created by these risk-prone contexts within which they live. Many scholars pursued this argument, for example most prominently in a collective volume by Markakis (1993) and a book by Squires and Sidahmed (1998).

Helland (2001) was also very concerned about how pastoralism is pressured between disenfranchising state policies and interventions of NGOs and various agencies involved in trying to develop pastoral areas in Eastern Africa. Focusing specifically on Borana pastoralists in southern Ethiopia, the author began his article by stating:

A sense of crisis is a common theme running through all contemporary reports and descriptions from the pastoral societies of Eastern Africa. *Pastoral societies, once robust and vigorous, are disintegrating.* They seem no longer able to contend with the challenges posed on them by the environments in which they must exist, by the ecological foundations of their economies, or by the effects created by their interrelationships to the larger social, economic, political, military contexts in which they find themselves. The structures and institutions of pastoral societies are apparently no longer able to maintain these societies as going concerns. (Helland, 2001: 56; emphasis added)

The author went even further in revealing a very skeptical position on the sustainability of pastoral systems, adding:

The most pessimistic outlook asserts that pastoralism as a way of life in Eastern Africa has outlived its own well-established successes and that pastoral societies now are locked in a downward spiral of ecological crises, famine, dependency and permanent destitution. The outcome of these processes can only be the disappearance of pastoralism as a way of life. (Helland, 2001: 56)

Helland in his argument stressed that development approaches have seriously undermined pastoral structures and institutions, and have limited the capabilities of pastoralists to face threats in their living and production settings. He postulated that “disintegration” and “disappearance” will certainly be the end, if nothing is done to prevent this.

Table 2.1: The points of Sandford's argument

1. The pastoral human population is growing at about 2.5 per cent per year (despite steady out-migration);
2. A certain minimum number of livestock are needed to support these humans as pastoralists (5–6 tropical livestock units (TLU)⁶ per person in pure pastoral systems, three TLU in agropastoral systems);
3. The number of animals is not equitably distributed among pastoralists, which means poverty is persistent;
4. The maximum number of animals (and therefore the maximum number of people) is limited by the amount of livestock feed available;
5. The area of grazing land accessible for pastoral use is shrinking as a result of the expansion of cultivation and wildlife conservation areas;
6. There are no known technologies for significantly increasing primary production on grazing lands;
7. Overall herd productivity cannot substantially improve unless the quantity and quality of feed is improved;
8. The prospects for increasing the market value of livestock (thereby, decreasing the number of livestock required per person) are limited;
9. The prospects for income diversification within the pastoral areas are unfavorable because there is little local demand for the increased amounts of goods and services supplied;
10. Finally, in some parts of pastoral areas, there is greater potential for agricultural development than pastoral development.

Source: Moritz *et al.* (2009: 1115)⁷

Another more recently developed neo-Malthusian argument assumes that pastoralism is in crisis with the downfall of basic resources, facing ever smaller herds shared by too many pastoralists in the Horn of Africa. In a thesis entitled “Too many people, too few livestock: the crisis affecting pastoralists in the Greater Horn of Africa”, Sandford (2006),⁸ who is one of the best known leaders of this pessimistic view, presented in ten points an argument of a completely uncertain future for pastoralism (Table 2.1).

⁶ Tropical Livestock Unit is livestock number converted to a common unit. Conversion factors are: 1 head of cattle = 0.7 TLU, 1 sheep or 1 goat = 0.1 TLU.

⁷ I chose to use this summary of Moritz *et al.*, as Sandford himself validated that it is fairly consistent with his thesis (Sandford, 2011: 5). Another synthesis is also available in Devereux and Scoones (2008). Stephen Sandford presented at the 2006 ALIVE/LEAD e-conference “Maintaining Mobility and Managing Drought: Policy Options for Pastoral Livelihoods in Sub-Saharan Africa” a keynote where his argument was presented in ten points (http://www.future-agricultures.org/wp-content/uploads/pdf-archive/Sandford_thesis.pdf, accessed 19/11/17).

⁸ This argument of too many people sharing too few animals is also echoed by many development agencies including the World Bank (cf. World Bank, 2009: 15).

For Sandford, the pastoral population is growing and facing insufficient stocks which are inequitably distributed and even decreasing. Livestock feeds are qualitatively and quantitatively deficient and/or inaccessible and their availability is increasingly limited by the agricultural production schemes and resource conservation. The use of technology in pastoral societies is not increasing productivity on rangelands. Livestock has a limited market value with few prospects for its growth, and even if it had such prospects, marketing would further contribute to reducing the per capita availability of livestock. Diversification opportunities in pastoral areas are also limited, since there is little demand to meet the large range of available goods and services that could be offered. Facing all these issues, cultivation would be more rewarding in some areas which nevertheless struggle for a very problematic pastoral development.

The substance of Sandford's argument lies in the exaltation of threats to, and weaknesses of pastoral systems in the Greater Horn of Africa (GHA), which I believe underestimates the performance recorded in various pastoralist communities struggling more or less successfully against various risks that challenge their livelihoods. His thesis generalizes the despair and the pitiful state of pastoralism in the Horn of Africa. However, the pastoral community should never be considered as a homogeneous group. Ahmed (2001: 189f.) reported that, in extremely challenging economic, social, political and ecological conditions, there were always some thriving agro-pastoral systems, contributors to the economies of countries in the concerned region. Ahmed added that pastoralism has always prevailed over contempt from planners and decision-makers, who have always favored cultivation at the expense of pastoralism, and have constantly, marginalized and hindered the latter. The pessimist argument was also heavily criticized by a wave of researchers who opposed Sandford, claiming a more secure and even flourishing future for African pastoralism. The skilled demonstration of Moritz *et al.* (2009) through case studies in West Africa is an example. The main arguments of the opponents of the pessimistic views described above are discussed in the next section.

Optimistic narratives on pastoralism

The Boserupian discourse perceives pastoralists as "Moving with the times" (Future Agricultures, 2015). Jeremy Swift, in an interview with African media on the future of pastoralism stressed: "I believe pastoralism not only has a future in Africa, but that their future will be rather more successful than many others, as climate change makes all drylands more risky with more extreme droughts and floods" (Jeremy Swift in Afronline, 2012).

The main argument of pastoralism optimists is linked not only to the diversification possibilities available to pastoralists but also, and above all, their ability and capability to capture new opportunities, to innovate and stand against all odds. Pastoral diversification consists of pursuing non-pastoral activities in both rural and urban areas, as an additional source of income (Little, 2001; Little *et al.* 2001: 403). The

reinterpretation of crisis conditions is also crucial in this viewpoint. Far from being in crisis or decline, the Fulani of Senegalese Ferlo, for example, interpreted changes in their livelihoods as a way to adapt and not to resign (Adriansen, 2006: 226; Moritz *et al.* 2009: 1130). Another important aspect of pastoral optimism is that it admits that herders are not fixed in their ways of coping with crises. They constantly revise their situation, assess the effectiveness and sustainability of adopted practices and take up new alternatives as necessary in connection with the new socio-economic, environmental and political conditions. Their coping strategies evolve continually over time (Campbell, 1984: 48; 1999: 378; Campbell *et al.* 1990; Waters-Bayer and Bayer, 1994a: 216).

Swift and Hamilton (2001: 86) have divided the livelihood strategies of rural communities into four broad groups: intensification, extensification, diversification and migration. In the intensification strategy, labor, capital or technology are used to increase production per unit of land or livestock. But when a large expanse of land or a high number of cattle is being used for production with relatively low level of external inputs, this reflects rather an extensification dynamic. Actors may also diversify their income sources without holding steadfast to herding or cultivation as their traditional or main sources of livelihood. In this case, they combine several other economic activities to reduce their level of vulnerability. Migration, which is the last strategy, means leaving the area and/or their original livelihood to seek other lifestyles. As shown in several studies in recent years, the argument that pastoralism is declining is gradually losing ground, giving way to hope based on the resilience and adaptation of pastoral systems. The focus is increasingly placed on the diversity of mobility strategies, openness to change and innovation in production techniques and diversification of income sources (IRDR/SOS-Faim, 2012; Toutain *et al.* 2012; Catley *et al.* 2013a). In the following, I will review the literature on the different ways in which various pastoral groups in Africa adapt to risks and shocks.

2.2 Dynamics of dealing with uncertainty

Pastoralism and migration

Pastoral mobility, although increasingly difficult in many parts of Africa, is the historical way through which pastoralists face up to various challenges and grasp various opportunities, e.g. of good-quality grazing in specific areas in specific times of the year or specific years. Pastoralism and migration have long been closely intertwined. Mobility has always allowed pastoralists to enjoy accessible spaces in the short, medium or long term. The availability of grazing resources often determines the intensity and frequency of the movements of pastoralists and their animals. By moving towards the southern sub-humid or various other areas, many pastoralist groups in Africa have, flexibly and strategically, dealt with ecological, epidemiological, socio-economic or political issues (Boutrais, 1986; 1994a; 1999b; 2000: 164f.; Sutter,

1987; Bassett, 1988; Behnke and Scoones, 1992; Blench, 1994; Waters-Bayer, 1994; Diallo, 2001; Tonah, 2003; Marty *et al.* 2006; Wane *et al.* 2006; Bassett and Turner, 2007; Moritz *et al.* 2009; De Jode, 2010; Zampaligré, 2012; Zampaligré *et al.* 2013). Pastoralists undertake seasonal as well as permanent migrations to enjoy areas less pressured by agriculture, to enter zones where they can easily trade animal products and also acquire drugs and remedies for maintaining their animals in risky environments (Blench, 1994: 207f.).

More than a simple adaptive struggle in the face of various challenges, other authors suggested an “intelligent”, “proactive”, “rational” and “program-based” dimension of pastoral migrations. They claim that the movements of pastoralists and their herds are also geared towards improving productivity, in that the pastoralists give priority to obtaining fat healthy animals rather than getting out of an annual cycle of mobility with a severely emaciated herd. Accordingly, the migrations of Wodaabe pastoralists in southeastern Niger were identified by Schareika and his collaborators as an effective strategy to improve livestock productivity. By challenging the common model of a passive adaptive struggle in an uncertain environment, the authors showed that the short and long-distance movements practiced by Wodaabe herders are rather part of a coherent program of animal nutrition, implemented with strong ecological knowledge. This method of keeping cattle, described as “goal-oriented” and “site-specific”, greatly improves the production and reproduction parameters. Making judicious and technological use of the asymmetric distribution of nutrients in the uncertain environment offers great economic orientation and specialization (cf. Schareika *et al.* 2000; Schareika, 2001a; 2001b; Krätli and Schareika, 2010). Wodaabe pastoralists shape their pastoral life around four types of migration. The *perol* migration is a permanent and irreversible relocation in the face of various unmanageable ecological, socio-economic or political crises. The seasonal long-range *baartol* migration connects the place of affiliation to another ecologically different region in order to benefit annually from their complementary soil and vegetation types between dry and wet seasons. The medium-range *goonsol* migration takes place within the same ecological setting and involves simply a change of pasture. Finally, the short-range *sottol* migration is based on movements around the pastoralist dwelling camp in order to effectively cope with pastoral degradation (Schareika *et al.* 2000: 319f.).

Fulani pastoralists have been migrating to the south, coming from drought-prone areas and have become more numerous in some sub-humid areas of southern Mali such as Sikasso, where they were absent before the 1970s (Ramisch, 1998; 1999). Facing a population explosion, agricultural expansion and land insecurity, herders in southwestern Niger also undertook transhumance over large distances with the relocation of part of the family herd into southern sub-humid areas (Bassett and Turner, 2007). Fulani pastoralists of northern Nigeria facing aridity were moving farther south in the dry season. On the resumption of the wet season, they led the herds back to the northern semi-arid area to avoid the tsetse flies. With the decrease in inter-ethnic warfare, crop-farming groups from the south and north moved into

the Middle Belt of Nigeria, where they cleared many of the trees and shrubs and started extensive cropping. This led to a reduction in tsetse flies and lowered the disease pressure for ruminant livestock. Pastoralists also took advantage of the new environmental conditions to use areas of land that were previously inaccessible because of tsetse (Stenning, 1957: 60; 1959; Blench, 1994; Bourn and Wint, 1994; Waters-Bayer and Bayer, 1994a: 215). Settled pastoralists in the extreme northeast of Cameroon whose grazing areas were diminished by strong urbanization and agriculture expansion entrusted their herds to mobile pastoralists or hired herders to move the herds over large distances of transhumance to exploit greener and accessible areas (Moritz, 2003). Chadian Mbororo pastoralists “like” mobility and can travel over one thousand kilometers, if necessary, for the welfare of their herds (cf. Oumarou-Ibrahim, 2011).

Senegalese Fulani responded to the population explosion, agricultural expansion and environmental harshness by moving further south into regions with accessible rangelands. Through endogenous innovations (donkey carts, inner tubes), they met the feed and water needs of their animals, while travelling very long distances (Santoir, 1994; Juul, 1996; 2005a; 2005b; Adriansen and Nielsen, 2002; Adriansen, 2006). Emigration enabled Fulani of the lower Senegal valley to cope with the effects of successive droughts and to improve their livelihoods. However, a complete lack of pasture in the valley led them to return to temporary nomadism in addition to the regular transhumance, reshaping therefore a new mobility landscape (Santoir, 1994: 252). Sometimes the pastoral household is divided into two units; one completely settled while the other remains mobile with the larger part of the herd. This settlement of one part of the household *versus* the seasonal migration of the other part attempts to secure rights on the small portion of land in the settlement area for growing food crops. This kind of relationship to land is common in many pastoral societies in West Africa, as was reported by Sutter (1987: 197) in northeast Senegal, Boutrais (1994b: 187) in the Adamawa area of Cameroon and Waters-Bayer and Bayer (1994a: 214f.) in subhumid central Nigeria.

Another important aspect of pastoral mobility is the combination of several animal species. Indeed, the mixture of different species in the same herd is a coping strategy for many pastoralists. This mixed livestock farming is practiced by many that combine, as appropriate, cattle, sheep, goats, camels, horses or donkeys with priority for specific sex, age or breed to take advantage of their dissimilar feeding habits and hardiness. The large herds can also be subdivided into smaller more manageable herds, grazed on diversified routes to take advantage of the adaptability of each animal species to reduce the risk of a total loss of livestock in case of crisis (Campbell, 1984: 48ff.; 1999: 399ff.; Sutter, 1987: 201; Blench, 1994: 206; Santoir, 1994: 249; Ayantunde *et al.* 2000; Djenontin *et al.* 2004; Adriansen, 2006: 222; Marty *et al.* 2006; Hesse and MacGregor, 2006: 7; Awuor, 2011; Oumarou-Ibrahim, 2011; IRDR/SOS-Faim, 2012: 3).

In difficult environments, mobility is expected to persist and even increase among pastoralists who use smart ways to exploit various political and social networks to

adapt to new opportunities and constraints (Swift, 2006). Wane *et al.* (2006) assume that the flexibility and diversity of mobility solutions are among the factors that determine the viability of pastoral systems in the Senegalese Sahel. Mobility remains the best way for pastoralists to produce better, access market, avoid risks and generate all social and economic resources useful for their development.

Pastoralism and technological innovation

Technological innovations, both endogenous and exogenous, occupy an important place in the coping mechanisms of pastoralists in various crisis situations. The economies of risk-prone areas are perceived as highly innovative in terms of exploiting natural resources and livelihood opportunities (Mortimore, 2003: 62). Thus, the successful introduction of inner tubes and donkey carts was celebrated in papers and books by many authors (Santoir, 1994; Juul, 1996; 2005a; 2005b; Adriansen and Nielsen, 2002; Adriansen, 2006). In a context where high mobility is required to save the stock, these innovations of Fulani pastoralists in the Ferlo of Senegal have been instrumental in maintaining the produce from the herds and their reproduction. The kind of transport revolution locally initiated has been of great support in climatic crisis. Carts and donkeys, abundantly acquired by herders, were strongly integrated into their new form of mobility. A harness with plastic drums or truck inner tubes of hundreds of litres volume allowed pastoralists to cover the animals' water needs throughout the year, even when boreholes malfunction or break down.

Through livestock exchanges and crossbreeding, Fulani pastoralists in the Nigerian humid and sub-humid zones have adopted various cattle breeds more resistant to diseases, nutritional and water stresses and resource scarcity. Accordingly, the red zebu breeds such as *Rahaji*, *Azawak* and *Wadara* desirable for their good production performance and their symbolic value, were gradually replaced by the white breeds such as *Bunaji* (Blench, 1994: 207; 1999: 17ff.). Samburu pastoralists in Kenya, under pressure due to the privatization of communal rangelands, adopted some exotic dairy breeds reported to be highly productive that were promoted and subsidized by the Kenyan Ministry of Rural Development (Lesorogol, 2005: 1969). Jeremy Swift noted that the adoption of new breeds and animal species (e.g. small ruminants, cattle, donkeys, camels and so forth) is an undeniable dimension of the opening of pastoralists to modernity, and this evidently allows them to meet the strong market demand for a greater diversity of animal products (cf. Afronline, 2012).

Many pastoralists also strive to improve the productivity of local breeds through intensification practices. For example, they use cereal residues and agro-industrial concentrated feedstuffs (cottonseed cake, groundnut cake, etc.), available in many regions of Africa (Santoir, 1994; Van Driel, 1999; Ayantunde *et al.* 2000; Moritz, 2003; Mortimore, 2003; 2005; Juul, 2005a; La Rovere *et al.* 2005; Moritz *et al.* 2009). Some pastoralists buy fodder sold in bundles to feed their animals in periods of scarcity and will also willingly commit all funds necessary for the survival and the productivity of their animals (Santoir, 1994: 253; Djohy and Edja, 2014). Another

strategy is to combine nocturnal with diurnal grazing periods. Pastoralists have also become more frequent users of modern veterinary services that provide diverse pharmaceutical products for the health of their herds (Ayantunde *et al.* 2000; Boutrais, 2000: 170).

The use of information and communication technology (ICT) has brought an unpredicted revolution within pastoral societies in Africa. The improved access to information through ICT has allowed many pastoralist groups to achieve economic, socio-political and security goals, and thereby improve their livelihoods (Juul, 2005a; De Jode, 2010; Sangare, 2010; Sife *et al.* 2010; Crandall, 2012; Dieye and Roy, 2012; Stockton, 2012; Tafere and Teklu, 2013; Keita, 2015). The transformative power of mobile phones for pastoralists of the Douentza Region in Mali deeply impressed Keita (2015: 45), who calls them “Magic Tools”. Telephone facilities in various parts of Africa allow pastoralists to maintain and consolidate their social networks. They keep in touch with their relatives, friends, employers and other important people in their social network, especially in shock or stress situations (Devereux, 2006: 36; Sangare, 2010). Fulani and Wodaabe pastoralists in Niger have gone beyond mobile phone communication to develop their own websites through which they can communicate to a wider audience not only nationally, but also internationally. This internet platform allows them to defend pastoral mobility and therefore their livelihoods, while drawing a host of actors to support their cause (De Jode, 2010: 56).

Transport technologies have also revolutionized pastoralism in several parts of Africa. With inexpensive motorbikes made in China and exported to African countries, many pastoralists plan their mobility over large distances to take advantage of domestic and international market opportunities. Trucks and ships are sometimes used in transporting animals and resources to markets (De Jode, 2010; IRDR/SOS-Faim, 2012). Jeremy Swift in Afronline, (2012) claims that the recent technological development among pastoralists confirms that pastoralism is not a backward way of life closed to modernity. He emphasizes that pastoralists intelligently extract the facets of modernity that seem convenient to their mode of production and make confident use of them. One example is how they use mobile phones to improve their business sensitivity, navigate towards good-quality resources and reduce information asymmetry in livestock marketing. Dieye and Roy (2012) also noted the expansion of GPS tools in some pastoral communities in northern Senegal and postulated a likely strong involvement of these remote sensing technologies in seeking livestock grazing and watering sites.

Another innovation in pastoralism survival pathways in Africa involves processing animal products – e.g. milk into by-products with added value. Self-managed and co-managed livestock markets were created in various West African countries where information asymmetries and cheating were reduced to a minimum, enabling pastoralists to enjoy livestock trade through better sale prices that they negotiate directly with the buyers of their goods. Mechanisms for bundling products for sale are also being developed, although several issues still limit their effectiveness (Guibert *et al.* 2009; IRDR/SOS-Faim, 2012).

Some pastoralist communities in Eastern Africa are becoming increasingly familiar with credit provision schemes and risk-transfer mechanisms proposed by various private operators and development partners. One such scheme is the index-based livestock insurance (IBLI) to deal with drought risk, which often affects productivity negatively and causes livestock losses (De Jode, 2010: 65). Pastoralists are reportedly becoming increasingly open to these schemes and willing to subscribe to them (Chantararat *et al.* 2010; Wandera, 2011). Saving money in banks and storing food in food banks are also strategies used by the Maasai pastoralists to reduce their vulnerability to food insecurity in crisis conditions (Campbell, 1999: 405). Some of them take advantage of the development of transport technologies to enhance their mobility and increase their sources of non-farm income (*ibid.*: 410). As demonstrated here, technological openness contributes greatly to the adaptation of various pastoralist groups in Africa under the pressures of external change.

Pastoralism and livelihood diversification

Diversification of income sources is central to the arguments about the future of pastoralism in Africa. Devereux and Scoones (2008) agreed with Sandford (2006) that there are many challenges that lay in the way of pastoralists gaining access to resources, with negative implications for pastoral livelihoods. However, they disagreed with him in that they assert that the sustainability of pastoralism should no longer be seen through the natural forms of self-recovery or the ratio of animals to people. Their main idea is that “old-fashioned” pastoralism will certainly disappear, giving way to more sophisticated and dynamic forms based on diversification. African pastoralists will seek to broaden as much as possible their livelihood portfolio in order to withstand shocks. Three main options (“moving up”, “moving out” and “moving away”) are expected within pastoral areas:

“Moving up” option: A herder not only stays in pastoralism but also strengthens his pastoral economy by maintaining or increasing his herd. Integration into the market is quite strong, since these pastoralists play an important role in supplying livestock markets and finding good paths in livestock marketing. Good performance can be recorded even for exports. However, this form of pastoralism is often hampered by policies and institutional measures at national or regional level, such as restrictions on mobility, tax grabs, cross-border barriers, etc. (Devereux and Scoones, 2008; Aklilu and Catley, 2010; Catley and Iyasu, 2010; Catley and Aklilu, 2013).

“Moving out” option: Some more vulnerable pastoralists keep a foot in pastoralism, while seeking other alternative livelihoods to avoid poverty. Their diversification strategies may cover a wide range of agricultural as well as non-farm activities, which can greatly contribute to improving their living conditions (Devereux and Scoones, 2008; Aklilu and Catley, 2010; Catley and Iyasu, 2010; Catley and Aklilu, 2013). Based on a catalogue of 54 activities recorded in the Somali region of Ethiopia (cf. Devereux, 2006), Devereux and Scoones (2008) argued that pastoralist households

with lower per capita value of livestock could be definitely viable if their economic portfolio were sufficiently diversified.

“Moving away” option: This consists of getting out of pastoralism and seeking other sources of income. In a context of difficult mobility, exiting pastoralism remains the option of many. When livestock have been lost and the chances of restocking are slim, pastoralists often become destitute. The most vulnerable people find refuge in IDP (Internally Displaced People) camps where they depend on social assistance and humanitarian support from governments and international relief agencies. These pastoralists, whose future is far from certain, find themselves more or less perfectly described by the pessimistic model of Sandford (2006). However, an orientation towards diversification (moving out) is still possible if they are backed up by appropriate accompanying policies, in which case they might recover successfully and improve their life through multiple livelihood diversification activities (Rass, 2006: 4; Devereux and Scoones, 2008). Since the various authors regard diversification as the key to the future of pastoral peoples, it is important to present in the following sections the main trajectories that could be taken in the various regions of Africa.

Agro-pastoral integration

Combining crop farming and livestock keeping is one of the most widely used strategies in Africa (Toulmin, 1983; Boutrais, 2000). This involves scalable integration with mutual benefits for both activities and represents a well-established option for many pastoralists in different regions of West and Eastern Africa. It takes place in many different ways in different African regions, while also involving various forms of specialization and socio-economic adjustment. When successfully achieved, agro-pastoralism plays an important role in ensuring food and cash for pastoralists. However, unsuccessful integration fuels conflicts between rural actors competing for the same natural resources (Landais and Lhoste, 1990; Ramisch, 1998: 282ff.; Diallo, 2001; Tonah, 2003; Yembilah and Grant, 2014). Looking at livelihood trajectories in the Sahel, Bonfiglioli (1990: 256ff.) found that crop-livestock interactions could be simply opportunistic, transitory or a definitive strategy increasing food security, all of which require sacrifices and effort of self-transformation by the pastoral groups. These different forms of agro-pastoralism play a decisive role in the pastoralist adaptation to high-risk situations, as several fairly instructive examples across Africa have demonstrated.

Rain-fed and irrigated cropping has ensured Fulani pastoralists of the lower Senegal valley a minimum of food self-sufficiency and monetary resources that support the pastoral economy within the households in the event of an ecological crisis (Santoir, 1994: 249). Fulani pastoralists in northern Nigeria also rely upon various integrative practices to improve the productivity and the sustainability of their lands (Mortimore and Adams, 1998; 1999; Mortimore, 2003; 2005). The integration of crops and livestock also allow Fulani herders in southwestern Niger to improve the productivity of their herds within a context of population growth and agricultural

expansion (Ayantunde *et al.* 2000; La Rovere *et al.* 2005). Borana pastoralists in southern Ethiopia have shifted from pure pastoralism to agro-pastoralism in response to climate risks, rangeland degradation and population growth (Gemtessa *et al.* 2007; Little *et al.* 2010.). Production of grains, fruits and vegetables plays an important role in the adaptation of pastoralists and agro-pastoralists in the Somali region of Ethiopia (Devereux, 2006; Devereux and Scoones, 2008). Samburu pastoralist households in Kenya have earned significant income from cultivation as an additional revenue source while privatization of communal grazing land has been occurring (Lesorogol, 2005: 1968). Maasai pastoralists of Kenya also combine cropping with livestock to cope with droughts that have increased the degree of resource depletion in a context of agricultural expansion, wildlife conservation and land adjudication (Campbell, 1984: 44f.). Crop farming in a pastoral society is believed to provide food security, while relieving the herd, part of which should be periodically sold to cover the households' food expenses (Boutrais, 1994b: 188f.). Accordingly, the Fulani pastoralists of Hayre in central Mali resorted to cropping as insurance against risks and uncertainties in the face of droughts, land insecurity and political power asymmetry induced by the rise of the Maasina Empire in the nineteenth century. Combining crops and livestock promotes a better integration of pastoralists into the market and cash economy (De Bruijn and Van Dijk, 1994: 99f.).

Pastoralism and market orientation

The market orientation of African pastoralism is an old story. Many pastoralist groups across the continent have taken advantage of various market conditions at local, national, regional and international levels. Livestock trade remains an important means of diversification for pastoralists in many parts of Africa (cf. Campbell, 1984: 48ff.; 1999: 399ff.; Blench, 1994; Bourn and Wint, 1994; Boutrais, 1994b: 191; Santoir, 1994: 249; Quarles van Ufford, 1999; Djedjebi, 2009; Little *et al.* 2010; Awuor, 2011; Ayantunde, 2011).

Amanor (1995) postulated against the very substantivist rationale that contemporarily looks at pastoralism as a chronic social form of subsistence with little commercial orientation. He stressed that pastoralists in West Africa are indeed well integrated at regional level in an important trading network that contributes greatly to the meat supply for large urban centers. Moreover, he argued, this regional economy is very dynamic and flexible in dealing with opportunities. In this same vein, Djedjebi (2009: 236) showed that pastoralists involved in livestock marketing in Benin are making significant profits while enjoying great market opportunities available notably after cotton sales and during various Muslim and Christian celebrations. Ramisch (1998) also reported that Malian pastoralists had heavily taken advantage of market opportunities to reduce the fragility of their livelihoods in the face of land uncertainties in the south of their country. In the same way and with the same goals, many herds of pastoralists of Niger are cyclically found in the southern areas close to the capital city of Niamey (Bassett and Turner, 2007). Samburu pastoralists of Kenya

in the context of privatization of common rangelands have relied upon livestock sales as an important way of improving their income. Their market-oriented way of life is very prosperous in drier years, and contributes to reconfiguring the herd, especially through disposing of aged males and keeping dairy females for milk production and herd increase (Lesorogol, 2005: 1968f.).

Beyond simple livestock trading, the market can sometimes offer large specialization opportunities to pastoralists. This is the case of the Senegalese Ferlo herders who have positioned themselves in an important segment of the market: supplying highly demanded rams for the celebration of the biggest Islamic festival of *id-al-Adha*⁹ (Adriansen, 2006). Other pastoralists involved in pastoral intensification also provide special care for dairy and breeding cows, and fatten beef cattle to fit into various segments of the local market (Blench, 1994; Amanor, 1995: 380ff.; Djedjebi, 2009: 236).

In addition to livestock trade, engaging in small business activities plays an important role in the survival of diverse pastoral communities. Petty trade based on animal by-products (milk, cheese, butter oil, leather, hide, etc.), art objects (necklace, basket, etc.), foodstuffs (coffee, tea, sugar, cake, rice, grain, cereal flour, etc.) and miscellaneous goods (kola nuts, local spirits, clothes, shoes, etc.) is widely practiced among pastoralists (cf. Waters-Bayer, 1986; 1994; Sperling and Galaty, 1990: 88; Little, 1992; 1994; Fratkin and Smith, 1995; Fratkin, 1997: 247; Hodgson, 2001; Little *et al.* 2001; 2010; Mortimore, 2003; Devereux, 2006; Djedjebi, 2009; Home-wood *et al.* 2009; Awuor, 2011; Ayantunde, 2011; Hodgson, 2011).

This petty trade, which is a source of diversification formerly controlled by women, can also become male-dominated under certain circumstances favoring better integration. It might also move from a strictly small-scale activity to take a quite remarkable dimension in some pastoral areas. Devereux (2006), who studied pastoralists and agro-pastoralists in the Somali region of Ethiopia, reported that, in areas endowed with road infrastructure where transport facilities exist, large-scale formal and informal trade (import and export) involving home appliances and other mass-market products has enabled pastoralists to sell their goods and so improve their cash income and their welfare. Similarly, several immigrant pastoralists who have prospered in livestock marketing in Benin now invest their profits in cotton and food cropping and in various forms of physical capital (livestock, plots, houses for rent, etc.). They also use their business mobility to seize other opportunities, such as trading motorcycles, used cars, electrical devices and manufactured goods. In this same context, Fulani small traders who have saved financial capital through their retail business reinvest in livestock or other income sources to improve their livelihoods (Djedjebi, 2009: 236ff.). If cultivation and trade have played an important role in

⁹ The *id-al-Adha* (Arabic name), also called *Tabaski* in Wolof language in Senegal (and also in French), is the commemoration of Abraham's sacrifice. On this occasion, the Muslims sacrifice rams, and this is an important market for pastoralists who specialize in young male sheep.

the adaptation of pastoralists to adverse conditions, odd jobs as well as full-time positions are not regarded with contempt in their livelihood trajectories.

Casual and secure employment

When a situation gets critical, seasonal jobs in both urban and rural areas, have always occupied an important place in the lives of African pastoralists. This correlates to their “moving out” and “moving away” options. They sometimes cross the borders of their home countries to seek work in neighboring countries or even go beyond the continent. This trend has already been well established in scientific literature. Some examples across Africa could be instructive.

Many Fulani pastoralists are recruited by wealthy businessmen, politicians or officials to take care of their often large herds in urban and sub-urban areas of Cameroon and Central African Republic (Boutrais, 1990; 1994b). The same author drew up a list of insecure economic activities carried out by Fulani in Adamawa to diversify their pastoral livelihood. Some herders find happiness in odd jobs always related to pastoralism for example trade commissioners, brokers, walking livestock conveyors or butchers, etc. Others are, in contrast, engaged in precarious jobs with little or no connection with pastoralism. They are often found as independent retailers, roving merchants, shopkeepers, natural resources traffickers and petty smugglers (Boutrais, 1994b: 192).

In a situation where common rangelands have been privatized, Samburu pastoralists of Kenya use wage labor to further enhance their income already diversified with livestock marketing and petty trade. Their occupations are multiple and multifaceted. Those who have received some formal education are often recruited as civil and military servants (policemen, soldiers, teachers, etc.) and rely on their secure salary, which they reinvest in crop farming or livestock. However, others who do not have the minimum level of education required for civilian and military work¹⁰ resort to lower-paid seasonal jobs, becoming casual laborers, farm workers, watchmen, craftsmen etc. and it is this that hinders their ability to diversify (Lesorogol, 2005: 1968f.).

Craftwork and various forms of casual labor or secure employment – guarding, teaching, modern or traditional healthcare, food selling, etc. – play an important role in the adaptation of pastoralists (Bonfiglioli, 1988: 97; 1990: 258; Hodgson, 2001; Little *et al.* 2001; Devereux, 2006; Djedjebi, 2009; Homewood *et al.* 2009; Hodgson, 2011). Some pastoralists also work in brickmaking and housebuilding

¹⁰ A military job is an important resource appropriated in various ways within pastoral societies (cf. Grémont, 2014: 31ff.). It provides a small fixed income (salaries) and good positions within the state apparatus useful for access to information, decision-making and economic and financial markets (*ibid.*: 36). But beyond national army warriors, there are also cases where pastoralists living in State margins (cases of Niger and Mali) engage in illegal weapon and drug traffics and armed conflicts by constituting rebel groups or by being recruited into various insurgent groups. This is also a strategy for seizing resources through taking part in the *manna* sharing including positions and markets, etc. (*ibid.*: 37).

(De Bruijn and Van Dijk, 1994: 102; Awuor, 2011). Many pastoralists in arid regions of Africa voluntarily or involuntarily move and settle in towns where there are casual labor opportunities for example in the construction business (housebuilding, roads and public works) and automotive trades (taxi driver, truck driver, passenger recruiters) [cf. Mohamed Salih, 1995; Fratkin, 1997: 247; Boutrais, 1994b: 193]. To deal with successive droughts, land degradation and other changes in the pastoral environment, pastoralists of the lower Senegal valley have relied upon handicrafts (mats, calabash covers, ropes, etc.), seasonal piecework in the Senegalese Sugar Company, wage labor in irrigated fields, entrusted-flock guarding, making charcoal and amulets, and so forth (Santoir, 1994: 249).

Fulani pastoralists also take advantage of their Muslim identity to develop various religious activities locally or outside their region and even beyond their country. Some Fulani become Koranic school teachers, writers of prayer verses, marabouts, makers of endogenous veterinary potions, etc. – which then provides them with livestock gifts that allow them to build up their own herd capital (Boutrais 1994b: 193f.; De Bruijn and Van Dijk, 1994: 101ff.).

Urban areas are also potential markets where Fulani women can carry out resourceful trade or domestic work, becoming maids, cooks, etc. But the most abhorrent living conditions could prompt them into the street, where they engage in begging and more specifically in sex work that has significantly increased in various West African societies, and much more in countries of the Greater Horn of Africa (Hogg, 1983: 35; Dahl, 1987; Talle, 1987; 1988; 1999; White, 1990; De Bruijn and Van Dijk, 1994: 101; Fratkin, 1997: 247; 2001: 9; 2004: 34 & 122; Kassa, 2001a; Morton, 2006: 9; Kipuri and Ridgewell, 2008: 13; Homewood *et al.* 2009: 30 & 401; Hodgson, 2011: 203). Prostitution practiced in cities and even beyond the national borders is often an option to get out of the misery inflicted by various situations (e.g. severe droughts) that destroy Fulani livelihoods, undermine efforts and hopes of economic recovery and challenges all cultural and ideological norms that prohibit its practice (Kassa, 2001a; Morton, 2006).

For jobs beyond country borders, Ramisch, (1998) reported that some Malian pastoralists seeking to overcome precariousness and insecurity look for jobs in the Ivory Coast. This remains a current phenomenon, since many young pastoralists in Hayre region were recently traced in several neighboring countries of Mali where they are engaged in trade or are employed as herders (Keita, 2015: 46). Djedjebi (2009) also thoroughly presented the livelihood trajectories of Fulani from Nigeria, Burkina Faso and Niger who immigrated to Benin, where they engage in various activities in small, medium and large cities. These pastoralists became salaried herders, livestock trade assistants, commercial intermediaries or cattle trekkers to local, regional or international markets. Even if they did not all succeed in the same way, some of them have ended up getting rich in their new activities, often with good prospects for reinvesting in livestock and other lucrative sectors (cf. Quarles van Ufford, 1999; Djedjebi, 2009).

The crisis and vulnerability situations in pastoral areas may sometimes induce a return to gathering wild resources and is one of the most common strategies in African pastoral areas. Many pastoralists live directly or indirectly from wild resources. They opportunistically collect wild plants (grains, fruits, grasses, firewood, wooden poles, charcoal, etc.), wild animals (bees and honey, bush meat, etc.) and extractive resources (stones, incense, Arabic gum, etc.), which they may use themselves or sell for cash income (Hogg, 1983: 35; Campbell, 1984: 48ff.; 1999: 399ff.; Sutter, 1987: 204; Bonfiglioli, 1988: 97; 1990: 258; De Bruijn and Van Dijk, 1994: 101f.; Santoir, 1994: 249; Kassa, 2001b: 151; Lesorogol, 2005: 1969; Devereux, 2006; Awuor, 2011; Ayantunde, 2011).

Social networks and social arrangements

Social networks definitely influence how pastoralists adapt to change. This is very remarkable in the Greater Horn of Africa. Many pastoralists in the Somali region in Ethiopia rely upon support from members of their social networks involving relatives, friends or allies (Devereux, 2006). In crisis conditions, mutual support and various social arrangements are often made between family members for livestock management and survival strategies. Exchanges or animal loans often occur between close relatives, friends or needy neighbors. For example, individual animals can be given to far away family members or friends as part of the *habbanaaye* or *habbana'e*, an institution characteristic of solidarity between Fulani (Dupire, 1970: 32; Guichard, 2000: 119; Djohy, 2010: 103). This heifer loan occurs between relatives or peers/friends so allowing the recipients the usufruct of milk (and some of the calves born) to establish their own farm or increase their herd. This helps them to enjoy the animals' products to meet their personal needs. It also promotes recovery, after heavy losses, enabling the recipient to reconstitute a herd and is also a way of "obtaining" new blood. This moral economy can go beyond livestock trade and loans to involve food and cash gifts or loans, and other forms of institutions among people with fairly strong social ties. This is an important factor of social cohesion and security (Campbell, 1984: 48ff.; 1999: 399ff.; Hesse and MacGregor, 2006: 19; IRDR/SOS-Faim, 2012: 3).

Many households of pastoralists in Niger send their members to seek jobs in urban centers and neighboring countries like Nigeria and Benin. The remittances from these migrants relieve those who stayed behind. Some herders also rely heavily on support from relatives or richer people with whom they have close relationships in the same community or who live farther away in urban centers (Ayantunde, 2011; IRDR/SOS-Faim, 2012: 3).

In areas where pastoralists have access to land such as in the Siambu region of Kenya, privatization of common rangelands enabled them to develop usufruct by leasing out their land to non-resident commercial wheat farmers. However, the established social norms have increased the symbolic value of land while discouraging its sale to third parties. Any pastoralist who aspires to sell part of his property must

defend the motivating reasons before the local chieftaincy. In addition, a floor price is collectively defined and imposed on all the pastoral community to avoid any selling off (Lesorogol, 2005: 1972f.).

In a context of State withdrawal of services, several pastoralist groups make joint decisions and cooperate to ensure their socio-economic wellbeing. Accordingly, some Fulani pastoralists in northern Senegal collectively supplied diesel oil for sustainable operation of the boreholes through which they usually water their animals. A limited veterinary service due to lack or remoteness of vaccination posts and lack of veterinary inputs has prompted them to access informal markets to buy drugs and to then treat the animals themselves, as a complement to the long-standing traditional remedies. They also help each other through reciprocal loans of agricultural equipment (Santoir, 1994: 252ff.).

One can also encounter various systems of solidarity between pastoralists with different social backgrounds. A pastoralist who becomes a poor shopkeeper may entrust cash to a cattle trader for profit-sharing transactions. Similarly, a wealthy cattle trader could sometimes install a shop next to his most frequented livestock market; offering a job opportunity to a poorer pastoralist (Boutrais, 1994b: 192). In Benin, the immigrant Fulani pastoralists engaged in petty trade entrust their financial capital to wholesalers who insert them in their networks of grocery distribution in many urban and rural areas. By contributing to widening the commercial reach of the wholesalers, the pastoralists enjoy in return an ease of supply with practical advice for their business prosperity (Djedjebi, 2009: 237).

Many pastoralist households are able to impose a number of disciplinary dietary measures, by rationing food consumption within the household, which is a common practice in different pastoral and agro-pastoral communities of the Somali region in Ethiopia. The portions served are often reduced while household members also receive fewer meals per day. The quantity of meat or self-consumed milk is also subject to this austerity diet (Devereux, 2006). This kind of action is not only oriented towards food consumption. Various social spending could also be subject to similar forms of discipline. Ayantunde (2011) reported that pastoralists in Niger, while avoiding lavish expenditures, carry forward some large expenses related, for example, to weddings or children's education in the post-crisis period (e.g. after droughts). Many pastoralists from West Africa are increasingly involved in inter-ethnic marriages as a strategy to secure their access to pastoral resources. Others rely on friendships to access pasture to which they otherwise have no access. This is the case of Toubou and Arab pastoralists in Niger and Chad who pay their Fulani and Tuareg fellows to take care of their herds to take advantage of the relatively good availability of resources in their territories (De Jode, 2010: 56).

The use of a host or local mediator called *jatigi*¹¹ (De Bruijn, 2000: 23ff., Diallo, 2000: 70ff.; Diallo *et al.* 2000: 230ff.; Juul, 2005b: 122 & 184; Gonin and Tallet,

¹¹ The concept is variously written by the authors based on Fulfulde dialects used by the Fulani pastoralist groups that they have studied. But all the writings refer to the same social actor.

2012: 98 & 106; Gonin, 2014), is also one of the ways by which many pastoralist groups in West Africa have improved their access to resources (grazing, crop residue, water points) and their socio-economic conditions, including employment, market access, social integration, conflict management, etc.

Another shock adaptation strategy is much more ideological. Some Maasai pastoralists rely on prayers as an important means to eradicate evil and to implore the mercy of God for the return of better rainfall conditions. Local priests and rainmakers endowed with various gifts in kind or cash are intercessors for pastoralists (Campbell, 1984: 48ff.; 1999: 399ff.). When all these measures listed above fail to maintain pastoralist households, the most vulnerable become dependent on social assistance, as I will present in the next section.

Pastoralism and social assistance

The food aid and other forms of assistance from relief organizations and charitable, church and government structures also contribute to covering the needs of poor pastoralists (Hogg, 1983; Devereux, 2006). Pastoralists in the Somali region, whose hopes have totally collapsed with the loss of their herds in an infernal cycle of droughts, survive on food aid and essential supplies provided by the Ethiopian Government and relief agencies to IDPs and refugees (Devereux, 2006). Helland (2001: 70ff.) argued that famine relief became part and parcel of pastoral societies in Ethiopia and many other countries of the GHA. The Borana pastoralists, for example, have benefited tremendously from this aid, to the point of developing various songs performed in honor of persons or events related thereto. The operations related to food aid distribution also provide wage employment opportunities and careers that are of great interest to many. Access to emergency food aid has also positive impacts on pastoralism. First, it reduces the self-consumption of milk within pastoralist households and increases its availability to the calves. Second, animals that would have been sold or slaughtered during the crisis are kept with a high prospect of calving. All this improves the production and reproduction performance of the herd; proving the rationale behind the pastoralist aforementioned songs which aim at commending the positive effects of humanitarian aid on pastoralism. While individual pastoralist households resort to various strategies to improve their livelihoods, food aid action has also increasingly contributed to strengthening them in their different adaptive options. The next section will be devoted to the pastoralist organizations and their support to the viability of pastoral livelihoods.

Pastoralism and civil society organizations

Are African pastoralists associative?

Pastoralists in Africa, until recently, were considered by many outside observers as incapable of collective action. Even though they have always known various forms of traditional or informal institutions and organizations, some authors (Swift and Maliki, 1984: 4f.; Sylla, 1989) reported large mobilizations and formal associations were not really that common. Waters-Bayer and Bayer (1994b: 7), who were concerned with development planning within local communities, noticed in the mid-twentieth century that “the formation of pastoralist organizations to plan, implement and monitor action is relatively difficult”, even in cases where the minimum rights to resource use or animal mobility were flagrantly abused. They justified this state of affairs by seasonal movements, fragmentation within households and social heterogeneity that prevails within structured groups; and concluded that “pastoralists will be willing to devote time to this, only where they can expect considerable benefits”. Bierschenk (1995: 462), who studied the Fulani in Benin in almost the same periods as the previous authors, justified the inaction of pastoralists by the marginalization they suffer from other competing groups and the self-marginalization they inflict on themselves, since they have moral and socio-cultural virtues to defend and assert. In all cases, getting together to plan their development or claim rights, in a political sense, was not an intrinsic value known to the African pastoralist groups. They carry a stereotype of being permanent strangers without land affiliation, and their dissatisfaction with any attempt to political claim regarding marginalizing treatments imposed on them could be the beginning of greater tribulation (cf. Hagberg, 2000: 176; 2011: 148). Even when things go wrong, they prefer to suffer vagaries from competing groups to avoid confrontations, agreeing to be disclaimed or abused, paying large amounts of fines, rather than using all possible means to defend their rights (Hagberg, 2011: 158). The lack of skills to convince, with an accessible language, the external actors of the logic behind their lifestyle, and their low level of organization, were among the major weaknesses that contributed to further prejudice against them, since outside actors perceive their pastoralism as backward and guilty of ecological disequilibrium (Hesse and Odhiambo, 2002: 2). These are indeed some reasons why Scoones and Graham (1994: 193f.) proposed that, in a context of overlapping and politicized rights, where tenure, access and use are highly correlated with political leverage, pastoralists as disadvantaged groups should be empowered into associations to give them more lobbying power.

When and why pastoralist associations?

The creation of development institutions in Africa was gradual and took place in three phases (cf. Fowler *et al.* 1992). First, the wave of struggles for independence in the 1960s strengthened the existing institutions in African countries, with the

emergence of new ones nationwide. During this period, the development issue was essentially assigned to the governments, which became their prerogative. Later in the 1970s, authoritarian approaches to community-based or cooperative development and exploitation of non-governmental organizations' potential were powerfully echoed in public policies. Finally, in the 1980s, the institutional framework was improved in most countries, thereby promoting a proliferation of civil society organizations. This occurred precisely at a crossroads in the evolution of African countries when establishing a strong pastoral civil society became a key element in debates on pastoral development.

Marty (1990: 121) stressed that this change within a two-decade interval is due to the economic crisis and its corollaries of disciplinary measures imposed by international donors, as well as the failure of many costly government projects that reduced rural actors to mere implementers of external experts' instructions. Therefore, the economic liberalism that intervened forced governments to transfer some of their powers to farmer organizations. Other authors added that participatory approaches and political pluralism efforts in countries in governance crisis were also of great influence on the development of the institutional landscape in which pastoralist associations as well as other forms of citizen mobilization have emerged (Fowler *et al.* 1992; Sylla, 1999: 236).

Some authors have also perceived a certain inevitability in the development of pastoralist associations. This is the case with Swift and Maliki (1984: 3) who argued that pastoralism would always be in trouble if there were no communication channel between decision makers and pastoralists. The situation will not improve, as pastoralists will seek to deal individually with the government bureaucratic apparatus, which is more powerful and led by a different rationale. Collective action is then required to bridge this gap. The advent of pastoralist associations is also understood as a good economic option for reducing the enormous costs related to crises and relief interventions in pastoral areas (Sihm, 1989 quoted in Sylla, 1999: 236). All actions for empowering pastoralist associations in recent years aim not only to help them better defend the logic behind their lifestyle, but especially to gain stronger positions enabling them to apply necessary pressure on decision-making processes, as ignored and marginalized groups. Advocacy and lobbying concepts have become the daily refrain in all pastoral areas of Africa where pastoralist associations operating at various levels – from local to international – take action with support from various partners (cf. Hesse and Odhiambo, 2002: 5).

Forms of associative struggles among pastoralists

Pastoralist associations in Africa are multiple and multifaceted. Sylla (1999) in a comparative approach presented a wide range of associations across the continent that I will not repeat in this document. However, I would like to mention through a few examples the increasingly remarkable presence of pastoral civil society organiza-

tions within both Eastern and West Africa: to deduce subsequently the link with the sustainability of pastoralism.

Pastoralist associations in Eastern Africa

There are two types of pastoral civil society organizations in Eastern Africa. Some emerged from an endogenous process of self-determination, while others are pure products of development projects funded by external donors. Whatever the format, three main reasons support the creation of pastoralist associations in this part of Africa. Some were to face the issue of land confiscation by governments and their business allies. Others were to take responsibility in filling the gap created by the withdrawal of some States under socio-economic and political crises and alike. Finally, democratization and decentralization processes were also favorable to the emergence of many pastoralist associations (Hesse and Odhiambo, 2002: 5). Although they are not all well equipped to influence the policymaking machinery that undermines their pastoral livelihoods, many pastoralist associations in Eastern Africa have positively contributed to the welfare of pastoralists. This is the case in Kenya of several village and district-level pastoralist associations within Wajir region in the northeast. The Loita Maasai groups in Narok as well as Dupoto-e-Maa association within Kajiado County are also pro-active in the southwest (Birch and Shuria, 2002; Hesse and Odhiambo, 2002).

The National Association of Nomadic Livestock Keepers in Kenya was also actively involved in designing various strategies for poverty reduction. Its intensive lobbying resulted in a consideration of specific needs of poor pastoral communities, with better reorientation of the World Bank financial credit by the Kenyan Government which ended up giving priority to certain infrastructure more useful to pastoralists (World Bank, 2005: 156; Leloup, 2006: 8). In the United Republic of Tanzania, there are also some defense associations of Maasai pastoralists such as Inyuat-e-Maa covering the entire north of the country with its individual members and more than five other affiliated local associations (MAA, 2015).¹² In Karamoja Province in north-eastern Uganda, organizations such as Action for Poverty Reduction and Livestock Modernization in Karamoja (ARELIMOK), Karamoja Women Umbrella Organization (KAWUO), Matheniko Development Forum (MADEFO), Karamoja Peace and Environmental Protection Services (KAPEPS), have become experts in providing literacy, vocational and business skills to pastoralists, while being brokers for various development partners (cf. Hesse and Odhiambo, 2002: 5; Concern Worldwide, 2013). The Afar Pastoralist Development Association (APDA) also has helped to carry the voice of Ethiopian pastoralists beyond local and regional boundaries (Rass, 2006: 61). A broader list of pastoral civil society organizations in Tanzania can be found from other authors (Igoe, 2003; 2006; Igoe and Kelsall, 2005; Hodgson, 2011) who have also widely discussed their various inclusion politics.

¹² <http://e-maa.org> (accessed 10/12/17).

The Eastern African pastoral civil society was further strengthened during the past decades with the advent of Pastoral Parliamentary Groups (PPG)¹³ in countries such as Ethiopia, Kenya, Tanzania and Uganda. The formation of these entities was to “open new avenues of pushing the pastoralist agenda in national policy and legislative making process and to front pastoral interests in national development strategies” (Olenasha, 2004). The fruitful interactions between MPs, pastoralist defenders and pastoralist civil society leaders gave a new configuration to the advocacy, with positive effects on political and legislative decision-making for the benefit of livestock farmers. In Tanzania, for example, the PPG has significantly contributed to the active participation of pastoral civil society in consultations on reforms regarding wildlife conservation acts as well as poverty reduction strategies documents for better inclusion of pastoralists (Olenasha, 2004; Rass, 2006: 61).

Pastoralist associations in West Africa

The advent of pastoralist associations in West Africa started in recent past decades when elites from various pastoralist communities established various forms of mobilization to pursue inclusion, legitimacy and other interests for their people. Both spontaneous and externally prompted organizations were quickly established at various levels, offering social services oriented towards literacy, staple foods and relief distribution, etc. Other economic activities such as livestock product trading, credit issuance, management and accounting training, input supply, veterinary and health care and various development activities were also offered to their members (Marty, 1990; Sylla, 1999).

Local and regional associations became widespread in West Africa (Benin, Burkina Faso, Chad, Mali, Mauritania, Niger, Senegal, etc.). Umbrella organizations were also established at national level. In Chad, for example, there is a national federation of pastoralist organizations (CONORET) gathering eighteen regional federations and various other pastoralist associations. All these pastoralist associations were recently integrated into a national platform of pastoral development stakeholders, which, together with the government and development partners, try to improve the living conditions of pastoralists. In this consultation framework, pastoralist leaders participate in exchanges, dialogues and prospective thinking on public policies and pastoral development (Saleh, 2011: 44; Republic of Chad, 2013). This structural approach is also echoed in many other countries. The Fulani Association of northwest Niger and the Fulani Association in Nigeria have undoubtedly contributed to the consideration of pastoralists' needs at regional and national level (Rass, 2006: 61).

¹³ The name may differ from one country to another. Therefore, we have the Pastoral Parliamentary Association (PPA) in Uganda, the Pastoral Affairs Standing Committee (PASC) in Ethiopia, and the Pastoral Parliamentary Group (PPG) in Kenya and Tanzania (Olenasha, 2004). See also Rass (2006: 61) for the influence of PPGs in policymaking within each concerned Eastern African country.

In Burkina Faso, Fulani elites have founded various types of associations such as trade unions, cultural groups and NGOs in order to defend the rights and interests of pastoralists. By mobilizing concepts such as “democracy”, “development”, “cultural diversity” and “civil society”, they have tried to articulate the challenges of pastoralism while organizing the ethnicity of its practitioners. Despite the associative diversity in place, there are common marks of a recognition policy and a quest for legitimacy at the local, national and international levels, feeding ambiguities in some cases (cf. Hagberg, 2011). This author identified three strategies used by pastoralist associations in Burkina Faso in order to gain the socio-economic and political integration of pastoralists. First, while being all civil society organizations, they mobilize elites and higher-standing human resources that can be of useful support in a context of marginalization. Second, they involve both cultural activities and development actions, knowing which lever to push in order to free their members from various challenges weighing on them. Third, they engage in a trade union struggle that also involves their members as key financial partners (Hagberg, 2011: 159).

Beyond the visibility at country level, the West African pastoralist organizations have become more structured in recent years with the creation of various sub-regional networks and more influential as pastoral issues become transboundary. Organizations such as the Association for the Promotion of Livestock in Sahel and Savannah (APESS) and the Billital Maroobe Network (RBM) are pro-actively involved in making pastoralists more “professional” and “modern”. While fighting for better resource access, they are also engaged in activities aimed at behavior change. Some even offer alternative pastoral vocational training targeting the psychology of pastoralists in order to motivate them for learning and for change to their traditional livelihoods.

The APESS, the oldest network created in 1989 in Burkina Faso, mobilizes up to 30,000 herders in thirteen countries in West Africa, including Benin. Locally constituted, it became an international Swiss association with headquarters in Lucerne and General Secretariat in Ouagadougou. Its vision: “For a living modern family farm”¹⁴ is to transform livestock production practices and livestock farmers in a changing context (APESS, 2011; Grandval, 2012). APESS is well known for its logic of settling pastoralists. Some concepts were very dear to its promoters and marked all its interventions. Through the concept: “A herder, a hay shed”¹⁵ developed from 1989 to 1994, the association taught pastoralists to settle down in response to the difficulties of feeding and watering animals during the dry seasons. Hay production and straw conservation initiatives were successfully developed (Suttie, 2000). The concept: “The slate and the horn”¹⁶ guided the training and literacy provided to the members over the same period to avoid the conflicts related to the lack of formal education of Fulani herders. From 1994 to 2000, the actions of APESS were oriented towards the sub-regional integration through livestock production. This motivated its ex-

¹⁴ “Pour un élevage familial moderne de vie”.

¹⁵ “Un éleveur, un hangar à foin”.

¹⁶ “L’ardoise et la corne”.

pansion into several other African countries. After spending the period 2000–2010 consolidating its achievements, the association entered from 2011 into a new perspective formulated around “The transformation of livestock farming, cooperation within family and society, advocacy at sub-regional level and youth literacy”¹⁷. The association celebrated its 25th anniversary around the topic: “The family farm at the heart of West and Central African issues”¹⁸ aiming at “reconciling food sovereignty, regional integration and sustainable development”¹⁹ (Faye, 2014). All these abundant development and modernity-oriented concepts are backed up by an ethnophilosophical rationale which causes most interventions of APESS to be rooted in the “dream” (or the vision) of the pastoralists, in order to stimulate a sustainable appropriation of knowledge and technical expertise that may impact their future. Thus, the transnational and open-membership association reconnects the technical acquisitions to a certain spiritual and psychic dimension of being Fulani to develop awareness of pastoralists for change (Ly, 1998; Pesche and Barbedette, 2004: 12ff.; Hagberg, 2011).

The Billital Marooë Network (RBM) was established in 2002 in Niamey from three pastoralists associations working in Niger, Mali and Burkina Faso. The basic idea was to have a framework to influence public policies in order to defend the interests of transhumant pastoralists. It was then opened to other countries in the ECOWAS space (Economic Community of West African States). The RBM works for safeguarding pastoralism with the strong belief that the spatial and seasonal mobility is an essential form of production by generating economic, social, cultural and ecological support to arid and semi-arid areas where other forms of production are very uncertain or sometimes impossible. The RBM involves more than 400,000 pastoralists from nine countries in West Africa, including Benin (cf. Boureima, 2010: 116). It works for ensuring better inclusion of pastoralists in decision-making, securing access to natural resources and improving market integration. Its main objective is articulated around two main axes: first, promoting advocacy at a regional level in order to contribute to the improvement of policies at national and regional levels; and second, building capacity of both organizations and leaders regarding advocacy (De Bruijn *et al.* 2011; RBM, 2015). Through quarterly newsletters, it attracts policymakers, development partners and other civil society players. It promotes preventive and peaceful management of conflict, and stimulates the translation of various acts available on pastoralism and mobility into local languages, for greater appropriation by pastoralists. Therefore, it strengthens the capacity of member associations to achieve a better defense of pastoralist rights and interests in their respective countries (Boureima, 2010: 118).

¹⁷ “La transformation de l'élevage, la coopération au sein de la famille et de la société, le plaidoyer au plan sous régional et l'alphabétisation des jeunes”.

¹⁸ “L'élevage familial au cœur des enjeux ouest et centre africains”.

¹⁹ “Réconcilier souveraineté alimentaire, intégration régionale et développement durable”.

These pastoralist networks presented above are crucial settings where different national livestock associations are formed for a stronger presence in their respective countries. They bring important support to their members and are highly visible internationally with the support of various development partners. They make fantastic use of communication technologies and handle the editing process for some information bulletins and periodic newsletters. In light of the structuring, the obviousness of actions, the involvement in consultation arenas and the reputation gained by these networks, some international organizations assume that APSS and RMB have become unavoidable for both politicians and development partners within the ECOWAS group (IRDR/SOS-Faim, 2012: 6).

Advocacy and lobbying have become leitmotifs of pastoralist network interventions which target and put pressure on decision-makers to better take into account the pastoralist voice in policies determining the sustainability of their lifestyle. They strongly fight for a favorable regional institutional framework through the harmonization of numerous laws and bilateral or multilateral agreements between countries on livestock mobility and cross-border transhumance. They also give priority to strengthening infrastructure in pastoral areas, through construction and equipment regarding water resources and animal routes. Improving veterinary and commercial infrastructure and services, as well as access to various technologies, are also important occupations of pastoralist networks. Huge efforts are being made to provide basic social services such as education and health care (Boureima, 2010: 116ff.; IRDR/SOS Faim, 2012: 4f.).

Governments and development agencies increasingly recognize the role of pastoral civil society organizations strengthened by a genuine political will at continental level. To address implementing sustainable pastoral development and equitable access to resources for pastoralists, the “African Union Pastoralism Policy Framework” was developed, giving prominence to pastoral civil society organizations. Particular emphasis was put on receiving additional input, checks and counterbalances from pastoralist associations and networks that had to be actively involved in all pastoral development processes (African Union, 2010: 34f.). The development of global networks such as the World Alliance of Mobile Indigenous People (WAMIP), the World Herders Council (WHC) and the World Initiative for Sustainable Pastoralism (WISP) has also been a great support for pastoralist associations and networks in Africa (Rass, 2006).

Pastoralist associations and pastoral sustainability

The consideration of the pastoralist voice is perceived as being able to better cover the real needs of African livestock farmers. Therefore, pastoralists must be represented in decision-making and policy implementation bodies through their various civil society organizations (Leloup, 2006: 8; Rass, 2006: 61). Since most of the problems faced by pastoralists are linked to political issues at the national or global level, several authors have advocated a wider organizational support. Pastoralist associations

with supra-local legitimacy are then seen as best suited to solve pastoralist problems. They can then take advantage of practical knowledge on the ground to assert pressure on political decision-makers for changes (Hogg, 1992; Sylla, 1999: 251f.). To achieve a legitimacy that transcends national boundaries, pastoralist associations use various strategies and take advantage of ICT. As shown above, APESS, which was a local association created in Dori (Burkina Faso), has become a Swiss NGO recognized and approved by various West African governments (cf. Hagberg, 2011: 151). In a similar way, the collective platform of nomadic pastoralist associations in Niger “DJINGO” uses its website²⁰ to defend the rights of pastoralist peoples. Through its good international reputation built online, it mobilizes international partners to share socio-cultural values and get political visibility (De Jode, 2010: 56; IRDR/SOS Faim, 2012: 4). Strategies of this kind based on the use of media and internet technologies are found among many other African pastoral civil society associations which have become increasingly internet-savvy.

Despite their important role, the actual configuration of pastoralist associations can determine their influence on pastoralism. Based on a typology by Rouillé d’Orfeuil (1984: 25) cited in Marty (1990: 124ff.), two categories of pastoralist associations can be distinguished: First, some are designed mainly for rent-seeking through a variety of creative and appealing micro-projects. Thus, they take advantage of the “projetose”²¹ which is one of the chronic diseases of development approaches in African pastoral zones. These are often “proxy” or “nominee” associations owned by influential individuals of pastoral communities who resort to “alibi-projects” to attract for their self-fulfillment technical and financial resources offered by international partners. The gatekeepers among Eastern African pastoralists, as revealed by Igoe (2003; 2006; Igoe and Kelsall, 2005), could be part of this category. Second, other associations as part of socio-economic struggles are more sincerely involved in solving local problems, valuing pastoral potential and creating added value. Depending on the group to which each pastoralist association belongs, their impacts on pastoralism trends can be totally different.

Collective action for better access to resources, markets and conditions for diversification of income sources is an important aspect in the sustainability of pastoralism. Marty *et al.* (2006) emphasized that the economic and institutional viability of pastoralism requires appropriate and recognized professional organizations to be more involved at various levels in decision-making and policy implementation processes. Pastoralist associations contribute, as the case may be, to the adaptation of pastoralists to various shocks or threats in their living and production environment. They represent forms of delegated power that take strong action to improve resources

²⁰ <http://www.djingo.net/fr/index.htm> (accessed 26/07/15). The Pastoral Forum Ethiopia (PFE) also uses the same web-based strategy to better defend the rights of the pastoralists in Ethiopia (cf. <http://www.pfe-ethiopia.org/>, accessed 13/10/15).

²¹ It is a concept used by Marty (1990: 126) to call a disease that is to maliciously seek rent through projects to which international development partners rush to give their support.

and market access, which are two important factors cited in the literature that greatly influence the future of African pastoralism. Thébaud (1988: 122) argued that pastoralist associations will definitely be the “cornerstone” of maintaining and preserving pastoral production and a pastoralist lifestyle. After showing that each pastoralist relies on a wide range of strategies to cope with threats and shocks, and that collective action through various associations increasingly includes them in decision-making processes favoring the viability of their livelihoods, I will now summarize the main pathways conjectured by scholars for the future of African pastoralism.

Synthesis: future scenarios for pastoralism

The discourses on the future of pastoralism are twofold, as discussed above. Pessimists predict the disappearance of this livelihood on account of worsening environmental, socio-economic and political conditions. Optimists root their argument in the resilience and adaptability of pastoralists, and foresee sustainability for this way of life. Some authors hold this viewpoint very strongly, arguing that pastoralists in their adaptation approach often adopt nested strategies without relying on a single source of income (cf. Devereux, 2006). While pursuing extensification or intensification or even migration, pastoralists often remain open to market and job opportunities. Some specialize in the production of specific livestock species to take hold of a given market segment (cf. Adriansen, 2006). Others are even willing to defy the shame or what Boutrais (1994b: 175) calls the “pastoral ideology”, and reshape their cultural practices and attitudes (Hodgson, 2011: 208) to engage in other forms of activities and jobs formerly very despised within pastoralist communities. Therefore, the sustainability of pastoralism is seen as lying in economic diversification. Sandford (2011: 6), even in his pessimistic position, stated that “Diversification holds the key to successful pastoralism...”, and still holds fast to that, as evident in his recent statement that “...[T]he decline in pastoral welfare will not be halted or reversed by focusing on livestock-based livelihoods but requires major diversification of livelihoods” (Sandford, 2015)²².

However, Peter Little and his collaborators call for vigilance in this kind of analysis, assuming that diversification should not be seen as a panacea, as some coping strategies are also quite risky. Livestock mobility and diversification of livestock remain the best sustainability options for pastoral systems. Education, by opening up opportunities for secure and high-paid jobs, also appears to be a promising pattern for pastoralism in Africa (Little, 2001; Little *et al.* 2001; 2010). The same author indicates that African pastoralism must certainly withstand shocks to be viable, but the pastoralism of the future will be completely different from today’s (Little, 2013). Devereux and Scoones (2008: 3) also support this argument, stressing that pastoralists will adapt to their different ecological and socio-political threats, innovate and seize various opportunities available to them. However, they will evolve from the

²² Personal communication with the author, 14/05/15.

“old-fashioned” pastoralism, which will probably disappear, towards new forms of livestock farming. The “moving up” will certainly coexist with the “moving out” and the “moving away”, since not all actors will be affected in the same way, as their responses to the crisis will not be the same. Access to market and pastoral resources will be decisive for the future trend of pastoralism in various parts of Africa (UNOCHA-PCI, 2007: 19ff.; Catley *et al.* 2013b: 15).

2.3 Conclusion

Livestock remains crucial for the resilience of pastoralist communities in Africa. However, the ecological, economic and socio-political conditions induce a trend towards diversification, which is perceived as the path to sustainability. Pastoralist civil society organizations also play a key role in favoring access to resources and markets and better conditions for diversification. Greater integration and diversification are the expected directions of transformation. Chapter 3 will now highlight the analytical framework that will allow me to thoroughly analyze the ongoing pastoral pathways in Benin.

3 Conceptual framework of socio-technological change study in pastoral settings

In addition to the overall theoretical debate discussed in Chapter 2, this third chapter clarifies the various concepts I have used to account for various phenomena studied. The concept of political ecology is discussed, as it allows scrutiny of the power relations between rural actors in their daily dynamics of accessing and controlling natural resources. This is followed by a discussion of the concepts of access, property, territorialization, belonging and citizenship. This is done in such a way as to bring out the connection between them. Moreover, the various meanings of the concept of technology are presented and possible forms of interaction between technology and society are also reviewed. The development brokerage, as well as positioning and repositioning in identity politics are also briefly summarized. The chapter ends with a brief presentation of the analytical framework of the study.

3.1 Commons and political ecology of land use

Looking for causes of environmental problems facing humankind, the British economist Thomas Malthus advanced an argument of a geometric population growth facing an arithmetic reduction of resources (Malthus, 1798). This analysis was taken

over by Hardin's thesis on human-nature relationship. In his famous "Tragedy of the Commons", Hardin argued that the achievement of individual interests over limited commons will inevitably lead to extinction. In an open pasture, each herder will try to maximize his own profits by grazing the largest possible number of livestock. As all herders will pursue this same opportunistic strategy in face of limited resources, "therein is the tragedy" (Hardin, 1968: 1244); as overexploitation will occur, and will be detrimental to all.

The solution proposed by Hardin, to prevent this disaster is to have social arrangements with coercive power, capable of producing responsibility amongst stakeholders. The Malthusian or neo-Malthusian approach admits that this reform, even if it is imperfect and prone to injustice, is better than the status quo or "nothing" leading to harm or ruin (*ibid.*: 1247f.). This political solution, proposed to solve an ecological crisis, is based on the Hobbsian or neo-Hobbsian model, offering a supreme moral authority – The Great Leviathan – for social regulation. Thomas Hobbes (1968) assumes that a society without Civitas²³ would be anarchic and fall victim to individual interests. This necessarily requires a central government to ensure the sustainability of common resources (Heilbroner, 1974; Hardin and Baden, 1977). The State then has the function of protecting common resources through a coercive control of individual impulses likely to exhaust resources and cause conflicts between co-users (Bryant and Bailey, 1997: 16). The game theories through the prisoner's dilemma and the free-ridership have also contributed to the debate on centralized management of natural resources. What are they really about?

The prisoner's dilemma: Supposing two anonymous herders, Djemo and Djega, presumed guilty of illegal intrusion into "Trois-Rivières" classified forest of Gogounou District in Benin; are subjected to police questioning, separately in two different jail cells. Two options are open, with differentiated penalties. The "cooperate strategy" is to not testify against his cellmate so that collective sentence is not severe; and "defect strategy" is to testify against his neighbor, resulting in both of them receiving capital punishment. In this situation, each herder in his rationality will in all likelihood seek to reduce his own sanction by making the "wrong" choice that will result in both of them worse off.

The free-rider: Consider a group of ten Fulani herders who should contribute 100 CFA francs per day for the maintenance of a common pasture in Wara village of Gogounou District. This pasture is likely to disappear since every herder, according to his rationality, will try to graze his animals without making any contribution to the collective goal. Free-riding is the behavior of social actors who try to take advantage of common goods without being willing to invest the necessary resources collectively defined as necessary for its maintenance and perpetuation.

The main argument of these theoretical strands recalled above is that rational and self-interested individuals will not act to achieve common goals. Their participation in collective action occurs when there is a threat of exclusion, or else when there is a

²³ Latin term for "State" or "Commonwealth".

coercive power or incentives that lead them to act in the group's interest (Olson 1978: 42ff.; Johnston, 1989: 114; Ostrom 1990: 5f.; Ostrom *et al.* 2002; Tuck, 2008). This "rational egotism" is a source of unfairness (Tuck, 1979: 148) that would be the basis for an ecological crisis in the context of free access to common resources. This tragedy-oriented explanation of human-nature relationship was rejected by common property theorists who empirically demonstrated that common pool resources can indeed be managed sustainably. Some authors argued, based on cases of collective stewardship that failure occurs in sustainable common property management only when there are defects in internal governance rules and regulations (Ostrom, 1990; Ostrom *et al.* 2002; Robbins, 2012).

Institutional and political solutions to deal with environmental issues have greatly influenced the birth and development of political ecology approach²⁴, which I will discuss further in the next sections.

Political ecology has been a guideline widely exploited in several scientific disciplines during recent decades. The concept was coined by the American plant physiologist and ecologist Frank Thone. He wrote in 1935, "Nature rambling: we fight for grass", one of his syndicated issues wherein he described his passion for the preservation of the plant wealth of nature. The concept was furthered by Eric Wolf, an Austrian-born American anthropologist considered the forefather of using political ecology in Anthropology. In his article "Ownership and Political Ecology" the author argued that:

The property connexion in complex societies is not merely an outcome of local or regional ecological processes, but a battleground of contending forces which utilize jural patterns to maintain or restructure the economic, social and political relations of society. (Wolf, 1972: 201f.)

Political ecology in its early days focused on property rights showing how they are economically and socio-politically shaped. It proved that property and inheritance rules do not merely intend to generate rights and obligations within a local community but rather they are tools mediating between external pressures from society, at large, and local ecosystem requirements. This is actually why some inheritance rules, for example, can be made and unmade regularly to feed the interests of some given elites having no roots locally (*ibid.*: 202).

After this Weberian starting point, political ecology has greatly evolved from some works by authors like Watts (1983), Blaikie (1985) and many others. Scientists from a large range of disciplines have appropriated and used the concept more broadly, and sometimes, with unclear and loose parameters. Political ecology is not so far a coherent theory built upon common assumptions, concepts or research methods. There is no consensus upon its content; only multidisciplinary trends pre-

²⁴ See Bryant and Bailey (1997: 10ff.) for details on the evolution of the neo-Malthusian school and the related political ecology.

vail among scholars and scientific discussion forums concerned with deciphering power and politics that shape the ecological milieu while being inversely affected (Blaikie, 2008: 767; Minch, 2011: 864).

Political Ecology is considered a subfield which “emphasizes how power relations and politics shape the dynamics of economic development, environmental transformation, and social change across geographic scales of analysis from the local to the global” (Jarosz, 2001: 5472). It criticizes the neo-Malthusian motives of environmental dynamics which completely ignore the social and power relations which, when historically and geographically decrypted, could help better understand the current environmental and population interactions. This is the reason why it “combines a broadly defined political economy of resource development and change centering upon the role of social relations and processes to environmental change and degradation, resource distribution, access, and control and the social constructions of nature” (*ibid*: 5474).

Considering natural resources exploitation as being also a political act (Peluso, 1992; Peluso and Watts, 2001), the behavior of users and managers of these resources are neither a matter of *subitus* nor a result of an *ab irato factum*: instead they have roots in historical, political and economic landscapes (Blaikie and Brookfield, 1987: 239). Therefore, in this “politicized environment”, it is necessary to trace the power relations between actors, since:

Unequal relations between actors are a key factor in understanding patterns of human-environment interaction and the associated environmental problems [...]. [And] those unequal relations need to be related, in turn, to the power that each actor possesses in greater or lesser amounts, and which influences the outcome of environmental conflicts. (Bryant and Bailey, 1997: 37)

The issue of power has been extensively explored by several authors. The political, economic and cultural dimensions of power are developed by Foucault (1977), Escobar (1995), etc. I will not venture to go into the complexities of what power means, but I would rather give power a most simplistic definition for me to understand how some rural actors reinforce and use their power to deny others access to resources. Therefore, I perceive power as “the control that one party has over the environment of another party” (Bunker, 1985: 14). The control, itself, could be understood as “complete authority to make decisions on the use of resources” (Ribot and Peluso, 2003: 158; Purnomo, 2011: 15). However, power is not to be seen as someone’s property, but is a fabric built from a range of human and non-human forces in an integrated chain (Latour, 1990: 110). My ethnographic material on how farmers use, for instance, herbicides and chainsaws to increase their control over land will clear up this position in Chapter 6.

Ecological problems at local level are often the result of political and economic processes, often with local as well as regional or international roots (Blaikie, 1985; Bryant and Bailey, 1997). In developing countries, ecological phenomena observed

locally, can find explanations in distant colonial and post-colonial capitalist dynamics. Political ecologists often return back to the colonial and even pre-colonial times if necessary to trace how capitalist approaches have conditioned the relations that local people have with these environment and natural resources now. Accordingly, the policies of post-colonial states are blamed for creating winners and losers in their implementation. For instance, integrating farming communities into the market economy, generally forces them to move or to settle on restricted space. In many cases, labor shortage also occurs facing a growing demand. Therefore, promoting cash crops may cause food insecurity and emergence of environmentally degrading agricultural practices (Blaikie, 1985: 22ff.). In such situations, taxation policies contribute in adding to the “surplus extraction”²⁵, forcing local actors to also take surplus, by overexploiting local resources over which they hold some parcel of power (*ibid*: 124f.).

Everyday ecological changes reinforce the economic and social inequalities between stakeholders, and reduce the resources and powers of the weak actors at the expense of the stronger ones; making marginalization an important social factor associated thereto (Blaikie and Brookfield, 1987: 23ff.; Robbins, 2012: 21). That is why after helping to trace the social forces involved in ecological struggles, political ecology also offers the opportunity to find out about adaptive social arrangements including alternative livelihoods, protests or various forms of resistance in the face of changes (Peet and Watts, 1996; Bryant and Bailey, 1997; Robbins, 2012). As actors are bound by power relations within and between themselves (Stonich, 1993; Peet and Watts, 1996), some authors argue that the scale of analysis and conclusions should not be considered a panacea. They consider human-environment dynamics as being constantly shaped and reshaped; and scale-based analysis does not enable us to capture how various actors interact with one another and co-construct on a daily basis (Escobar, 1998; 1999; Zimmerer and Bassett, 2003). This postmodern or poststructuralist perspective, with roots in science and technology studies (STS) argues for an interactional and inter-relational co-construction of realities as facts or artifacts. There is no division *a priori* between mankind and nature, human and non-human, material and immaterial, animate and inanimate things, social and technology; as well as local/micro and global/macro scales, etc. All these factors interact and influence each other in a complex network (“seamless web”) whose articulations need simply to be followed up and documented (cf. Callon, 1986; Latour, 1987; 1990; 2005: 128; Vinck, 2012: 138).

²⁵ The “surplus transfer” by farmers or “surplus extraction” by the State or other actors refers to the imbalance between the social relations of production and exchange spheres. It follows taxation and price setting mechanisms, unfavorable to farmers, added to the failure of setting aside capital reserves, the instability of production and others, which are correlated with the indebtedness of resource users. To break this vicious circle, farmers are forced to extract also the “surplus” by overexploiting natural resources – land, pasture, forest resources, labor/energy, etc – in order to provide some room for maneuver. This is a major cause of resource depletion in the Third World (cf. Blaikie, 1985: 7, 118 & 124).

The use of political ecology in this study aims to better understand the way Fulani pastoralists loose access or manage to (re)gain access to pastoral resources, and the influence of this on their livelihoods. This is in line with Watts (2000: 257), who stated that “political ecology seeks to understand the complex relations between nature and society by considering the nature of access and control over resources and their implication for sustainable livelihoods”. This means that the complexity of use and control of local resources (land, pasture etc.) will be better understood when local dynamics within a rural community are investigated without prioritizing any presupposed limits for a context or scale-based analysis. Without delving into the many controversies surrounding political ecology, I tried to apply it in a simplistic way, sharing the common premise that “environmental change and ecological conditions are the product of political process” (Robbins, 2012: 19f.).

From this point of view, it became possible for me to scrutinize how some seemingly unrelated realities like pesticide manufacturing and the woodworking industry in the People’s Republic of China could be linked to land control practices and rangeland reduction in Gogounou District in northern Benin. Although Asia is geographically and even culturally distant from Africa (cf. Fouda Ongodo, 2006), it is an open secret that Asian countries especially China are currently among the closer economic partners²⁶ of Africa. I do not want to analyze the position of China in the international geopolitical and economic debates. I am also not going to make any value judgments over China’s partnership with Africa. I will avoid, purposely, using the issue of land control and natural resources degradation in northern Benin as a basis to add to the wide-ranging polemic of the world system against China’s economic position in Africa. I just propose, looking at political and economic decisions and facts underway in Benin that could be related to its cooperation with China, to address a multifaceted land use dynamics involving pastoralism in my research site. I am not motivated by attributing a causal significance to the political and economic forces operating from outside of the local level. I will highlight how some practices (widespread use of herbicides in cropping, large-scale deforestation with chainsaws) have developed in my research site and how they have contributed to the expulsion of Fulani pastoralists from lands. The causes and consequences of these events will not be used as sticks to beat a targeted actor or to defuse a given power. My concern is to put forward how land exclusion has occurred upon Fulani pastoralists in my re-

²⁶ In Benin, the word “partner” when referring to China is outdated. Political discourses often use the term “*ami*” meaning “friend”. It is very common to hear political leaders say “*nos amis les Chinois*” or “*nos amis chinois*” (cf. Goutchili, 2008; Awassi, 2015). The Ambassadors of China in Benin often use in their speeches “*nos amis Béninois*” or “*nos deux pays frères et amis*” (cf. Shengli, 2012; China-Embassy, 2009; China-Embassy, 2014). On social media the partnership between Benin Government and China is perceived as disparaged complicity. It is portrayed that in the future one could have more Benin citizens of Chinese origin through a kind of invasion or tactful conquest (cf. Couao-zotti, 2014). Some politicians and trade union actors also talk about “new colonization” by China (Slate Afrique, 2012). In any case, the Chinese presence is increasingly strong in socio-economic and political arenas in Benin (cf. Dupré and Shi, 2008).

search site and how this is related to the overall socio-technological transformations underway in Benin Republic.

3.2 Access, property, territorialization, belonging and citizenship

With technological, socio-economic and political dynamics in the 21st century, land issue has become more crucial than ever; and this is even stronger in African countries and other countries of the Global South (cf. Lund, 2011a; 2011b). Therefore, transformation in pastoral settings cannot be discussed without referring to how natural resources are obtained and used by various groups of stakeholders. In the socio-anthropological literature, access to land or natural resources is not considered synonymous with land ownership or resources that have become properties. These two concepts are often confused and need to be clarified to give my readers a clear understanding of what I mean when I use one or other of the two concepts in this document. I will refer mainly to Ribot and Peluso who “theorized access”.

Access is defined as a “bundle of powers” or “the ability to derive benefits from things”; with things being persons, institutions, material objects and symbols (Ribot and Peluso, 2003). Talking about access to land or other natural resources, consists of somehow to establishing the profiles (who does and who does not), the conditions, the possibilities or the countless ways in which individuals or institutions can provide, benefit from or enjoy these resources. The authors have made appeals to the notion of “ability”, equated with power, which allows social actors to use various socio-economic and technological strategies, structural or relational, legal or illegal, legitimate or illegitimate, to afford the rights of use to given resources at a given time and in a given geographical area (Ribot, 1998: 310; Ribot and Peluso, 2003: 154).

The property as a “bundle of rights” or “the right to benefit from things” rather refers to “some kind of socially acknowledged and supported claim or right – whether that acknowledgment is by law, custom, or convention” (Ribot and Peluso, 2003: 156). In other words, the property returns to the legal – or illegal but collectively legitimized – rights of use and enjoyment, granted to social actors, to natural resources. As a result, the property is like a component or included within the access (Ribot, 1998: 312). This distinction will help better understand how Fulani pastoralists can settle, live and graze on land for decades without ever owning the property, and can therefore be expelled one day by those who claim to hold the property rights.

When power games reach a level where access to resources is no longer open to everybody, but restricted to a given social fringe, the concept of territorialization is best placed to better reflect these dynamics. Territorialization simply means territory making as a result of land pressure and power plays involving competing actors struggling for access and use of natural resources. It encompasses all the means by which some can be included and others excluded from given geographical boundaries through the assertion of an authority that implicitly or explicitly allocate rights

and control access (Vandergeest and Peluso, 1995; Peluso, 2005; Pourtier, 2005: 39). More specifically, it represents:

A spatial strategy deployed by actors (individuals, institutions, government) involved in power games to control access and use of a resource through a geographical area over which these actors seek recognition of their authority. [Accordingly], previously abundant resources with relatively easy access (land, pasture, timber and non-timber forest products etc.) become subjected to control and appropriation attempts. (Gonin, 2014: 436)

Territorialization can be from above with strong intentional intervention by the State, or from the bottom as a result of deliberate or unintentional practices of local actors. In both cases the State through its policies and various development interventions still seems to be directly or indirectly involved in territorialization processes by supporting somehow the unequal power relation among rural actors (Vandergeest and Peluso, 1995; Bassett and Gautier, 2014; Gonin, 2014).

In a context where social actors competitively try as much as they can to secure their rights to use and enjoy the natural resources contestations and conflicts often arise (Sikor and Lund, 2009; Peluso and Lund, 2011). The social tensions, as the authors pointed out, are not necessarily related to access or use *per se*. It is rather the dynamics of access legitimization, supported by some logistics of control, security or exclusion, which are often the basis for the land troubles frequently found in contemporary African societies. In some cases of land competition, *belonging* becomes important. Some actors guided by their own subjectivities and agendas, put forward the argument of belonging, making therefore more complex the existing set of rules around which the many existing institutions exercise their authority over the allocation of rights (Lund, 2011b). The belonging issue has occupied an increasingly growing place in land claims, as it also allows for *citizenship* to sometimes be instrumentalized, both nationally and locally, for exclusionary purposes (*ibid*). Jacob and Le Meur (2010) conceptualized that one may well be a citizen at national level with all the rights associated thereto (*national citizenship*) without being a local citizen (*local citizenship*), and therefore devoid of access rights to resources, if one is not recognized in the given socio-political setting as being an autochthon (first settler). These concepts are important in helping to demonstrate how denying local citizenship is one of the strongest weapons brandished against the Fulani pastoralists of my research site by local farmer groups, as a way to exclude them from land and resources that the former increasingly need to fulfill socio-economic and political purposes.

3.3 Science and Technology Studies (STS)

Technology definitions

There is in the literature a plurality of definitions of what can be called technology. In this part of my work, I have selected some definitions that allow me to qualify this or that “thing”, a technology. This is what I will present now before elaborating much more on how scientists perceive the relationships between technology and human society.

MacKenzie and Wajcman (1985: 3f.) distinguished three different ways to define technology: First, technology refers to sets of physical objects. Thus, a computer, a mobile phone, a hoe, a tractor, a cart, a chainsaw and the like are all technologies. This definition considers only “hardware”, but does not take into account the processes through which a conglomerate of physical materials that were previously useless, suddenly become useful and fully integrated into the daily lives of human beings. This led the authors to the second definition of technology that combines human activities with the artifacts or technological objects. Accordingly, “hoe-making” for instance by the *Seko*²⁷ people in northern Benin, may be perceived as a technology, involving both foundry equipment that is the stove, and the work of the blacksmiths themselves. Since the work of a blacksmith requires a certain amount of know-how emanating from the society in which he lives, therefore technology appears also to be equated with knowledge. From this third definition, one might infer that the way to use pesticides in crop farming as well as how rural actors plant a particular tree species all come from a technological know-how. This position is inspired by Ferguson’s argument (1977) that technological “things” – such as, for instance in my study area, agricultural chemicals and seedlings of given crop varieties or plant species – would have no meaning without a minimum of societal expertise that puts them into use or reshapes them so that they are really useful.

To be even more encompassing, one could rely on a definition by Spier (1970: 2) reported in Pfaffenberger (1992: 497). For the author, all means used by human beings to control or induce changes in their natural environment can be called technologies. From this point of view, I am right to call the following technologies: tractors, pesticides, land certificates, plant seedlings, and many other things to be discovered throughout this book. This way I position myself in aligning with science and technology studies, for which technology includes a broader set of elements, involving physical artifacts, technological principles, features, procedures and manuals, the knowledge and skills that accompany them, etc (Vinck, 2012: 126). Now that I have briefly defined what can be understood by technology in this work, I am going to explain how technology and society interact.

²⁷ The *Seko* are blacksmiths in Batonu language. They correspond to *Agbede* and *Flenon* respectively in Yoruba and Fon communities of Benin.

Technology and society interactions

There are considerable differences in how the relationship between technology and society is explained. Three main groups of approaches exist to determine how the social is articulated with the technological: 1) technological determinism; 2) social constructivism; and 3) co-construction theories. I would like to summarize these debates before stating how STS is used in this study.

Technological determinism sees technology as an external factor, an intruder introduced into society, having positive or negative impacts on the latter. In this regard, technology carries social change and shapes significantly the nature and the overall development of society, without being mutually influenced (Mackay and Gillespie, 1992: 686; Brinkman *et al.* 2009: 70). This is somehow the alignment of the society with the technological system to achieve convergence (Vinck, 2012: 126). This quite influential theoretical stance was widely criticized and deemed insufficient on its own to explain the different relationships between technology and society. MacKenzie and Wajcman (1985) pointed out that many technologies that have been designed, and their impacts, have followed unpredicted trajectories dictated by a variety of factors, which may be politico-institutional, socio-economic and so forth. These authors as well as many others thus rejected the argument of exogeneity and autonomy of technology in relation to society, and postulated a Social Shaping of Technology (SST).

This SST approach as “an antidote to naïve technological determinism” (Winner, 2009: 251), allowed scientists to think in other ways about technology-society interactions by scrutinizing the processes through which technologies embody and reflect various social interests in both their forms and contents (Mackay and Gillespie, 1992: 686; Russell and Williams, 2002: 38). Inspired by the constructivist principle of the Sociology of Scientific Knowledge (SSK), Pinch and Bijker pioneered the Social Construction of Technology (SCOT) through which they showed that technological artifacts are socially constructed just as social facts are also built technologically. They observed that there are many ways for any technology to emerge and develop; and therefore subject to an “interpretative flexibility”. A given form of the technology eventually comes into being as a result of choices and negotiations involving “relevant social groups” who have interests in that technology (Pinch and Bijker, 1984; 1986; Bijker, 1995; 2012; Bijker *et al.* 2012). The finally “stable” version of the technology is then seen as product of a “closure”, which refers to the streamlining of all the possibilities of interpretation, leading to gradual mastering of the controversies surrounding the technology (Bruun and Hukkinen, 2003: 101).

The SCOT perspective emphasizes the open character of an innovative process, making the trajectory of a technology depend to a large extent on social meanings and uses constructed and negotiated locally by various stakeholders (Vinck, 2012: 130). One of the main weaknesses of this approach is postulating the existence of a stable set of social and economic forces that determine the direction of technological development (*ibid.*: 131). It also fails in providing explanations on how controver-

sies and competing interpretations among social actors are resolved to give rise to some closure-based technological objects (Bruun and Hukkinen, 2003: 103). These criticisms are found in works by some authors who have shown that there is neither stability nor convergence in technological development. Socio-economic, and other forces present, attempt to influence this development tending to make the so-called stable format of a technology evolve towards a specific version, depending on the conditions of use (Vinck *et al.* 2004).

Science and technology studies have finally evolved towards theories defending the co-construction of society and technology. Thomas Hughes was inspired by the scientific adventure of Thomas Edison to demonstrate that the success of electrical power has been the result of a “seamless web” involving a plurality of local and national forces; scientific, economic, social, technological and even political, etc (Hughes, 1983; 1985; 1986; 1991; 2012; Mackay and Gillespie, 1992: 686; Akrich, 1994:17; Pfaffenberger, 1992: 498; Law, 2012). To demonstrate that technology and society cannot be considered as separate entities simply influencing each other, Hughes used the concept of a socio-technological system through which he highlighted that technology is always a product of several spheres namely scientific, engineering, financial and political for example.

The Actor Network Theory (ANT) has been developed by authors such as Bruno Latour, John Law, Madeleine Akrich, Michel Callon (cf. Callon, 1981; 1986; Callon and Law, 1982; Callon and Latour, 2006; Latour, 1986; 1988; 1990; Akrich, 1989; 1992; 1994; 1998; Akrich *et al.* 2006; Law, 1991; 1992; 2012; Sismondo, 2010: 81), who rejected any *a priori* distinction between technology and society, assuming that technological innovation is the result of forces of various kinds, working together and achieving networks in which their identities are renegotiated, redefined and reconfigured continuously. Absolutely heterogeneous components encompassed in the language of “actants” – human and non-human, social and non-social, animate and inanimate, economic and non-economic, political and apolitical, physical and non-physical, chemical and non-chemical, material and immaterial – can come together and ally with each other through a “heterogeneous engineering” (Law, 2012), to give a specific configuration of a technological system. The network thus formed then becomes an assemblage of heterogeneous elements, more or less dense and stable or, alternatively, weakly bound and fragile (Vinck, 2012: 136). Accordingly, the emergence of a new technology is evidence of destabilization of the old order and the rise in power of a new socio-technological order, enshrining new arrangements, new connections and gradual stabilization of a new network of actants (*ibid*). Any new socio-technological constellation of human and non-human players is assumed to be the result of a translation, an important concept as I am going to clarify.

“Translation” highlights the process through which some social or technological forces are dissociated from the network to which they belong, to be recruited and integrated into a new network, for the establishment of a new socio-technological order. For Callon and Latour (2006: 12f.), translation refers to:

All negotiations, intrigues, acts of persuasion, calculations, violence, thanks to which an actor or force takes, or causes to be conferred on itself, authority to speak or act on behalf of another actor or force". By saying "we" for example, an actor "thereby translates other actors into a single aspiration of which he becomes the master or the spokesperson. He gains power. He develops [...].

Callon (1986) identified four steps for translation to happen. The first step of "Problematization" is when some actors raise socio-technological issues, while identifying and targeting the human and non-human entities to be removed, and those to be recruited and associated to move forward. The actors define the issues so as to be essential and unavoidable to their resolution, becoming therefore "Obligatory Passage Points" (OPP). The "Interessement" is the second step and consists in the gradual dissolution of pre-existing links and their replacement by new links acting for a new network to come into being and succeed. Therefore, actors mobilize speeches, objects and devices intended to seduce, attract and bind different players to the new network. The third step in the translation process is the "Enrolment". It includes a process of defining and stabilizing the roles prescribed for each actor through the problematization. At this level, each actor is fixed on what to do for collective success to be achieved. This paves the way for "Alignment", the last step, referring to the adjustment of the human and non-human entities mobilized for the consolidation and stabilization of the new network put in place (Vinck, 2012: 136).

With ANT, the researcher starts with the perspective that everything is moving. Everything can change, everything is negotiable and everything is possible as long as one can never have absolute mastery of all the forces that might emerge and modify the course of technological developments. This is also why Latour (1986: 267) argued that:

The spread in time and space of anything – claims, orders, artifacts, goods – is in the hands of people; each of these people may act in many different ways, letting the token drop, or modifying it, or deflecting it, or betraying it, or adding to it, or appropriating it.

In the same vein, Wajcman (2000: 451) added that:

The user interacts with the pre-inscribed artefact, and can challenge and renegotiate the meanings and uses of the artefacts.

This reinterpretation or renegotiation of technology is so important that Mackay and Gillespie (1992) castigated that it is sometimes ignored or overlooked in the rich and abundant debates on the interactions between technology and society. Beyond the forces involved in designing, producing and marketing technologies, it is also important to understand how technologies transferred from outside, are appropriated locally by their users. The authors posited that:

People are not merely malleable subjects who submit to the dictates of a technology: in their consumption they are not the passive dupes suggested by crude theorists of ideology, but active, creative and expressive – albeit socially situated – subjects. People may reject technologies, redefine their functional purpose, customize or even invest idiosyncratic symbolic meanings in them. [...]. They may redefine a technology in a way that defies its original, designed and intended purpose [...]. The user may bring to bear on a technology an intention which was not foreseen by the technology's designer. (Mackay and Gillespie, 1992: 698ff.)

This statement calls for paying special attention to how rural actors interact with various technologies that are made available to them through various rural development policies. By doing so myself, I also seemed to be in perfect connection with the evolutionary thoughts developed by some authors on human society and technological progress. I would like to refer to Pfaffenberger who summed up that:

The recipient appropriating culture can reinterpret the transferred artifact as it sees fit [...]. Every human society is a world in the process of becoming, in which people are engaged in the active technological elaboration, appropriation, and modification of artifacts as the means of coming to know themselves and of coordinating labor to sustain their lives. (Pfaffenberger, 1992: 511)

Looking at the technology appropriation culture (cf. also De Bruijn *et al.* 2009: 12) of rural actors enables us to see how they manage to perpetuate their livelihoods in a competing context of natural resources access. Several other concepts can be found in the literature and convey virtually the same reality of the transformation of the meanings or the uses of technologies in everyday life. They will not be very operational in this document, but should be mentioned; with examples such as “domestication” (Lie and Sørensen, 1996), “contextualization” (Rip and Schot, 2002; De Bruijn *et al.* 2009: 12), or “re-purposing” (Nilsson and Salazar, 2015), etc.

As shown in these sections, STS should in no way be taken as a homogeneous approach. Sismondo (2010: 57) pointed out that there are several social constructions in STS with each approach inducing its own implications for research. To avoid confusions and amalgams, I want to specify where and how STS has been useful in my work. The science and technology studies are used in this book to show how assemblages of various socio-economic, technological and political factors have led to pastoral resources dwindling and the eviction of Fulani pastoralists from land they have been using for decades. In presenting how power relations between farmers and pastoralists have become more imbalanced through the approach of political ecology, I made use of the concept of reinterpretation or renegotiation of technology. This enabled me to better account for the different meanings and uses acquired by various technologies used by rural farmers to lay claims or increase their power over land. I have finally called on the notion of “translation” to explain the socio-technological

process that led to the creation of autonomous livestock markets that the Fulani leaders showcase to attract external donors as part of their extroversion strategies in their “development brokerage”. In the perspective adopted in this study, I have presupposed no difference between context, local stakeholders and technologies. I have considered all of them as actants influencing and building each other continuously, to determine how pastoral practices are shaped and reshaped every day in northern Benin where I carried out my ethnographic research.

3.4 Development brokerage and brokers

The relationship between macro and micro spheres almost always leaves room for mediation spaces. This results in the emergence of actors who try, through multiple strategies, to ensure the connection between levels using available resources such as information, financial capital or patron-client networks etc., to control the uncertainties at the juncture/interface of these two worlds (Long and Villarreal, 1993; Long, 1994). This role is similar to that of “gatekeepers”, who maintain somehow a double identity as being both “outsider” and “insider”, gaining therefore some margins of maneuver (cf. Mendras, 1976; Igoe, 2003; 2006; Igoe and Kelsall, 2005).

Development brokerage is a recently developed theoretical perspective in Anthropology of Social Change and Development, but the concept of broker itself was borrowed from Political Anthropology where scientists have tried to understand the doings of political brokers. Several studies have focused on political brokers in a dichotomous approach considering an inclusive society holding power over a subsumed society. The concept has evolved with some authors who argued that more varied and unstable configurations of power relations in postmodern contexts exist (cf. Boissevain, 1974; Cohen and Comaroff, 1976). More recent works by Olivier de Sardan and Bierschenk (1993), Blundo (1995), Le Meur (1996), as well as the case studies compiled in the volume by Bierschenk *et al.* (2000) *Brokers in development: The African villages in search of projects*²⁸ have shared the latter perspective and offered significant theoretical advances on how to design research and analyze the position of development brokers and other median-level players in African countries. My ethnographic study among the Fulani pastoralist associations in northern Benin has drawn more particularly on this approach of which I will now try to summarize some key lines.

Bierschenk *et al.* (2000: 7), define the development brokers as:

The social actors established in a local arena [...] serving as intermediaries to drain towards the social space corresponding to this arena, external resources within the scope of development aid. [...]. The brokers include the local social project promoters; they provide the interface between the recipients of

²⁸ “Courtiers en développement : Les villages africains en quête de projets”.

the project and the development institutions; they are supposed to represent the local population, or express the “needs” vis-à-vis the external support and funding structures. [...]. Far from being passive operators in logic of assistantship, development brokers are the key figures in the irresistible projects’ seeking in African villages and around them.

From this definition, the authors perceive development brokers as being genuine social entrepreneurs and not simply social agents passively facing dilemmas. They are active and enterprising in mobilizing development rent to implement local development activities. Therefore, they mobilize a wide range of skills that can be rhetorical, organizational, scenic and relational. Beyond these credentials, which can be found with the “small brokers” or “barefoot brokers”, there are also “large brokers” or “professional brokers” who hold two additional abilities. They are able to design, by themselves or through support from experts in their relational network, a variety of development projects to get funding. Further, they have the competence in getting directly into contact with policymakers without intermediaries (Bierschenk *et al.* 2000: 26ff.).

The median-level actors transform the meaning of “things” and “deeds” giving them different connotations that can enable them to meet effectively the needs of the players between which they mediate. In this political strategy of “management of meaning” (Cohen and Comaroff, 1976), they raise, using “dressed-window” or “showcase”, development funds provided by external donors, and drain them afterwards into their favorite area for implementing development initiatives in favor of their constituencies. Showcases to attract development funds may be of several kinds. Using spectacularly prepared songs, creeds, slogans, theater and rhythms, Mongbo (2000) as a representative of a non-governmental organization, was enrolled in the anonymous village of Gliten in Benin, by a group of women assembled and supported by some local brokers. Similarly, a market garden was the showcase of a group from Malem-Hodar in Senegal (Coll, 2000: 117). These successful achievements (cultural, socio-economic, technological, etc.) are often the means by which brokers hold a positive image, credibility and trust with foreign donors.

In this vein of “showcasing” their successes or “making” the concerns of their communities known to external partners, development brokers can use three possible strategies (Neubert, 2000: 255f.): They can present the situation as it exists locally: this is the “true reality”. They can ignore the major needs of the local populations and embrace other less significant issues, such as to fit well into the agenda of the external partners: this is the “distorted reality”. Finally, the brokers, in compliance with the agenda of donors can willingly present a picture totally out of touch with the local realities, using therefore a “phantom reality”. Blundo (2000: 93), conceptualized these practices as being the “art of make-believe”.

The strategy of brokers is not only oriented towards external actors. It also seeks to increase and improve their local clientage networks to fulfil their own economic and socio-political agenda. Accordingly, by masquerading themselves as people very

much concerned with the development of their communities, they transform the presence of external actors (foreign donors, government officials and others) into valuable capital to mobilize the grassroots (cf. Blundo, 2000; Coll, 2000; Kossi, 2000).

Development brokerage and politics straddle each other so often. Blundo (1995) argued that the brokerage is a springboard for political commitment. This straddling generally leaves room for power struggles and the search for new compromises among power holders (Bierschenk *et al.* 2000: 33). Since the brokerage takes place in a local context where several political forces pre-exist (traditional, administrative and decentralized political authorities, etc.), the brokers may induce some political reshuffling, strengthening or weakening, as the case may be, of certain powers in their own favor (Bierschenk *et al.* 2000: 31ff.). They adopt local or regional “anchoring strategies”, as appropriate, to improve their patron-clientage, or “neutralizing strategies” to challenge and overthrow if possible the existing powers. These political strategies could lead to the achievement of a peaceful coexistence between the local development brokers and those who hold the local political power (*ibid.*: 32).

Though they become generally “people of networks” (Bierschenk *et al.* 2000: 20) development brokers do not necessarily choose deliberately this brokerage career. Nobody is born a development broker, and local development brokering is not an intended or planned career in African countries. Many people have become development brokers “reluctantly” (Geschiere, 1982; Lavigne Delville, 2000: 166; Tidjani Alou, 2000). Bierschenk *et al.* (2000) assumed that becoming involved in development brokerage is rather the result of “logic of discovery”, arguing that:

Becoming a broker is not necessarily the result of a planned acquisition of skills such as that of a trainee wishing to become a craftsman. [*Some brokers*] have gradually shifted from humanitarian and political activism (in the broadest sense) to development activism, without any clear or deliberate strategy. The “career” of development broker is not a matter of stubborn and patient implementation of a purposive plan; it is much more a sense of “discovery” that can also be described as “procedural” in the course of the action itself. The intentionality is not totally absent – for example, activist intent or associative engagement – but it is usually not focused at first on brokerage activities as such. Other conditions, the future broker has no control of, are essential to lead him in that way. (Bierschenk *et al.* 2000: 23f.; emphasis added)

Exploring associative struggles of the pastoral sector in Benin, I would assume that this process of discovery could be seen as the result of multiple “positionings” and “repositionings” operated by Fulani activists in the face of various opportunities and challenges. What I am putting forward as being concrete in the concepts of positionings and repositionings?

“Positionings” (in plural form) is a concept proposed and developed by Hodgson (2011), to analyze the “dynamic contours and content of the post-colonial political

struggle in a neoliberal world”. The concept was used by the author to explore, from a “nodal ethnography”, how Maasai activists and organizations in Tanzania have politically positioned and repositioned themselves in the face of local, national and transnational opportunities and constraints. She clearly states that:

The concept of positionings encompasses and signals the interlocking struggles over representation, recognition, resources, and rights that are central to any form of political action. [...]. Positionings, therefore, incorporate and index agency, structure, meaning, and power; they demonstrate the articulation of political economy and cultural domains of meaning, signification, and representation. [...]. Positionings are thus, by definition, inherently relational. Individuals and groups position themselves for and against certain ideas, issues, institutions, and identities. As a result, any one positioning has consequences for other relationships, for other positionings, often at distinct political scales. (Hodgson, 2011: 8f.)

In dealing with rights of access to land and natural resources, self-determination and socio-economic and political inclusion of Fulani in Benin, these concepts seem very useful in explaining how the pastoralist organizations came into being, proliferated and asserted themselves at local, national and transnational levels. Through analyzing the passage from a single cultural association in the 1980s to a variety of so-called professional associations, my ethnographic study reveals the socio-political agenda shaping and reshaping the fight for pastoralist representation and inclusion in a neoliberal context.

By mobilizing development brokerage, positionings and repositionings concepts to analyze the civil society struggle of pastoralist organizations in Benin, I would like to divest myself of all possible negative or positive prejudices. I have given to these concepts no pejorative connotations. I have used them in the most neutral sense to try to understand the dynamics of mobilizing development funds from the highest levels, and how it drains down the lower levels, as a strategy of defense among marginalized groups like Fulani pastoralists in northern Benin. I intend to show how Fulani herders in northern Benin have shifted from an originally cultural identity struggle to a primarily economic-oriented activism promoting autonomous livestock markets, to finally take root in a struggle of professionalization and grassroots development. The purpose of the analysis is to elucidate the actual impacts of Fulani elites' activism on the local Fulani herders, with regard to their long-standing claims of land rights, natural resources access, livelihood improvement and political inclusion. After clarifying all concepts and theoretical positions to which I have resorted, I would like now to schematize the analytical framework that governed the organization of my findings and analysis.

3.5 Analytical framework

As this study aims to scrutinize the socio-technological changes in Fulani communities of northern Benin, it must answer three main questions ubiquitous in recent debates on the future of pastoralism. The first question is whether pastoralism in Benin and more specifically in northern Benin is threatened or not. If it is then what are the major threats? The second question is whether or not pastoralists individually or collectively adapt to any crisis. The third is whether, in the light of the answers to the first two questions, pastoralism carries some mark of sustainability or not. To answer these questions, I will use an analytical framework with two main components (Figure 3.1). The first component will focus on shocks and factors that could help to scrutinize the crisis of pastoralism in Benin. The second component will address the adaptive strategies developed by pastoralists. I will present on one hand the responses of individual households; and on the other, the collective action through the pastoralist associations, by focusing on the influence of various technologies.

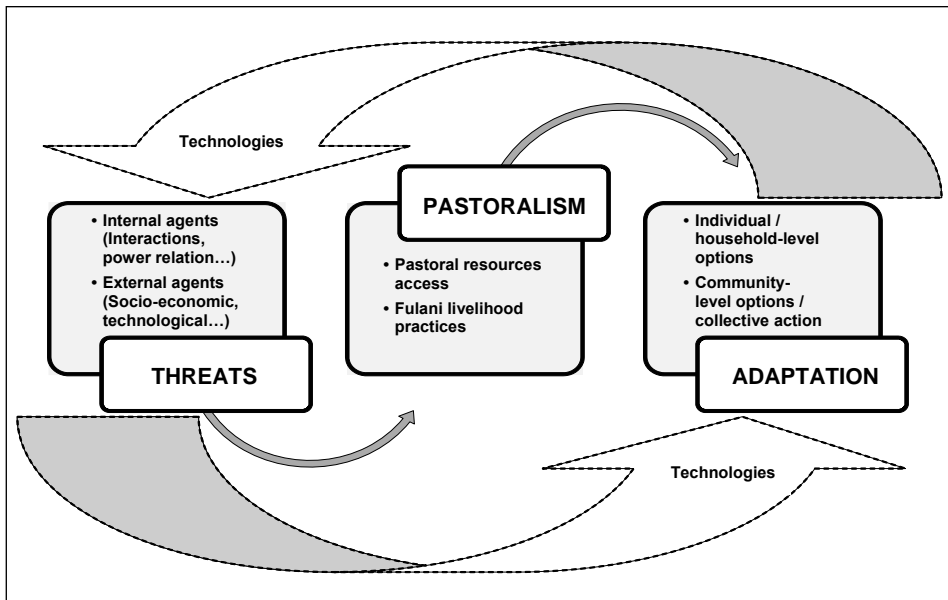


Figure 3.1: Synthetic analytical framework of socio-technological change among pastoralists

3.6 Conclusion

This chapter provides the necessary clarifications for understanding the various concepts that allowed me to do my analysis in this document. This led to a synthetic analytical framework. Political ecology will allow me to analyze the context of access to pastoral resources for herders by focusing more on technologies and power relations between local actors. This will also open the way to looking at the alternative ways of adaptation, since political ecology after identifying the forces at work in the ecological struggles tries also to figure out how actors deal with changes by relying upon various alternative means (Robbins, 2012). Beyond individual strategies observed at the household level, I will attach particular importance to collective action in the face of change. For this, I will use the development brokerage and positionings/repositionings in civil society organization struggles to better account for the associative dynamics underway within Fulani communities in northern Benin. But before going to the empirical chapters where this analysis will be performed, I will first present my study area and my methodological approach. The next chapter (Chapter 4) is entirely devoted to my research setting.

4 From battlefield to showcase in livestock production

Gogounou District in northern Benin

This chapter puts my research site in perspective. It focuses on the geographical, ecological, socio-economic and political features that help to better put the study area in context. I will first present the profile of Benin Republic before taking a closer look at the specific patterns of Gogounou District where the research took place. The data used in this chapter come mainly from secondary sources. They are largely drawn from national policy documents, previous studies of and development plans for Gogounou District. However, some of them are from databases accessed during my fieldwork and this is the case for the climate series (1970–2010), from which I have drawn a chart to provide useful information about the evolution of rainfall in Gogounou over forty years. This is contrasted with empirical data on how local populations perceive the evolution of rainfall in their area. Climate change issues became less relevant in the local context of livestock production and did not form a major part of my fieldwork (cf. Chapter 5). However I was able to capture, in my daily conversations with people, the overall perception of the local populations. All information herein is selected so as to highlight some changes in connection with pastoralism, which is my main focus.

4.1 National context of livestock production

Geographic and demographic characteristics

Located in the West African bight of Guinea, Benin Republic covers a total area of 114,763 square km. The country is bounded by the Atlantic Ocean (on 121 km) in the south, Niger (on 266 km) and Burkina-Faso (on 306 km) in the north, Nigeria (on 773 km) in the east and Togo (on 644 km) in the west (Heldmann *et al.* 2009: 5f.). Benin is divided into twelve provinces and the provinces are split up into seventy-seven districts (DGDGL, 2010: 9ff.).²⁹ Porto-Novo is the political capital of the country, but Cotonou is not just the largest city, but also the economic center and hosts many important administrative services. The population of Benin was estimated at 9,983,884 inhabitants in 2013 of whom 51.2% are females (INSAE, 2013a: 2). The country is a multicultural sphere, with fifty-nine ethnic groups and diverse religions. According to the national census of 2002, the population is 27% Roman Catholic, 24% Muslim, 17% Vodun, 5% Celestial Christian and 6% practitioners of indigenous religions. Many other Christian groups and religious sects, each accounting for less than 5% are widespread, and 7% of the population claims no religious affiliation (USCIRF, 2013: 1). The religious context is also characterized by a clear predominance of Christians in the south and of Muslims in the north.³⁰ However, religious syncretism is a common practice in Benin. Many individuals who nominally belong to the aforementioned major religions are also well engaged in different forms of traditional beliefs and practices (*ibid.*).

French is the official language, but the fifty-nine ethnic groups speak different dialects grouped into ten community languages. The most spoken languages are: Fon and related dialects (39.2%), Adja and related dialects (15.2%), Yoruba and related dialects (12.3%), Bariba and related dialects (9.2%), Fulfulde and related dialects (7%), etc. (INSAE, 2003: 19; Heldmann, 2009; Gnacadja *et al.* 2011: 2). The Fulfulde is the mother tongue of the Fulani pastoralists to be found almost everywhere in the country. According to the mapping of ethnic groups, the Fulani pastoralists are concentrated in the northern provinces of Alibori (22.1%), Borgou (20%), Donga (11.5%) and Atacora (9.8%). According to the 2002 census, they represented 26% of all ethnic groups in northern Benin (INSAE, 2003: 19ff.). Now, where did the Benin Fulani really come from?

²⁹ A district (“Commune” in French language) is a decentralized local authority administered by an elected council called Municipal Council. A “Commune” is divided into “Arrondissement”; and each “Arrondissement” might have several cities and villages (cf. DGDGL, 2010: 9ff.). Throughout this document I will use “District” for “Commune”, “Province” for “Département” and “Region” for “Arrondissement”.

³⁰ This religious mapping is perceived as the third big difference that feeds the North-South divide in Benin: see France Volontaires (2010).

Fulani origin, migration and settlement in Benin

The origin of Fulani in Africa is always associated with myths and stereotypes as noted by Bierschenk (1999: 195f.). But beyond the contradictions in the literature and the unknowns to be discovered, there are some parallels which, however, allow the understanding of where Fulani come from. The expansion of Fulani pastoralists in West Africa is often explained by both peaceful and warlike migrations (Fage, 1995: 14). Seeking water, pasture, political peace or non-infested areas, several Fulani groups between the twelfth and nineteenth centuries moved from the southwest of the Sahara to settle in various, more favorable regions of West Africa. Their origin would be between Senegal and Lake Chad (Stenning, 1957; 1959; Dupire, 1970; UNESCO, 2008: 1042; Homewood, 2008: 22).

Lombard (1957) was the first ethnologist to talk about the origins of Benin Fulani. In a four-page article entitled “Quelques notes sur les Peuls du Dahomey” published in “Notes Africaines”, the author noted the difficulties in being able to date with certainty the arrival of Fulani in Benin. However, he made it clear that Fulani groups settled in northern Benin in the early eighteenth century from peaceful migrations essentially from Gurma-land in Upper Volta (present-day Burkina Faso) and partly from the northern Gold Coast, current Ghana.³¹ Other groups would have come later from Niger, claiming a distant origin: the Futa Toro, which lies to the north of Senegal (Lombard, 1965: 95). The ravages of trypanosomiasis and the strong politico-military regime of Bariba groups pointed to the likelihood that Benin would have been among the last peaceful destinations of Fulani, since the proliferation of Fulani in Mossi and Gurma-lands, and then Katsina and Gobir lands dates back to the seventeenth century (Labouret, 1955: 29 cited by Lombard, 1965: 95).³² To add to this diversity, Van Driel (2002: 54) also noted other Fulani who came from Nigeria and settled in the Niger valley in northern Benin. There does not seem to be a collective, abundant and definitive migration of Fulani in Benin. Fulani are spread across the country from north to south and from east to west. However, they are more concentrated in Borgou region (current Borgou and Alibori Provinces).

³¹ There are many contradictions on the installation period of the Fulani in northern Benin. In older literature, Marty (1926: 174 quoted in Lombard, 1965: 96) reported that the first migratory west-east flow of pastoralists to Batoumbu country dates back to the eighteenth century. Brégand (1998: 18) rather indicated that the first waves of Fulani arrived in the Borgou in the fifteenth and sixteenth centuries. They lived in the bush, taking care of the herds of Wasangari. Blench (1994: 201) talked about a more recent presence of Fulani pastoralists in Borgou region, assuming that their settlement between Ilorin (Nigeria) and Nikki and Kandi (Benin) dated only from the nineteenth century. This argument of newest settlement in the nineteenth century was also footnoted by Guichard (2000: 114).

³² According to Débourou (2013: 58), the Fulani Jihad of early nineteenth century failed in penetrating Borgou region because of the power of the Bariba kingdom. Boutrais (1994a: 141) also confirmed that Fulani were welcomed in Borgou by Bariba leaders who also kept them out of political affairs, making them perpetually marginalized people. Bierschenk referring to Stenning (1957; 1959: 207 & 221) has also shown that the immigration of Fulani in Borgou was not a great migration, but rather a “migratory drift” (Bierschenk, 1997: 32).

The Sahelian droughts of the 1970s and 1980s would have pushed important waves of Fulani pastoralists lacking herds or seeking areas of relative productive resources availability to settle down in the northern Benin (Tonah, 2003; Ciavolella, 2013). Bassett and Turner (2007) argued that these southward livestock movements should not be seen as a “sudden shift”. It is rather a process having much to do with both factors of contingent (drought, livestock disease and political fragility), structural and adaptive (social network building, herding contract and cross-breeding) order. The pastoralist presence in northern Benin finds its very essence in the kind of rationality or legitimacy argument that often prevails upon pastoralists and livestock mobility in African arid and semi-arid environments (cf. Adriansen, 1999; Niamir-Fuller, 1999; Adriansen and Nielsen, 2002).

Pastoral practices and evolution in northern Benin

Pastoralism in northern Benin meets the sedentary and semi-sedentary logics found in many parts of West Africa. Pastoralists live in stable settlements where their families are installed with a small part of the herd for milk supply. They undertake seasonal movements, with a lot of the herd, looking for water and pasture. Travelled distances often depend on the availability of resources which in turn, is determined by the harshness of the dry season. At the beginning of the rainy season, the animals return back to the dwelling camp for grazing on offshoots in uncultivated areas. When crop fields are being installed, they are isolated away from the local tie. This is the “small transhumance”. They return back during the harvest period to take advantage of crop residues and provide manure. When water availability becomes critical and there is also less stubble to feed on, they undertake the “great transhumance” and only return on the resumption of rainfall (De Haan, 1995: 133; 1997: 10; Bierschenk, 1996: 104; 1999: 204). This livestock-keeping model is shaped on ecological and socio-economic realities. Permanent readjustments may be involved in the pastoral calendar to enable herders to maximize the opportunities of accessing good quality pastoral resources. This ensures more secure management of the herds (Djenontin *et al.* 2012; Djohy *et al.* 2014a). Seeking areas abundant in water and pasture, escaping conflict spaces and exploring market opportunities may also influence the spatio-temporal options of the pastoralists in northern Benin (Djohy *et al.* 2014b).

As shown by Bierschenk and Le Meur (1997) throughout their edited volume “Trajectoires peules au Benin: six études anthropologiques” and noted by De Bruijn (1999: 187) in her comment on the book, the livelihood of Fulani in northern Benin is strongly related to that of their neighboring farmers and depends also on the relationships they establish with them despite their diversity. The pastoral system was characterized by a symbiotic relationship between herders and farmers, which has degenerated over time to make room for a kind of conflicting polarization (De Haan *et al.* 1990; De Haan, 1995: 137; 1998). The complementarity and reciprocity between Fulani herders and farming communities take many forms and is subject to

an evolutionary dynamic whose future is not predictable. Now, let me explain how farmer-herder coexistence has indeed evolved in northern Benin.

In northeastern Benin, predominated by Bariba ethnic groups, a kind of mutual influence created cattle herders among farming groups and farmers among Fulani pastoralists. This transformation was gradually induced by neighborhood relations, livestock guarding and manure contracts, which predominate as agro-pastoral systems in this region. In some cases a complete conversion of herders to sedentary agriculture, or farmers who change to a type of transhumant herding occurs (De Haan, 1997: 131; Djenontin *et al.* 2004; Djedjebi, 2009: 34; Djenontin, 2010: 3). In the northernmost of the country Dendi and Gourmantché farmers who dominate the Niger valley and are also involved in fishing activities, animal caretaking contracts have always maintained the links between the two groups until the 1980–90s. But resource scarcity, market orientation and draft animal promotion have contributed to a declining trust in existing relationships (De Haan *et al.* 1990; Van Driel, 1997; 2002). In the northwest, Fulani herders have largely abandoned their pastoral life to get involved in cultivation, like their neighbors. The animals entrusted by local farmers represented an important part of the Fulani's migrant livelihood in their early days in the area. The crisis of confidence over the years among actors almost completely dwindled these opportunities, which are now restricted to a small fringe (cf. Ciavolella, 2013; Droy and Bidou, 2015: 78).

Some modern livestock farms have also appeared over the years in urban and peri-urban areas, with greater or lesser involvement of Fulani herders. For example, in the vicinity of some towns in northwestern Benin, there are small-scale livestock farms belonging to businessmen (Alkoiret *et al.* 2011; Droy and Bidou, 2015: 78). Around Parakou, the metropolis of northern Benin, some private actors are also involved in breeding exotic cattle species known for good milk performance. These types of cattle-based, small-scale, individual enterprises can be encountered in Cotonou, Benin's largest city and in many other secondary cities (cf. Assogba-Miguel, 1999; Aboh *et al.* 2003; Floquet and Nansi, 2005; Djedjebi, 2009; Mama Sambo, 2013: 5).

Despite this evolution of livestock systems, cattle-keeping remains technically, economically and socially strongly attached to the Fulani ethnic group. The loss of pastoral life by the Fulani is perceived as an identity crisis and a loss of their intrinsic cultural values. The authentic Fulani, who are thereby granted ethnic and cultural prestige, must possess cattle and, like their ancestors, have a bush life away from urban life and a non-sedentary lifestyle (Ciavolella, 2013). The socio-technical evolution of pastoralism, as I have begun by showing here, took place in a political landscape, which itself has evolved considerably over time, as I will present in more detail in Chapter 8.

Ecological background of Benin Republic

The climate of Benin is subhumid tropical, influenced by the West African southwest Monsoon and the dusty northeast Harmattan (Erment and Brücher, 2009: 17f.). Annual rainfall is about 900 to 1,300 millimeters. The average temperatures remain between 22° and 34°C with April and May being the hottest months. However, many nuances are recorded both seasonally and geographically within the climate patterns (Adam and Boko, 1993: 15f.). The southern part of the country is characterized by a sub-equatorial climate with four seasons; while the northern part registers two distinct seasons. Benin Republic is part of a fragmentation within the Guinea rain forest block, known as “Dahomey gap”. This is a forest relic causing climate anomaly with a decline in annual rainfall, a reduction of the sea level and air surface temperatures (Booth, 1958; Salzmann and Hoelzmann, 2005). During the period 1971–2000, the number of rainy days averaged 140 in the south and 80 in the extreme north of the country (Boko *et al.* 2012: 3). This has steadily declined by 11 to 28% over the period 1951–2010. The temperatures have increased by 1°C since 1995. The climate trend is more critical in the north, which is the main pastoral zone. By 2050, the probabilistic models on Benin climate predict a rise in average temperature of 0.9°C to 3°C (cf. Boko *et al.* 2012: 4; Lawin *et al.* 2013: 54). It is pointed out that the north is going to suffer from increased periodic rains of between 3.3 and 3.8%. On a seasonal scale, the length of the dry season will also increase with a decrease in rainfall from March to May (Boko *et al.* 2012: *loc. cit.*). These recorded climate patterns are blamed for the increase in the vulnerability of crop and livestock productions and might further compromise the development of the agricultural sector (PSRSA/MAEP, 2011: 1; Lawin *et al.* 2013).

The Republic of Benin is characterized by an agro-ecological diversity and is split up into eight agro-ecological zones involving the districts undergoing the same physical, biological and social challenges, and in which populations develop specific coping strategies (PANA-Benin, 2008: 15ff.). The forest and tree cover was estimated at 7.67 million hectares (ha), representing 68% of the total area in 2007. The permanent forest domains cover about 2.7 million hectares distributed between national parks (843,000 ha), wildlife reserves (420,000 ha) and 58 classified forests and reforestation spaces (1,436,500 ha) [FAO, 2010a: 5]. An overview of land use shows that the Benin vegetation is dominated respectively by closed-open shrub cover, broad-leaved tree cover and cropland mosaics (Bartholomé and Belward, 2005; Lawin *et al.* 2013: 58ff.). The vegetation was termed to have gradually undergone severe degradation because of agricultural expansion, pastoralist practices, uncontrolled logging activities and bush fires. About 70,000 hectares of forest was cleared annually between 1990 and 2000 (FAO, 2010a: 1). The gallery forests in the Sudano-Sahelian savannahs of northern Benin were rich in noble species such as *Khaya senegalensis*, *Khaya grandifoliola*, *Milicia excelsa*, *Afzelia africana*, *Isobertinia spp.* Some of these plants are very important for Fulani pastoralists who rely on them as browsing species to feed their animals during the period of forage shortage. Regrettably, most of these species

are currently over-exploited, and some of them are even endangered because of abuse and illegal logging (CES, 2011: 17).

Political and socio-economic patterns of Benin Republic

The Republic of Benin is making positive steps with democratic pluralism. This has been possible since the sovereign national conference in February 1990. From the adoption of the Constitution of 11 December 1990 up to 2016, Benin has peacefully organized six presidential elections, seven legislative elections and three local and municipal elections. The relative peace and freedom of expression that exist in Benin are not, however, enough to claim there is good political governance. The country regularly faces political and social crises that are being gradually overcome through constitutional and legal means (MAEP/REP, 2008: 8; MTFP-OIT, 2010: 1; Badet, 2012).

There is no overt government motivated discrimination towards specific ethnic groups or minorities. The Fulani, as well as all other ethnic groups in the country, can participate freely in the country's political life. They are free to run and campaign for positions during local, parliamentary and presidential elections as full citizens protected by the constitutional provisions (cf. Government of Benin, 1990). Similarly, there is no repressive action exclusively oriented toward Fulani pastoralists. However, certain political decisions to control transhumance seem to have been designed principally to control the movement of Fulani pastoralists. This appears to be the case with "Operation Guépard"³³. Launched in February 2013 by the Ministry of Interior and Public Security of Benin it mobilized a hundred gendarmes and soldiers and tasked them to track down and punish so-called "outlaws" such as pastoralists (mostly the immigrants from neighboring countries) as well as local farmers who do not respect the laws of transhumance. The main objective was to secure the populations and limit conflicts between local crop farmers and foreign Fulani pastoralists,

³³ This is one of the most controversial measures on transhumance control in Benin. "Opération Guépard" meaning "Cheetah Operation" was to fight against the warlike and murderous transhumance practiced in southern and central Benin in recent years. Benoît Degla, the former Minister of Interior and Public Security portraying the new form of transhumance in Benin stated "But in the practice [of transhumance], some deviances are deplored such as crop fields destruction, bloody and deadly clashes, rapes and arsons". This government policy did not target specifically the Fulani pastoralists, but all the culprits of transhumance laws as the Minister put it: "In practice, the rules of transhumance are violated daily by transhumant herders as well as farmers and complicit persons". About the name given to this operation, he made it clear saying: "Like the cheetah, our security and defense forces are called to hunt down these outlaws to their last retrenchment" (Government of Benin, 2013). I could emphasize that the management of information by the media and the various local interpretations have probably made of it a vector of contempt for the Fulani pastoralists in the country. For example, "La Presse du Jour" a daily newspaper in Benin published in its issue of 7 March 2013: "Since some weeks, people in some areas of Benin [Zè, Ouinhi, Zangnanado, Covè etc.] do not know where to turn. They are the prey of transhumant Fulani. With their herds, they vandalize, steal, rape, kill and pass. Unfortunately, at the nose and the beard of the Government that has resigned" (Anonrin, 2013).

which had become increasingly violent and bloody in parts of Benin such as Zou and Collines Provinces. However, this operation was manipulated very early on by the media and fueled stigma and discrimination towards the Fulani ethnic group. The Fulani pastoralists felt targeted with popular vindictiveness and with numerous stereotypes (robbers, rapists, murderers, outlaws, etc.) built and exacerbated daily by the media (cf. Government of Benin, 2013; Constitutional Court of Benin, 2014).

The socioeconomic context is characterized by a very weak human development. With a Human Development Index (HDI) of 0.476, Benin ranked 165th in 2013 out of 187 countries worldwide (UNDP, 2014: 159ff.). The GDP per capita was 407,258 CFA francs³⁴ in 2013 (INSAE, 2015). Its growth of 5.6% during this year was heavily dependent on cotton production and the port sector. The tertiary and primary sectors are the two main pillars of the economy, contributing respectively for 2.6 and 1.7 percentage points to the GDP growth (BCEAO, 2014: 22). The agricultural sector (livestock production included) involves more than 60% of active male and 35.9% of female assets. Its contribution to the GDP declined from 34.3% in 1995–2005 to 30.5% over the period 2005–2008. Crop production is prominent and contributes 24.1% to the GDP, while animal production contributes about 5.9% (PSRSA/MAEP, 2011: 8).

The government policy on crop and livestock production is included in the Strategic Plan for Agricultural Sector Development (PSRSA³⁵) implemented since 2008. This document carries an ambitious vision, which plans to “make of Benin a dynamic agricultural power, competitive, environmentally-friendly and wealth-creating meeting the needs for economic and social development of the population” (PSRSA/MAEP, 2011: 25). The overall objective of the PSRSA was “to improve the performance of Benin’s agriculture, to make it capable of ensuring sustainable food and nutritional sovereignty, contributing to economic and social development of Benin, and achieving the Millennium Development Goals (MDGs) and poverty reduction” (PSRSA/MAEP, 2011: 25).

Several projects and programs were included in the policy agenda in order to ensure food and nutritional security in animal proteins for rural and urban populations and to run surpluses for export. The most recent of these is the Livestock Development Program (PDE³⁶) that ended on 30 June 2006 after a total run time of eight years; and followed by the Program of Support to Milk and Meat Sectors (PAFILAV³⁷) started in 2009 for a period of six years (CAADP, 2007; Hestin, 2012). Still there is a plan for several billion CFA francs to be spent in the coming years in the livestock sector for the rapid transformation of traditional systems into more efficient, modern and professional livestock farming.

³⁴ The franc of the African Financial Community (FCFA) or XOF is the currency of Benin. It has a fixed parity with the Euro (1€ = 655.957 XOF). In this book, 1 US dollar (US\$) corresponds to 500 CFA francs.

³⁵ Plan Stratégique de Relance du Secteur Agricole.

³⁶ Programme de Développement de l’Elevage.

³⁷ Programme d’Appui aux Filières Lait et Viande.

It appears, therefore, that rural development policies devote a great attention to livestock production and considers it as one of the priority areas for increasing the welfare of communities as well as for improving the national economy. However, as I will show later in the next chapters, pastoralism is more a victim of the crop farming policies. Some sectors such as cotton and cereal crops that provide “faster” and more “tangible” results on the national economy seem to be privileged as compared to pastoralism which requires more time and resources for it to be modernized and respond more quickly to the expectations of the Government. After this brief description of Benin, its resources and agricultural development policy, I will now turn to the profile of Gogounou District.

4.2 Local context of livestock production

Boundaries and demography of Gogounou District

My research site was Gogounou District in northern Benin. Gogounou is considered the “showcase” of pastoralism in Benin. This perception is neither related to the local livestock size, nor the amount of resident Fulani pastoralists. Gogounou is ranked after other districts such as Kandi, Banikoara, etc. when considering the aforementioned factors. The perception of Gogounou as the main site of pastoralism in Benin is simply because of socio-technological order. Indeed, it was in this district that the Fulani pastoralists initiated the first “autonomous” livestock market. This innovation was subsequently adopted in other parts of the country and led eventually to the establishment of many pastoralist professional associations. Gogounou was also the first district in which the Fulani cooperative mini-dairy was installed in 2006. This is therefore the hometown of those pastoral innovations from which different Fulani leaders have emerged. For a study that attaches great importance to technologies and associations among Fulani, it became almost unavoidable, even necessary to carry out my research in Gogounou. This option was made after an exploratory visit on which I will give more details in Chapter 5.

Gogounou is located in the southern part of Alibori Province between 10°33' and 10°57' north latitude and 15°2' and 3°15' east longitude. Its total area is estimated at 4,910 square km and framed by Ségbana and Kalalé in the east, Banikoara in the northwest, Sinendé and Kérou in the southwest, Bembéréké in the south and Kandi in the northeast (Figure 4.1). It is about 615 km from the economic capital of Benin (Cotonou). It is crossed by the Benin-Niger interstate lane for a distance of about 45 km. The district of Kandi, which is the capital of the province, is about 35 km from Gogounou. A road of about 180 km connects Gogounou to Parakou, the metropolis of northern Benin. The Niger border is about 140 km from Gogounou (PDC2 Gogounou, 2010: 22).

Gogounou was established three centuries ago by *Batoumbou* princes called *Wasangari*, who came from the princely city of Nikki (Adégbidi, 2003: 33). The

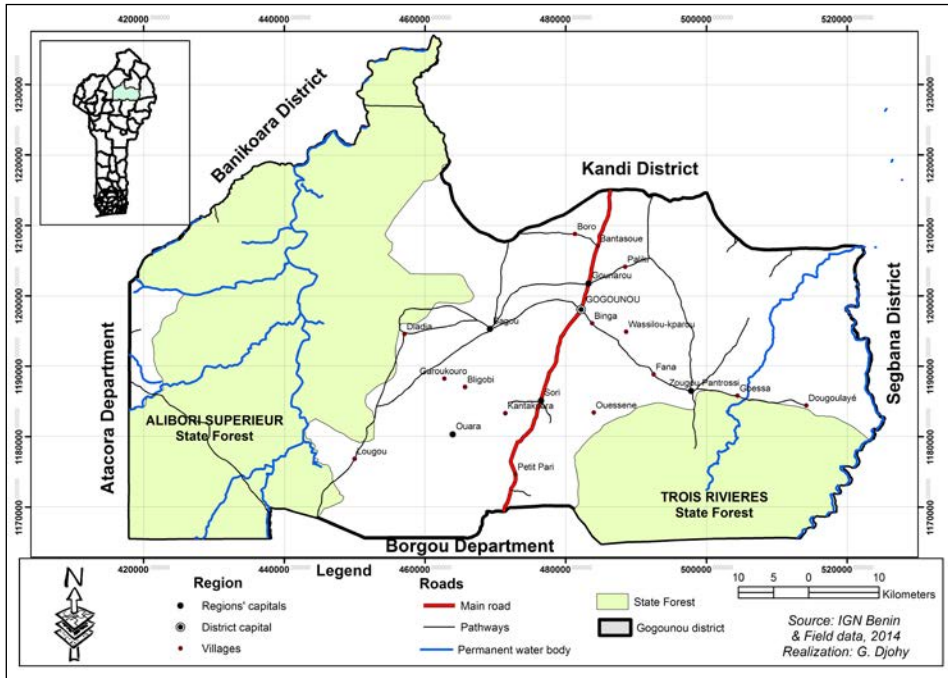


Figure 4.1: Study area location

name it bears is diversely interpreted (PDC2 Gogounou, 2010: 25). The first meaning is linked to the fact that it was a “battlefield” where Bariba warriors clashed with various enemies. The main purpose of *Wasangari* was to condemn to death (*go*) all their enemies who would dare cross the local hills (*guuru*), and were found taking refuge in caves across the region. This is why the area would have gradually been called in Batonu language *go n’guuru* meaning “The Hill of Death”. The second interpretation is related to the presence in the caves of a fetish boa called *gobani* in local language. This is then *gobani n’guuru* meaning “The Hill of Boa” that would have become Gogounou through French speaking.³⁸ Regardless of how Gogounou got its name, it appears that the first settlers are from Batoumbu or Bariba ethnic group who thereby hold the oldest land rights. Gogounou is seen as one of the oldest geographic locations and area of concentration of Fulani pastoralists (Guichard, 2000: 97). Different migratory drifts from Burkina Faso and Niger led Fulani to Bagou, which is located in the present-day Gogounou District. It was then from Bagou that Fulani pastoralists scattered in different directions in the old Borgou Province (Mairfarth, 1989: 27 cited by Guichard, 1990: 34 ff.).

³⁸ The hills and rugged and wooded landscapes played an important role in the war strategy of Batoumbu/Bariba against the French colonizers. They enabled camouflage and provided valuable shelter to the local warrior troops (Débourou, 2013: 76).

The population of Gogounou was 117,793 inhabitants (58,126 men and 59,667 women) in 2013 (INSAE, 2013a). The two predominant ethnic groups are Bariba (54%) and Fulani (42%). The human population density is 24 inhabitants per square km, including about 10 Fulani herders. Immigrants account for 4% of the whole population. They are from other parts of the country and other neighboring countries such as Niger, Nigeria, Burkina Faso and Togo. Several types of beliefs co-exist in Gogounou. However, Islam is the dominant religion with 67.1% of the local population. The majority of the Fulani pastoralists are Muslims. Catholicism and Protestantism account for respectively 7.8 and 0.9%, and traditional religions represent about 11.1% (PDC2 Gogounou, 2010: 25). Crop farming is the main economic activity involving 67.5% of the population. It is the main activity of Bariba ethnic group, even if the farmers also own cattle, usually integrated into their cropping activities. Livestock production is the second largest activity of the local population and simultaneously represents the main economic and professional occupation of the Fulani herders (PDC1 Gogounou, 2004: 19; Bani, 2006: 19; PDC2 Gogounou, 2010: 47). The local livestock in 2013 was estimated at 139,000 head of cattle, 37,460 head of sheep and 30,000 head of goat (FAOSTAT, 2014).³⁹

Alkoiret and his staff distinguished three livestock systems in Gogounou (cf. Awohouedji, 2008; Alkoiret *et al.* 2009; 2010).⁴⁰ The first group: “Fulani small-scale livestock system”, is mainly made of Fulani pastoralists responsible for modest cattle herds (30 ± 15 head), inherited or accessed through caretaking contracts (40% of cases). The transhumance is practiced by 62% of the herders in this group, against 38% for sedentary herders. Apart from crop residues used for strengthening animal feed in the unfavorable season, endogenous treatments are always prominent in this system (93% of cases). The second group: “Fulani large-scale livestock system” consists of Fulani herders owning large herds (158 ± 68 head) mainly inherited or acquired by purchase; and all practicing transhumance. The herds are also entrusted in 20% of cases. Crop residues and minerals (e.g. cooking salt) are used as supplements, and animals are supplied with veterinary care in 85% of cases. They are treated against ticks and parasites at least once a year. The third group: “Integrated agro-pastoral system” is composed of agro-pastoralists from Fulani (45.5%) and Gando⁴¹ (54.5%) ethnic

³⁹ These statistics generated on the basis of old herd growth indices are very far from the reality on the ground. The massive outmigration of Fulani from the region justifies the fallacies in these estimated figures. Instead of continuous increases in animal stocks as reflected in FAO statistics and those of the livestock department of Benin, Gogounou has lost in the last five years much of its livestock. I will later discuss the reasons why.

⁴⁰ The studies of Alkoiret and his collaborators on the livestock systems in Gogounou took place in 2007 and were part of the NPT/BEN/183/FA-UP/WU project implemented by the Faculty of Agronomy (University of Parakou, Benin). Their typology was based on a sample of 102 herds mobilizing 7,769 head of cattle, estimated at 9.7% of the municipal cattle population.

⁴¹ These are the former slaves of Fulani pastoralists, locally known as black Fulani or *Maccube* (sing. *Maccudo*). They are generally considered in official statistics as Fulani, but distinctions exist within them. Details are provided about them in Chapter 8.

groups, holding 52 ± 48 head of cattle. These herds have been generally accessed by heritage or entrusted (7% of cases), are sedentary in cases of Gando herders, and transhumant when owned by Fulani pastoralists. Supplementary animal feedstuffs are used: crop residues, fodder reserves and cottonseed cakes. Most of the herders in this group (96%) rely on veterinary health care in maintaining their livestock holdings. The integrated agro-pastoral system is assumed the most efficient when considering production (especially milk) and reproduction patterns (Awohouedji, 2008; Alkoiret *et al.* 2010).⁴² Every year Gogounou also receives immigrant herds, coming from the hinterland countries, transiting through the northernmost Benin districts (Malanville and Karimama) and Kandi (Kperou Gado, 2006: 68; Djohy *et al.* 2014b).

Ecological and economic features of Gogounou District

The district of Gogounou has a Sudano-Guinean climate with a rainy season from May to October and a dry season from November to April. The average annual rainfall is estimated at 1,100 millimeters. The months of August and September are supposedly the wettest. The local temperature varies between 18°C and 38°C. There are about 26 main water resources (Table 4.1), available to the pastoralists in the six regions of Gogounou. There are twenty dams, four large over-diggings and two rivers, respectively Sota in the East and Alibori in the West. The tributaries of these rivers are part of the Niger River Basin. Additional boreholes also exist in the regions, even if there is no updated statistics. A census in 2009 by development agencies involved in the water sector revealed that 2,352 water points were equipped in Alibori Province with 1,738 water points being functional, covering the needs of 65% of the population of the whole area (UNICEF, 2010: 14). The functional hydraulic structures in Gogounou in 2009 included 242 boreholes fitted with hand-pumps (FPM⁴³), three village water supply systems (AEV⁴⁴) and 22 standpipes (BF⁴⁵). These represented 348 Equivalent Point Water covering the drinking water needs of 65% of the locals (PDC2 Gogounou, 2010: 33). It appears, therefore, that boreholes and different types of wells are significant in the pastoral environment of Gogounou and play an important role in access to water for Fulani pastoralists and their livestock holdings.

The district of Gogounou is made of plains and plateaus overcome in some places by hills with maximum heights of approximately 300 meters. The soil is ferruginous,

⁴² This productivity analysis was performed on 3,022 cows from thirty herds within the 102 cattle herds used by the authors for their aforementioned typology of livestock systems in Gogounou. These results may not capture the true picture of Gogounou herds taken all together. Moreover, the resources access trend has evolved, inducing also other dynamics in livestock keeping. However, these data provide an idea of pastoralism in Gogounou before some transformations discussed in this book.

⁴³ Forage de Pompes Modernes/Pompes à motricité humaine.

⁴⁴ Adduction d'Eau Villageoise.

⁴⁵ Borne Fontaine.

Table 4.1: Main water sources in Gogounou District⁴⁶

Village	Name of water point	Year of building	Current state
Gogounou	Gbandarou**	2002	Good
	Ouèrè*	2004	Sanded basin
	Nawari*	2002	Good
Bagou	Bagou*	1993	Good
	Karakoudarou*	2001	Damaged
	Diadia*	1991	Good
	Kèrou-Bagou*	2004	Good
	Somatéré**	1991	Damaged
	Badou*	1992	Good
	Alibori***	–	–
Goumarou	Boro*	1991	Damaged
	Diguissou**	1991	Good
Zougou-Pantrossi	Zougou-Pantrossi*	2001	Damaged
	Fana*	2014	Good
	Sota***	–	–
Wara	Wara*	1996	Good
	Soukarou*	1996	Good
	Souroukou**	2003	Good
	Lougou*	–	–
Sori	Sori*	1995	Good
	Petit-Paris*	1996	Good
	Kantakpara*	1999	Good
	Balata*	2003	Good
	Gamagou*	1996	Damaged
	Tawali*	–	Good
	Ouessèné*	2004	Good

with predominance in the plains of alluvial soil, suitable for agriculture. The total area of the district is composed of 35% of arable land (1,705 square km). The two classified forests (“Trois-Rivières” in the East and “Alibori Supérieur” in the West) occupy about 36% of the area (1,772 square km). Part of the local land (1,235 square km), representing 25% of the total area, is normally devoted to livestock grazing. Thus, a theoretical 0.89 hectare and 2.51 hectares of land are respectively available for a head of cattle, and per capita (i.e. per Fulani herder).⁴⁷ There is 3.6 square km of

⁴⁶ Source: SCDA/Gogounou, October 2014 (Legend: *Dams, **Over-diggings; ***Rivers).

⁴⁷ The first figure (0.89 hectare) is obtained by distributing 1,235 square km on the 139,000 head of

lowland in the district and 42% of it is used for crop farming. Gogounou lies within the second agro-ecological zone of Benin called “cotton zone of northern Benin”⁴⁸. Cotton (*Gossypium sp*) is the main crop in the region, but maize (*Zea mays*), sorghum (*Sorghum bicolor*), millet (*Pennisetum glaucum*) and yam (*Dioscorea spp*) are the most important food crops (PANA-Benin, 2008: 17).

Three major forage species groups are locally exploited to feed animals: the group of *Loxodera ledermannii* and *Hyparrhenia involucreta*, the group of *Andropogon gayanus* and *Isoberlinia tomentosa* and the group of *Hyparrhenia involucreta* and *Pennisetum pedicellatum* (Bouraima, 2006; Degbohuet, 2010: 74ff.). The average carrying capacity of natural pastures is 0.62 TLU/ha/year corresponding to an equivalent land demand of 1.61 ha/TLU (Degbohuet, 2010: 51). Thus, an area of 2237.9 square km is needed to feed the municipal cattle stock in 2013. This demand, given the official rangeland availability in the district (1,235 square km), seems insufficient to meet the needs of the whole local livestock. When added to this the burden of immigrant herds invading the local rangelands each year during the dry season then mobility and other strategies help address this shortfall. The pastoralists employ some browsed species: the most important being *Azizelia africana*, *Pterocarpus erinaceus* and *Khaya senegalensis* (Houéhanou, 2006; Degbohuet, 2010: 47). I will provide more details on the strategies of pastoralists to cope with this lack of feed resources in Chapter 7.

Marketing of agricultural products has an important place in the economy of Gogounou District. Trade takes place in seventeen ordinary markets and also three livestock markets: Petit-Paris, Gogounou-center and the small stock market of Borodrou village (PDC2 Gogounou, 2010: 50). Livestock marketing is prominent in Gogounou, and this is the reason why the municipal authorities headlined the district development plan: “Gogounou: subregional pole of livestock trade”.

Rainfall trend in Gogounou and perceptions of local populations

The trend of the annual rainfall over forty years (1970–2010) indicates a large fluctuation (Figure 4.2). The straight line seems to show a *prima facie* stability (at 1,000 millimeters) of the average annual rainfall for the period. However, the slightly positive slope (0.01) shows that the annual rainfall trend in Gogounou is relatively upward. Further, the low value of the coefficient of determination (R-square = 0.016) reveals that the horizontal line cannot explain the real progressions of the annual

cattle that would be in Gogounou if the estimation of FAOSTAT in 2013 was fulfilled. One can also estimate the per capita rangeland availability by dividing 1,235 square km of grazing area acknowledged by Gogounou Municipal Authority by the number of Fulani in the district (41.6% of 117,793 residents). This gives 2.51 ha per Fulani herder. This is not, however, the reality since there are also small stock (goat and sheep), and Fulani are not the sole owners of livestock. Farmers are also involved in livestock keeping. The current amount of grazing area is also not accurately known.

⁴⁸ “Zone Agro-Ecologique 2” (ZAE 2) or “Zone Cotonnière du Nord-Bénin”.

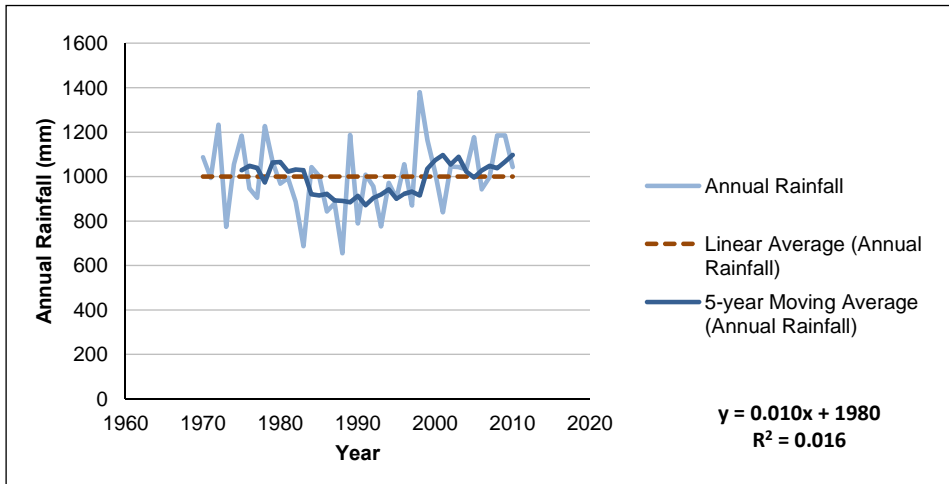


Figure 4.2: Trend of annual rainfall in Gogounou from 1970 to 2010⁴⁹

rainfall. One may not conclude there is an absolute stability of the annual rainfall over the period 1970–2010, but rather a slight upward trend.

The trend of the average curves, run on five year periods, reveals that the yearly rainfall has changed over the years. During the period 1970–1985, the annual rainfall increased relatively except for the year 1975 when the average rainfall fell probably due to the severe drought that affected all sub-Saharan Africa. This first period was wetter. From 1985 to 2000, the annual rainfall has decreased leading to a dry period. The trend was reversed in the last decade 2000–2010 where rainfall increased relatively, giving rise to a more humid period. Only the year 2005 was an exception with a rainfall equating to the average over the forty years (1,000 millimeters). The current rainfall trend is slightly upward. This progression of the rainfall (if the data provided by ASECNA are effectively correct)⁵⁰ contrasts with the perception of the local actors (both crop farmers and pastoralists) who often claim a decrease in rainfall. However, I did not investigate deeply to seek the real determinants of this contradictory perception of people on the rainfall. Other recent studies in the region of Alibori could better inform us about climate change and the perceptions of the population. These studies show that climate change is a reality in Alibori. The most important factors of Alibori's climate change would be the late rains, the abnormal distribution of rainfall, the stunted rainfall, the dry breaks, the violent winds and the warming (Adégbidi, 2003; Dedjan, 2010; Nouatin *et al.* 2014a; Katé *et al.* 2014). The farmers who are said to have perceived these changes develop in turn different strategies to cope with their new conditions of production (Gnanglè *et al.* 2012; Tidjani and

⁴⁹ Source: From ASECNA rainfall database.

⁵⁰ The rainfall data of ASECNA Kandi should be taken with caution because of the conditions of their production.

Akponikpè, 2012; Nouatin *et al.* 2014b; Yegbemey *et al.* 2014). These same factors were also often cited by pastoralists of the region to explain the climate change and the vulnerability of their livelihoods (cf. Lesse, 2009; 2011; Djohy, 2010; Djohy *et al.* 2014a; Zakari *et al.* 2015). Climatic disturbances seem not to be new facts in the northern Benin. Débourou (2013: 52) reported that agricultural production has always been subject to the vagaries of the weather, and this was already conspicuous in colonial times when Borgou people were forcibly involved in cash cropping by targeting cotton, tobacco, shea tree, etc. In the specific case of Gogounou District, Adégbidi (2003: 137) who carried out his doctoral research in the village of Bagou a decade ago came to the conclusion that climate constraints are real and strongly determine the farmers' production strategies.

During my interviews, it emerged that the crop farmers often talked about the rainfall that has become scarce and insufficient, with consequences for crop production. Rainfall is seldom mentioned immediately by Fulani pastoralists as a major constraint for their activity; anyway less so than other issues such as herbicide use, logging or land expropriation, that I will discuss later. One can understand from this that the influence of these factors on their pastoral activity is so strong and so unbearable that pastoralists are not primarily concerned about climate change which has nevertheless become omnipresent in common discourses. In any case, none of my informants has spoken positively about the trend of the rainfall. They all perceive that the climate is not the same as before, and try to blame other actors.

Fulani pastoralists tend mainly to incriminate the crop farmers they think responsible for the climate disruptions through their destructive crop farming practices. Similarly, farmers also believe that the loggers are responsible for the disruptions in rainfall patterns due to their excessive wood cutting in the forests and village lands. This is why in some villages, for example Zougou-Pantrossi, crop farmers sometimes organize uprisings to drive the loggers out of the forests and snatch their chainsaws during the rainy season, when breaks are registered. The objective of this kind of mobilization against the loggers was, as I have been told by my informants, to ensure a good agricultural season with regular rainfall without dry spells. But this struggle, which often occurs in the rainy season, does not prevent those same farmers from being the best sellers of wood to the woodcutters in the dry seasons. I will talk more about this phenomenon in Chapter 6. What appears important here is how each actor thinks his counterpart or other land user is responsible for the changes recorded in weather conditions, through their specific actions, which are not environmentally friendly. These reciprocal accusations fit well into the ongoing controversial discourses on anthropogenic climate change (Paavola and Adger, 2006; Kaufmann *et al.* 2011; Poortinga *et al.* 2011). Thus, local people perceive climate change as a general curse driven by human beings.

Gogounou at the heart of pastoral development policies

Gogounou is one of the first places targeted for the implementation of government policies oriented towards the transformation of pastoralism in Benin. The Fulani community has been a trial field for technologies oriented toward local cow milk processing through cooperative mini-dairies. Through support from the United Nations Food and Agriculture Organization (FAO), the Government of Benin implemented two mini-dairy pilot projects, respectively TCP/BEN/3003 and TCP/BEN/3204, aimed at: “improving the collect, the processing and the marketing of milk, wagashi-cheese and other dairy products” (cf. Awohouedji, 2008; FAO, 2010b; Mama Sambo, 2013: 9). These mini-dairy projects were implemented over forty-one months (from June 2005 to December 2009) for a total amount of US\$ 405,000, and led to the creation of the Dairy Cooperative Society of Gogounou (SOCOLAIG⁵¹) managed by the Fulani associations. The promotion of mini-dairy products in Gogounou is assumed to have allowed consumers to enjoy nutritious, healthy and quality products with fresh milk from local herds (FAO, 2010b). The mini-dairy of Gogounou worked notably well from 2006, but unfortunately closed down in 2010 without achieving the development goal assigned through the policy documents.

Among the various development programs oriented towards livestock production, I would like to mention the Program of Support to Milk and Meat Sectors (PAFILAV), which is one of the more recent. PAFILAV intervenes in Gogounou with activities oriented towards building animal keeping capacity of pastoralists and promoting milk productivity enhancing technologies (cf. Hestin, 2012: 57ff.; Mama Sambo, 2013: 10). This program with 21 billion CFA francs budget, co-funded by African Development Bank (AfDB) and public funds was to ensure food security through diversification of animal production sectors. Located in milk sheds in twenty-seven districts, PAFILAV was designed more specifically to (i) increase milk and meat production, (ii) improve the competitiveness in the milk and meat sectors and (iii) improve actors’ incomes through organizational and institutional support. PAFILAV was still operating in Gogounou during my study, even if its closure was scheduled for late 2015.

Gogounou is also the target of academic and research institutions, which undertake various projects for transforming pastoral systems and training pastoral professional staff. The University of Parakou (UP⁵²) through its various entities collaborates a lot with the municipal authorities and other stakeholders of the livestock sector in implementing action-research projects oriented towards productivity of pastoral systems, climate change, food security, etc. The NPT/BEN/183/FA-UP/WU⁵³ projects

⁵¹ Société Coopérative Laitière de Gogounou.

⁵² Université de Parakou.

⁵³ NPT is the Netherlands Program for Institutional Strengthening of Post-Secondary Education and Training Capacity, aiming at strengthening the institutional capacity of secondary education and vocational training in developing countries.

implemented by the Faculty of Agronomy (FA⁵⁴) between 2006 and 2010 helped map the livestock systems in place and monitor their productivity in order to effectively contribute to the improvement of their performance. The studies of Alkoiret and his team were very successful in that sense (cf. Awohouedji, 2008; Alkoiret *et al.* 2009; 2010; University of Wageningen, 2010: 32). The ongoing NICHE/BEN/196⁵⁵ project by the FA, in partnership with the Faculty of Literature, Arts and Humanities (FLASH⁵⁶), is designed to improve the farming systems in achieving food security under climate change conditions in northern Benin. The livestock sector in Gogounou is one of the most important targets and one which has undergone a profound diagnosis made with great involvement of local herders, pastoralist associations and municipal authorities (NICHE-Benin, 2014).

The University of Abomey-Calavi (UAC⁵⁷), which is the largest university in Benin, is also very active in Gogounou through its Faculty of Agricultural Sciences (FSA⁵⁸). With SIMPROMEAT⁵⁹-Benin program, for instance, academics and experts implement training and technologies in improving livestock productivity and the meat value chain (SIMPROMEAT-Benin, 2014). Several other projects directly included in the annual action plans of pastoralist associations have support from international development agencies and regional livestock farmer networks. All these efforts resulted in the recent creation of the National Agro-pastoral School of Gogounou (ENSAP)⁶⁰ by Benin Government. Gogounou has thus become, as conveyed in common discourses, the showcase of pastoral development in Benin; and therefore appears to be the primary pastoral district of the country.

⁵⁴ Faculté d'Agronomie.

⁵⁵ NICHE is the Netherlands Initiative for Capacity development in Higher Education, an improved version of NPT (cf. University of Wageningen, 2010).

⁵⁶ Faculté des Lettres, Arts et Sciences Humaines.

⁵⁷ Université d'Abomey-Calavi.

⁵⁸ Faculté des Sciences Agronomiques.

⁵⁹ Sustainable Improvement of the Productivity of Meat value chain for food security in West Africa.

⁶⁰ The Ecole Nationale Supérieure Agro-Pastorale de Gogounou (ENSAP) is an academic center managed by the University of Parakou and officially launched on Monday, 23 March 2015 after a pre-launch on 14 July 2014. The center's mission is to ensure, for the benefit of Benin society and the Gogounou population in particular, training on livestock systems, nutrition, reproduction, health and the genetic improvement of domestic farm animals; and the production of livestock feeds. It will cover a total area of thirty-seven hectares offered by the municipal council. A first generation of twenty-five students began courses for the academic year 2014–2015 (cf. Plagbeto, 2015).

4.3 Conclusion

The natural, socio-economic and political patterns presented in this chapter are important assets for the predominant ways of life of my study area. Pastoralism is an important activity in Benin generally, and in Gogounou especially. The ecological and climatic conditions in the past have been favorable to crop and livestock production, which constitute the main livelihood of the local communities. However, those factors are currently highly disturbed or perceived as such. For example, the vegetation has markedly deteriorated in recent years. As for the climate, it is perceived by local actors as unreliable and changing in an adverse way which impacts on agricultural production. The Fulani pastoralists face locally greater challenges than climate. They are fully included in Benin society, and considered as citizens both nationally and locally. However, their late arrival in Gogounou places them in a position of subordination compared to the Bariba farmers who are first settlers and therefore landlords. The pastoralists and their livestock depend on the leeway granted to them by their farmer neighbors in terms of land access. A noticeable fact is how State policies consider livestock farming as important for achieving food security and economic growth. The commitment for pastoral development is reflected in national rural development policy documents as well as local development plans (cf. PDC2 Gogounou, 2010). But what is the actual effect on local pastoralism? Forthcoming chapters will inform about this, but first, I will recount my ethnographic experience in Chapter 5.

5 An itinerant ethnography of socio-technological changes among Fulani pastoralists in northern Benin

In this chapter, I present my field approach and the various methods and techniques that I drew upon in collecting and analyzing data. My study actually began on 1 April 2013. The first quarter of this study at the University of Göttingen was devoted to broadening my knowledge of pastoralism in Benin and Africa. The importance of a literature review was not overlooked, as emphasized by Bernard (2006: 96):

The first thing to do after you get an idea for a piece of research is to find out what has already been done on it. Don't neglect this very important part of the research process. You need to make a heroic effort to uncover sources. People will know it if you don't, and without that effort you risk wasting a lot of time going over already-covered ground. Even worse, you risk having your colleagues ignore your work because you didn't do your homework.

I looked through the documentation while counting also on some colleagues and experts in pastoralism studies in Africa. I read a lot on Fulani migration, marginalization and their association politics in Benin. Another batch of literature, which I had “devoured”, was mostly on how pastoralists in different parts of Africa deal with changes. I read about various transformations and technological innovations among

the Fulani. Finally, I read the literature on ethnographic methods in order to deepen my knowledge of participant observation, biographical narratives, interviews and so forth. Thus, I was better equipped to move forward with my research and to draft my first research project.

The first version of my project and my study schedule were presented at the doctoral seminar of the Institute for Social and Cultural Anthropology in Göttingen on 3 May 2013. The discussions made during this session brought out some theoretical and methodological gaps that took some time to fill in. Meanwhile, a lecture that I started to follow in April 2013 with my supervisor on Science and Technology Studies (STS) improved my understanding of how technology and society could be studied. By the end of the seminar in July, I was excited and eager to apply this new knowledge to my research on pastoralism in Benin. I then left Germany on 15 July 2013 for my exploratory visit that I give more details about below.

5.1 Exploratory field visit

My preliminary research lasted two months, from 15 July to 15 September 2013. I was seeking the social and technological drivers of change related to pastoralism in northern Benin. I first met on the morning of 16 July 2013, Prof. Dr. Marcel Houinato at the Faculty of Agricultural Sciences, University of Abomey-Calavi. The latter is a specialist in livestock production who has long worked on pastoralism in northern Benin. I got from him diverse information on pastoral practices, Fulani associations, livestock markets and various technologies emerging in Fulani communities. He also provided me with some mobile phone numbers to ensure easier contact with Fulani leaders.

After this promising start in Cotonou, I headed to the north of the country that I was looking forward to visiting and exploring. My first landing point in the upper Benin was Parakou, my hometown, my home University and also where I met my second supervisor, Prof. Dr. Honorat Edja. We talked about broad issues of my research and my exploratory visit. He also gave me literature and practical guidance for improving my way of carrying out participant observation and interviews with pastoralists and their leaders. Once I had completed the institutional steps required to begin my research in Benin, I then undertook the most active phase of data collection.

I visited and conducted interviews with several organizations based in Parakou supporting Fulani pastoralists and their grassroots associations. Two groups of partner organizations were targeted. The first group consisted of the local partners (local NGOs, advisory services) including APIC-NGO (Action for the Promotion of Community Initiatives), APIDEV-NGO (Association for the Promotion of Sustainable Development Initiatives) and CARDER Borgou/Alibori (Regional Action Center for Rural Development). Second, the international donors such as SNV (Netherlands Development Organization), GIZ/ZFD (Civil Peace Service of Ger-

man Development Cooperation) and DDC/UGP (Partnerships' Management Unit of the Swiss Agency of Development and Cooperation) were also involved. I conducted interviews with and received documents from various specialists in charge of pastoralism. The organizations to which these specialists belonged enabled me to understand that Borgou-Alibori Region was better suited to my research topic. Particular emphasis was placed on Gogounou District, the cradle of pastoralism in Benin, which accounted for all of my interlocutors. Several technologies related to livestock marketing and dairying (cf. Chapter 4), were regularly cited as well as many well-developed grassroots associations.

After gaining a clearer view of a promising area for my field research, I traveled by motorbike to Gogounou, about 180 km from Parakou. On the way, I stopped in the Petit-Paris village for two hours to observe transactions at a livestock market in south Gogounou. I reached Gogounou later in the afternoon and went directly to the headquarters of ANOPER⁶¹ (National Association of Professional Organizations of Ruminant Herders) where I had my first discussion with the coordinator of the association. I was then introduced to the president who agreed on my research being carried out with ANOPER and its local branches. I spent some time in Gogounou visiting the regional and local branches of ANOPER (UDOPER⁶² B/A, UCOPER⁶³ Gogounou), the livestock market, the veterinary pharmacy, the store of agro-industrial feed concentrates, the mini-dairy and the small plant where animal nutritional supplements were manufactured. Having been even hosted in a hostel run and built by the pastoralist associations, I was completely amazed at how pastoralism had evolved in my home country and how organized and rich in technological innovations and infrastructures the Fulani herders were. After conducting open-ended discussions with Fulani leaders and technicians involved in the management of the various elements mentioned above, I decided to go into the bush to see firsthand how pastoralism is carried out in the countryside. I landed in Fana-Peulh, a village about 20 km from Gogounou center where I spent two weeks in a Fulani household.

During my time in Fana-Peulh, I directly observed the local realities of livestock management and conducted informal discussions with the heads of households, their spouses and the youth responsible for moving with the herds. Our discussion topics were many, including pasture access in open ranges as well as in state forests. The availability of watering sources and other pastoral infrastructures (vaccination corals, animal passageways, herder resting areas, etc.) were also assessed with the herders. Some technologies, such as fodder cultivation, straw conservation and industrial concentrate use, were also discussed and debated. After gaining access to general data on the feeding, watering and movement of livestock, I sought to improve my understanding of production and market issues. I asked about where, why, when

⁶¹ Association Nationale des Organisations Professionnelles des Eleveurs de Ruminants.

⁶² Union Départementale des Organisations Professionnelles des Eleveurs de Ruminants.

⁶³ Union Communale des Organisations Professionnelles des Eleveurs de Ruminants.

and how animals are sold in a Fulani household, as well as, who is responsible for such decisions. The transport and communication technologies used by the Fulani were discussed as well as their linkage with pasture and market access. With Fulani females, I had more discussions on milking, conserving, processing and marketing raw milk or *wagashi* cheese. Here, the modern mini-dairy installed in Gogounou was mentioned as having induced negative changes in the management of milk within the Fulani households. But since the factory had stopped working, the situation seemed to return to normal.

I finally tried to understand how Fulani herders perceive the pastoralist associations. During very open discussions, I asked questions about membership, governance, achievements and satisfaction of Fulani herders, *vis-à-vis* ANOPER and its local branches. Alongside these conversations with my Fulani interlocutors, I observed how farming activities were performed. I frequently asked questions to the Bariba farmers about their farming practices. My aim was to link cultivation practices to pastoralism and investigate some of the complaints that I often received from herders. I took advantage of my stay in Fana-Peulh to travel further inland into the Zougou-Pantrossi Region where I visited the technical unit of forest management (CTAF⁶⁴) and discussed with two foresters and one tracker. With the support of a Fulani assistant, I traveled 20 km through the “Trois-Rivières” forest from Zougou-Pantrossi up to Dougoulaye village. This visit enabled me to observe herds’ movements and have a word with some herders on grazing animals in the forest.

I did not only observe and question people in camps and on farms, but was also involved in fun-filled activities of everyday life. I witnessed a musical evening in Fana-Peulh where young Fulani males showed their expertise in playing modern musical instruments and performing various modern dances. It was also an occasion for teens and youth to exercise their ability to court young girls who were nicely dressed and well-groomed for the occasion. I could clearly see another form of modernity evolving in Fulani areas. Back in the Gogounou center, I was able to attend a meeting held by the staff of UDOPER B/A with a delegation of Swiss partners (UGP Parakou), where successes and failures in implementing the association’s annual action plan were raised.

After I had gained this somewhat more detailed view on pastoralism in Gogounou, I decided to go to the extreme north of Benin and see what was happening there. I was led by a passionate logic of comparison to obtain a different story. I wanted to know how other associations, apart from those of the ANOPER family, operate and how various technologies were also used in other parts of Alibori by Fulani herders. I extended my trip by motorbike to the extreme north of Benin, precisely in Malanville District. There, I met the leaders of the most famous local Fulani association, being ASPEB⁶⁵ (Association for the Safeguard and Promotion of Livestock in Benin). With the president, the secretary and the organizer, respectively, we discussed pas-

⁶⁴ Cellule Technique d’Aménagement Forestier.

⁶⁵ Association pour la Sauvegarde et la Promotion de l’Elevage au Bénin.

toralism in Malanville. The objectives of ASPEB, its activities and its achievements were discussed and various documents were also collected. Finally, I made a short visit to the president of UCOPER-Malanville. I talked with him informally about his association and the relationships between both local associations. I realized that the very root of Fulani professional associations was the livestock marketing and the two systems were competing locally. For the leaders of ANOPER and its components, the ASPEB is in an opaque management of the cattle market in Guéné (Malanville). This so-called traditional market system was seen as unfavorable to herders and must be fought. Conversely, the leaders of ASPEB were fighting against the plan of ANOPER promoters to impose the self-managed marketing system in Guéné as they did in Gogounou and many other districts. This strategy was seen as an internal form of colonization by the Gogounou Fulani and a way for them to control all the livestock markets across the country and therefore all the Fulani herders and their herds. I decided to take a ride to the livestock market of Guéné, where I spent about four hours observing the transactions and the actors involved. This enabled me to make some comparisons with what I had already seen in the livestock markets of Petit-Paris and Gogounou.

From Malanville returning back to Gogounou, I stayed four days in Kandi District where I met *Ruga*, the paramount chief of Fulani in northern Benin, with whom I conducted an interview in his palace. He was very interested in my study and asked me to visit again. During my second visit, he mobilized fifteen Fulani herders with whom I had a group discussion. The special feature of this meeting was that all of the herders shared with me a precise problem that they were facing in their daily lives. Some herders, who were driven off the land they had occupied for more than fifty years, gave me written documents that showed their unsuccessful advocacy attempts with local authorities. Those involved in other forms of conflict told me how they tried to manage with or without the support from Fulani association leaders. One common theme raised by the herders during this discussion was about how traditional leaders more experienced in managing pastoralists' problems were ruled out by the new generation of associations, such as ANOPER and its allies. For my informants, these associations are oriented towards "travelling the world on behalf of pastoralists" and "getting money from international donors", and did not provide any concrete solutions for the most important land issues affecting the Fulani. Some herders provided evidence that the existence of such associations did not prevent the expulsion of the Fulani from land they had occupied for a long time.

With Habibou⁶⁶, a nephew of *Ruga*, I spent an evening in a local refreshment bar in Kandi where we discussed the management of conflicts involving Fulani herders and other stakeholders (for example, farmers and foresters). He detailed his duties,

⁶⁶ Habibou is a son of the former *Ruga* Osséni, well known in Benin and beyond. During my exploratory visit to Benin, he was the representative of ASPEB in Kandi. It is important to note that *Ruga* is the paramount ruler among Fulani in northern Benin. But *Ruga* is also a surname ascribed to the people of the chief lineage. This is the reason why the full name of Habibou is "Habibou *Ruga*".

which were similar to the ones of a “conflict manager”. He was involved in all conflicts of the Fulani pastoralists and defended their interests. Further in Kandi, I was able to visit the CENAGREF⁶⁷ (National Center for Wildlife Reserves Management) and the Forestry quarters in Kandi, where I had informal talks with their heads and other forest officers who briefly gave me insight into pastoralism around W Park and other local state forests. I completed my stay in Kandi with a visit to the president of Jam Naati association, which is one of the associations that has emerged from the cleavage that occurred between Fulani herders and their former Gando slaves, with whom we talked about the marginalization of Fulani altogether, the history of Fulani cultural association (Laawol Fulfulde) and the causes of the scission that took place between Fulani and Gando. He also gave me his perspective on the related current struggle in northern Benin and its impacts on pastoralism. I left him holding a large range of files on Gando associations and their consortium called Faaba Men. I finally returned to Gogounou to prepare for my return trip to Germany on 15 September 2013.

In short, my exploratory visit was very successful in getting me in touch with valuable contacts namely; the Fulani herders, the Bariba farmers, the local authorities, the Fulani association leaders, the extension workers, the forest officers, the local NGOs and the international development agencies. It enabled me to capture a kind of pastoralism in northern Benin that I had never known before. I was able to collect extensive data on technological progress and the controversies about the nature and the impacts of pastoralist associations on Fulani herders. The overall picture of the place was both rewarding and confusing but I found some clarity when writing down a field report where my preliminary trip was well detailed. This report helped me to target relevant phenomena, technologies and associations for in-depth investigation in the future. My revised research proposal was presented at the doctoral seminar of the Institute for Social and Cultural Anthropology of Göttingen on 13 December 2013. I spent the period from December 2013 to February 2014 in Göttingen, documenting further my research and refining my data collection methods. I also took time to acquire various materials for the long-term fieldwork that I present in the paragraphs that follow.

5.2 Long term fieldwork

I carried out my fieldwork from 23 February 2014 to 25 October 2014. For logistical reasons that I will mention later, I gave up the comparison between Gogounou and Malanville, a decision I made after my exploratory visit. The long-term data collection phase was finally carried out only in Gogounou. During this period of investigation, a number of stakeholders were involved and different ethnographic tools were drawn upon. I gave priority to participant observation and conversations

⁶⁷ Centre National de Gestion des Réserves de Faune.

with herders, farmers and their respective leaders. I was involved in farm work and various practices related to the daily management of cattle herds (e.g. grazing, watering, milking, marketing, veterinary care). I was often a prominent participant during various meetings organized by pastoralist associations, their members and their partners. Only once I was in the field did I realise the need for a small ethnobotanical study and geospatial mapping to better illuminate certain phenomena (e.g. livestock feeding with unusual fodder plants, land cover change) that I had studied. Photography and videography were very helpful throughout the data collection process. These visual methods helped to support my arguments by capturing the realities as they were unfolding. The scope of each technique in my “fieldwork policy”⁶⁸ is detailed below.

Participant observation

The extended immersion of the ethnographer in his study setting offers him the opportunity to better understand the social and cultural realities through good relations and intensive interactions with his informants (Bernard, 2006: 342ff.; Bryman, 2012: 430ff.). When I entered my field site for the second time, I started taking advantage of the contacts I had already established to enable me to multiply my visits to various stakeholders. With the support of my trilingual research assistant,⁶⁹ I quickly developed closer relationships with some Fulani herders and Bariba farmers. My regular presence at the head offices of pastoralist associations (ANOPER Benin, UDOPER B/A and UCOPER Gogounou) also enabled me to progressively widen my network.

I got to know some workers in the cattle market of Gogounou, the employees of SOCOLAIG mini-dairy and other specialists in the local agricultural extension service (SCDA⁷⁰ Gogounou) that I visited often. I started with routine observations that enabled me to get a precise picture of what Fulani herders were really concerned about. I observed some lean cattle within some “pitiful” small herds grazing everywhere and watering on some dams which were about to dry up. In the very dry month of March, agricultural chemicals were already displayed along urban and rural tracks. Every Friday, various means of transport, escorted animals from Fulani camps to the cattle market in downtown.

When I overheard some conversations within small groups of Fulani herders, the main focus were often land, logging, herbicide, conflict, foreigner, emigration,

⁶⁸ I borrowed this concept of fieldwork policy from Olivier de Sardan (1995; 2003; 2008; 2015). The author often uses this concept to describe the rigorous ethnographic strategy that leads to the production of scientific knowledge. It includes several techniques (participant observation, interviews, case studies, unobtrusive measures, written sources, etc.) to be used to mobilize reliable data.

⁶⁹ My research assistant speaks fluent French, Batonu (the language of crop farmers) and Fulfulde (the language of Fulani pastoralists), which is his mother tongue. I personally speak Fon, a language of south Benin.

⁷⁰ Secteur Communal de Développement Agricole.

etc. When I sat down in the head office of ANOPER, everyone complained about massive emigration of Fulani. I often heard the Fulani leaders complain about the guilty silence of the authorities with regard to the mistreatments inflicted on Fulani pastoralists. The coordinator of ANOPER at one time nervously said: "All the herds have already left. There is no milk to run the mini-dairy. The cattle market's earnings have collapsed. The time all the Fulani will leave with their animals, is when our rulers will see that the Fulani also contribute a lot to the development of this country".⁷¹ Many other individual and group complaints were often on land expropriation from Fulani and various acts of depredation against the local cattle herds and their owners. I then decided to go beyond this apparently "naïve" and "careless" observation to systematize and better organize my observations to feed specific aspects of my research, as recommended by Olivier de Sardan (2008: 66).

My ethnographic field research was an intense period during which I could dedicate a lot of time to observe farming and logging practices as well as pastoralism, which was my main focus. One ethnographic technique that I used was to describe the unspoken or silent dimension of the social and to put into my own words things that were not obvious (cf. Hirschauer, 2006). This is the reason why I regularly wrote down short notes in my notebook and relied on mental notes in situations where handwriting was not possible. I made it a point at the end of each day to know in which direction my data were evolving and targeted some topics for a deeper understanding. My observations were carried out in six major sites (crop farms, Fulani camps, forest reserves, local markets, association headquarters and Fulani leaders' houses). A brief summary of my observations at each site is found below.

Observing pastoralism through crop farming: I participated in different cropping activities at several farms to better understand the changes in farming practices. The significant operations were: clearing and soil preparation, plowing, sowing, weeding, insecticide treatment and chemical fertilization. Only the harvest of crops had not begun before my return to Germany. My presence on the farms and my involvement in these activities enabled me to capture the logics and practices of farmers and to understand the complaints of pastoralists. Particular focus was given to the villages like Ouèrè, Bagou, Boro, Borodarou, Gounarou and Zougou-Pantrossi, where more in-depth case studies of farming practices were conducted. This allowed me to follow the use of certain technologies (e.g. tractors and pesticides) and to understand the logic behind them and their implications for pastoralism. I visited several areas formerly known as livestock corridors or rangelands, which were occupied by annual crops or perennial plantations. I personally witnessed a case of land expropriation from Fulani herders in the village of Boro.

Observing pastoralism in a Fulani camp: I spent time in several Fulani camps (especially Fana-Peulh, Wesseke and Dadaare) observing what the daily life of herders consisted of. I observed how the herds were managed and how herders coped with pasture access issues. With "Sidi" in Fana-Peulh and "Sanda" in Wesseke, I explored

⁷¹ I recorded this discourse in my notebook on 6 March 2014.

how Fulani herders shared their life between the bush, the rural village and urban areas. My observations often included: the different forms of housing, internal organization of households, herd management, alternative livelihoods and the education of children. I also observed food customs and various innovations related to pastoralism (veterinary care, use of concentrates, forage cultivation, etc.).

Observing pastoralism within forest: I visited a group of Fulani herders gathered around the forest of “Alibori Supérieur”, in the village of Lougou, shortly before the next rainy season. I observed how the herds from the various regions of Gogounou lived in a meeting site and grazed in the forest during the dry season. I then organized a personal visit from Diadia village to the forest to capture the extent to which crop farming, pastoralism and logging were practiced. After I travelled over 25 km into the forest with a Fulani herder, I was able to capture the true nature of a state forest in Gogounou. On another occasion, I spent a whole day with a Fulani herder grazing his cattle from Diadia village to Fuka village. I witnessed how pasture was found and how technologies, like cell phones, were involved in daily mobility. A visit to Dougoulaye village allowed me to observe the isolation of some Fulani in areas bordering “Trois Rivières” forest, far away from Gogounou center. It was an isolated area because of limited road access. The only track was often washed out by the many rivers, which regularly caused the drowning of herders and members of their household. The area also had limited telephone network coverage and robberies regularly occurred on Fulani. I experienced firsthand how Fulani pastoralists managed to live and produce in this marginalized area.

Observing pastoralism through Fulani associations: The headquarters of ANOPER in Gogounou was a good site of observation. Almost every day was made up of activities involving Fulani leaders (commonly called *élus* meaning “elected representatives”), Fulani herders and women. I was unable to attend all of these meetings and therefore only took part in those that seemed more important for my research. These included: two general annual congresses (ANOPER and UDOPER), a roundtable (ANOPER), two workshops (ANOPER and SIMPROMEAT-Benin; UCOPER), and a training session (ANOPER and SIMPROMEAT-Benin). I also attended two other special meetings on reporting, participatory diagnosis and decision-making with partners (ANOPER and DDC/UGP, ANOPER and NICHE-Benin). These meetings listed above mobilized a wide range of actors whose actions and interventions were very useful for understanding pastoralism, its environment and its evolution. These were also occasions when Fulani leaders performed, with the vision of modernizing and professionalizing pastoralism. During my stay, the pastoralist associations were involved in designing a strategic guidance document (DOS⁷²), with more diversified activities aimed at documenting the past of Fulani herders and planning for their future. I jumped at the chance to deepen my knowledge of the history of Fulani and to grasp the new directions of pastoralism in Benin.

⁷² Document d’Orientation Stratégique.

Observing pastoralism through Fulani leaders: An important aspect of pastoralism, namely, social networking and conflict resolution, was concealed in the everyday lives of Fulani leaders and could only be detected once I became more involved in their daily interactions. I regularly spent time with UCOPER leaders, as well as, some local representatives of GPERs, especially those of Fana-Peulh, Wara, Bagou and Wesseke. With the latter, I was able to see how Fulani herders complained about crop farmers and how conflicts were amicably settled at the local level. But when conflict resolution failed at the village level, or when the protagonist did not want to handle the problem with local leaders, the situation was transferred directly to the ANOPER president. The latter is called the “supreme commander” of the Fulani and his residence could be likened to a “Court”. I spent some of my afternoon in the courtyard of the president playing with some of his children and nephews. I first made friends with his eldest son, Seydou, who was one of the program facilitators of his father-led association. Through my regular visits with Seydou, I became closer to his father, with whom I spent several occasions talking informally about Fulani problems. I had the opportunity to interview his visitors and understand their discussion points. I also got to see how Fulani herders regularly filed their complaints and the responses they received from the president. I sometimes witnessed the many phone calls he received from Fulani pastoralists and other stakeholders on specific issues and actively followed the different arrangements that were made. Certain types of calls made him angry and my presence was an opportune moment for discussion between the two of us, with him seeking someone to confide in and me hungry for data for my analysis.⁷³ I witnessed firsthand the mediation of two “small conflicts”, one was between a herder and a farmer on crop damage and the other was between two Fulani families on embezzlement.⁷⁴ Other conflicts involving bloodshed were directly transferred to the police and taken over by the Legal Adviser of ANOPER. Without ever having had the opportunity to follow them, I sometimes came upon Fulani leaders who had been quickly mobilized to visit conflict hotbeds in other districts and provinces of the country. I often found myself in their wake to follow up the various comments and access the reports.

Observing pastoralism in markets: I observed the pastoralism of Gogounou in two kinds of markets: the weekly miscellaneous product market and the self-managed livestock market (MBA). On three occasions, I made short visits of one to two hours, to the regular market of Gogounou, and visited the markets in the villages of, for

⁷³ Thus, the annoying phone calls received by the Fulani leader provided me with unexpected data such as the people with whom he communicated in Fulfulde and the topics of their talks. This allowed me to have new informants, new investigative sites and new themes/sub-themes of discussion. The “irritating intrusion” of mobile phones in interpersonal communicative relationships (Pelckmans, 2009: 32), became advantageous in my ethnographic study. The mobile phone served, at times, as a “digital research assistant” (*ibid*).

⁷⁴ It was a marriage situation in which a young Fulani had paid the bride price for a Fulani girl who was later secretly given in marriage to someone else. The victim and his parents had taken action before the president of ANOPER.

example, Boro, Gounarou, Diadia, Sori, Bagou and Wara twice. I intended to see what the Fulani did in these markets. I saw the Fulani talk with kinsmen and friends. Some paraded into kiosks to charge the batteries of their mobile phones, buy recharge cards, mobile device accessories, electrical appliances or special music files. Others were eager to acquire agricultural implements, pesticides, motorbikes and accessories. Fulani pastoralists were also among buyers of drinks (coffee, alcoholic beverages, soft drinks), electronic equipment (video CD, DVD player, TV sets and alike) and building materials (corrugated roof iron, cement, paint, to name but a few). I often saw women strolling around the market stalls that displayed cooking utensils, beauty accessories or sometimes goods for sale (milk, cheese, craft products, etc.). I was able to get an in-depth picture of what the Fulani society in northern Benin had become and a clear understanding of the openness of the Fulani to “modernity”. In addition to my explorations of public markets, I also spent many long days (six to nine hours) observing the autonomous cattle market (MBA⁷⁵) of Gogounou. I focused mainly on the market organization, the origins of animals, the trading practices and other aspects, which I will not be detailing in this document.⁷⁶ While observing the processes through which an animal is sold and the behavior of different actors involved, I also took note of the immediate use made by some Fulani herders of their income after the sale of an animal. Some bought, for instance, motorbikes, cell phones, small ruminants, veterinary supplies or animal feed from vendors already available in the marketplace. Agricultural implements and pesticides, often exhibited at the livestock market, were also part of the products that attracted the Fulani pastoralists. I realised the importance of the market for Fulani herders with the overall transformation of pastoralism in the region. Participant observation was at the core of my field approach and it went hand-in-hand with interviews with various informants involved in my study. I will now give my readers an overview of the interviews.

Individual interviews

The second technique for collecting ethnographic data were the interviews I carried out alongside my observations. Both were complementary in terms of providing access to further information while avoiding misinterpretations. I focused a lot on biographical narratives about crop farming and pastoral practices and their inter-related dynamics in Gogounou. My objective was to allow local actors to spontaneously relate how they have experienced certain life processes and their own life (cf. Apitzsch and Siouti, 2007: 7ff.). I prompted Fulani pastoralists to describe how their life and activity had evolved over time. From their life histories, which were digitally recorded, I noted specific factors or benchmark moments that had marked their lives

⁷⁵ Marché à Betail Autogéré (MBA)

⁷⁶ Some details on the self-managed cattle market and the mini-dairy in Gogounou are not detailed in this document. I analyzed these as case studies in separate papers or a specific book addressing the technological innovations among Fulani in northern Benin.

and which required coping strategies. This same approach was also used with crop farmers who were asked to provide a clear picture of how their farming activities had evolved over time. This resulted in tracing production patterns, technological progress, land tenure trends and labor issues. All of the conversations were performed in the mother tongues of my interlocutors, and translated into French by my research assistant.

Another group of actors, with whom I could speak directly in French about specific issues, were Fulani leaders, extension workers and local and international partners. With Fulani leaders I had open-ended discussions on all of the pastoralists' problems, as well as, the management approach of the grassroots associations. I interviewed the leaders of the self-managed livestock market about the extent of pastoralist involvement in animal marketing. I asked extension workers questions on land use practices. I tried to gain a deeper view of the changes in land access, pasture and water availability and animal health care. The local foresters and the heads of the forest administration at the regional level provided me with extensive data that enabled me to grasp the economic and political dimensions of logging and grazing within forest and village lands in Gogounou. I addressed the farmer-herder conflicts with the Gogounou brigade commissioner, with the intention of understanding their evolution and their management. I conducted semi-structured interviews with agents of local NGOs and international donors listed above, to better understand their guiding logic, their support to pastoralist associations and their expectations. The real impacts of their interventions on herders were also assessed during these conversations. I also enjoyed having discussions with local government members about the extent of pastoralism in Gogounou as well as other issues regarding the political stances and the local development agenda. I ended up with a total of 164 individual interviews recorded during my fieldwork. The information received from individuals was reinforced by those from group discussions, as I will now present.

Focus group discussions

Twenty-one focus group discussions consisting of five to seventeen participants were organized, mainly with Fulani herders and Bariba farmers. The discussions with farmers in smaller groups of five to seven participants focussed mostly on specific technologies that somehow "revolutionized" farming practices. In the sessions on technologies, we addressed topics such as plow, draft ox, tractor, weed, herbicide, fertilizer, soil fertility and labor. Other sessions were devoted to local citizenship (autochthonous *versus* aliens), land tenure, logging and the sale of wood.

My group discussions in the cattle camps of Fulani herders were often more difficult to manage. There I preferred to carry out conversations in smaller groups, but this was often not possible because of the strong and rapid mobilization of Fulani. Even when I started with only four or five informants, the group often became larger with the addition of curious passers-by and visitors. Whenever I announced that I would hold a group discussion in the camps, it was often like a big ceremony where

I was received as an authority on pastoralist issues and given a variety of meals. With great expectations, Fulani herders looked at me as a project officer who could potentially solve some of their worries. The advent of mobile communication technologies, especially mobile phones, played a great role in making Fulani mobilization easier. Further details on this technological change are provided in Chapter 7. The downside of discussions in large groups was that they often became less interactive, particularly when some elders and leaders came to dominate the discussions. I later tried to avoid this by not announcing group discussions.⁷⁷

Despite the enthusiasm of the majority of herders to participate in such discussions, I also faced the disappointment of some who were tired of always being investigated by a myriad of researchers without any immediate impact on their living conditions. However, my meetings with the Fulani herders generally favored interactions that enabled access to in-depth information on different items. We deeply examined some topics such as *lekki fuddo* (herbicide), *kiisoowel* (chainsaw), *teetere leydi* (land grabbing), *buditol ledde* (woodcutting), *banjibanji* (logging), *guyka na'i* (livestock rustling), *potabu* (cell phone), *luumo* (market).

Finally, I organized two group discussions with the members of the technical unit of forest management in Zougou-Pantrossi. Two foresters, a tracker and two members of the local forest management committee (CTAF) were involved. In French, we discussed the “Trois-Rivières” forest, giving emphasis to its current state and the conditions for accessing it by socio-professional groups (crop farmers, pastoralists, etc.). The issues of logging and conflict were also covered. The information on logging practices was further deepened during a discussion with a group of three woodcutters I had the opportunity to meet resting under a neem tree in Zougou-Pantrossi village. While studying pastoralism through the practices of actors, I also realized that major changes had occurred in terms of the use of various forage species. It was then necessary to conduct a short ethnobotanical study to be presented in the next section.

Ethnobotanical investigation

The interest of anthropologists in plant biology is well established. This is in fact why Cotton (1997) in his edited volume *Ethnobotany: principles and applications* targeted them in a bid to shift them to modern ethnobotany. He also showed that the success of an ethnobotanical study has to do with its multidisciplinary approach where ethnographer and plant taxonomist complement each other (Cotton, 1997: 126). I tried to follow this principle, even though I was not directly supported by a plant specialist during data collection. My study had initially no botanical aim. However, it became important during my fieldwork to collect and identify some plant species useful in pastoralism as currently practiced in Gogounou. My ethnobotanical study aimed at knowing the ancient and newly-used species by the Fulani pastoralists, and

⁷⁷ All this could be seen as one of the shaping influences of mobile phone on anthropological research. Other aspects are found in Pelckmans (2009).

some endangered, extinct or invasive species. This ethnobotanical investigation was fully integrated into my field approach and was not carried out separately. It was not really a botanical “collection” as proposed by Martin (1995: 29f.), but a study based on anthropological methods as described below.

During individual and group interviews, Fulani herders regularly referred to the degradation or the loss of plant and fodder species that were typically used by animals. Similarly, they complained that some invasive species were more frequently found in poorer local rangelands and negatively impacted livestock. It was also common to hear some herders rejoicing that their cattle herds increasingly fed on plant species that had no use for them in the past. When various ligneous or herbaceous plant species were named during the interviews, they were systematically recorded and their Fulfulde names written down. Other questions like the location of such species, the link with pastoralism, the state of availability, the impact on animals, the alternative feedstuffs, etc., were also asked to the interviewees. More than an open-ended investigation, this “freelisting” (Quinlan, 2005; Bernard, 2006: 301ff.) allowed me to understand how the availability of certain plant species was strongly linked to being Fulani. The list proposed here is not to catalog the richness of the biological diversity of Gogounou, or exaggerate the loss. It is to simply show how the Fulani herders have found innovative ways to train their animals to get used to some species that are now more available than those they once depended on, but which have become less available.

When the Fulfulde names of plants were recorded with Fulani herders and samples collected, I personally looked for the scientific names. The *Flora of Benin* (De Souza, 2008) was used to identify the majority of the species. However, some species of which Fulfulde names were confusing and, those without scientific names available in the flora book, were identified by a Fulani botanist, Yacoubou Boni, also a program officer at APIDEV-NGO in Parakou. This taxonomist also confirmed and corrected the names of some plant species initially identified in De Souza’s flora book. Once the plants were identified and their scientific names known, I cross-checked the Fulfulde names with those I had received from my research assistants in order to replace any improvised Fulfulde names with authentic ones. This cross-checking of Fulfulde plant names was carried out with the support of Hibirou Souagou, a Gogounou native and Fulfulde literacy teacher at DERANA-NGO in Parakou.

Some plant species that are subject to human pressure (cultivation, logging and pastoralism) were listed by forest specialists. My key informants were the foresters of the technical unit of forest management (CTAF) of Zougou-Pantrossi, the Head of the regional forest office of Kandi and the Deputy-Head of the departmental forest administration of Parakou. Their information was also cross-checked with those in the forest management plans of the two state forests of Gogounou (MEPN, 2010a; 2010b). When studying humans and plants, I also took advantage of the remote sensing technologies and applied them to my research, as it appears hereinafter.

GIS and spatial data analysis

The use of geographic information systems (GIS) and spatial data analysis (SDA) has grown in social science research in recent decades. From a critical social theory perspective, some scholars have assumed that mapping and spatial analysis will transform social sciences, as did the statistical modeling approaches decades earlier (Harris and Weiner, 1996; Goodchild and Janelle, 2004). Anthropologists, like other social scientists, who have an unbridled passion for understanding the social and even physical environment in order to analyze the link with the behavior of social actors, have no more qualms about using GIS and related technologies (Okabe, 2006; Parker and Asencio, 2009).

Throughout an edited volume by Aldenderfer and Maschner (1996), *Anthropology, Space, and Geographic Information Systems*, several studies in America, Europe and Africa demonstrate the utility of GIS in analyzing complex interactions involving various ecological, political-economic and socio-cultural forces. In the article by Stonich (1996: 78ff.), for example, it appears that the use of informant interviews in anthropological inquiry and mapping through remotely sensed images can better educate on issues of land ownership and shifts in agricultural systems. Thus, reconciling small-scale and individual information and large-scale phenomena becomes important to explain a locally based problem. Without using sophisticated and complex manipulations of SDA and GIS tools, I used these methods in my research at three levels:

First, remotely sensed images were used for land use and land cover analysis. This consisted of inventories of ecological entities over time in order to value the changes. It was done using Landsat satellite imagery and aerial photographs acquired from the Center for National Remote Sensing and Forest Cover Monitoring (CENATEL⁷⁸) in Cotonou. Three years were considered (1982, 2002 and 2012) to compare the land cover dynamics over thirty years divided into two periods. The first period runs from 1982 to 2002 and the second one from 2002 to 2012. The purpose of this temporal subdivision was to better understand when the changes in land use and land cover were more significant. This enabled deduction of its influence on local pastoralism. I was supported by a specialist of CENATEL, Abou Adam, for processing and analyzing the spatial data on Gogounou. ArcGIS software was used and statistics on stable, regressing and progressing spatial units were generated.

Second, GIS was used for mapping the investigation sites (Figure 5.1). My goal was to cover a large part of Gogounou to understand the diversity in perceptions and strategies of Fulani herders. That is why all the camps and places where interviews were conducted were systematically geo-referenced with a handheld GPS (GPSMAP 62s). I personally extracted the points with MapSource software and constituted a database in Excel. This database was then transferred to a specialist cartographer, Rufin Aïssan, who supported me in drawing up my location maps. This was made

⁷⁸ Centre National de Télédétection et de Suivi Ecologique.

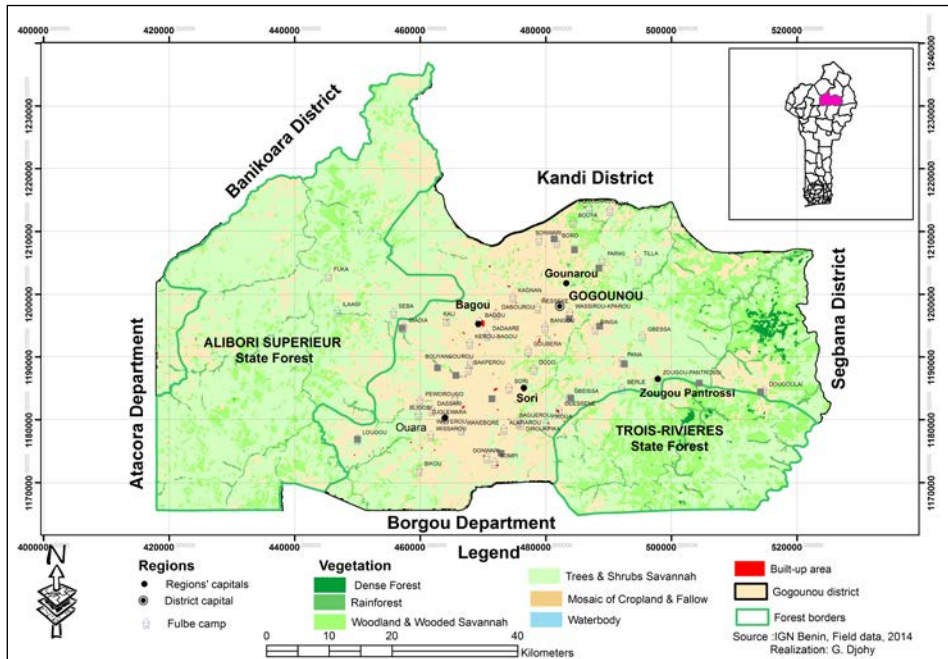


Figure 5.1: Investigation sites in Gogounou District

possible by placing the collected points on the topographic map background of the National Geographic Institute (IGN⁷⁹) of Benin through ArcGIS.

Third, GIS results were drawn upon for the presentation of the main destinations of Fulani emigrants. A list of various new destinations of the Fulani pastoralists of Gogounou was established from the individual and group interviews. A migration map was drawn up (cf. Chapter 7). I first designed a model as a Word file and the genuine map was made later in ArcGIS with support from the cartographer, Abou Adam.

Photography and videography

I had taken plenty of photos (about 3,800 items) and short videos (about 20 items) to show different real-life settings. These materials provide interesting views on farming activities, such as, land preparation, plowing, sowing, use of herbicide, residue burning and fire putting options. They also demonstrate livestock feeding and watering activities, involving daily mobility, long-range transhumance, and herds' grouping camps during dry season. Some technologies (forage cultivation, forage storage, ligneous forage conservation) were also captured in photo. Pictures were taken of the relics of homesteads of some Fulani herders who had permanently left

⁷⁹ Institut Géographique National.

Gogounou. The diversity of transport technologies is also shown through images. The self-managed livestock-marketing model is also covered, including images of the actors involved, market settings and selling dynamics. Finally, there are illustrations of pastoralist association meetings, etc.

Documentary research

The literature was collected and analyzed throughout my research stay in Benin. My research material dealt mainly with ecology, pastoralism, farming, market, Fulani associations, conflicts and technologies. The quantitative databases obtained were used to design diagrams inserted in the document to justify various trends (education, rainfall, crop production, livestock marketing, etc.). The qualitative data were integrated directly into my argument through content analysis. The sources of literature found in my bibliography were many.

Pastoralist associations: I collected many reports on specific activity, study and conflict with the three Fulani associations based in Gogounou (ANOPER, UDOPER B/A and UCOPER Gogounou). Some communication slides and videos were also accessed. The livestock market managing committee (ALGMB⁸⁰) provided me with a database on livestock marketing from 2003 to 2013. This provided the different trends in livestock sales and the market's contribution to the Fulani association budget, as well as, to that of the Gogounou authorities.

Local partners: I accessed databases from the extension services (CARDER Borgou/Alibori and SCDA Gogounou) on cultivated areas, production volumes and annual crop yields from 1996 to 2013. The SCDA Gogounou also provided me with a database of water resources in Gogounou used by pastoralists. I was able to access sequenced data on rainfall in parts of the district, but these data were replaced in my analysis by more complete data I got from the regional station of ASECNA in Kandi. The local NGOs (APIDEV and APIC) also contributed to my literature search. I was able to collect some reports on pastoralism. The Gogounou Municipality through its service of economic and trading affairs gave me an additional database on the contribution of livestock markets in the municipal budget. The local office of environment and nature protection (SCEPN⁸¹) granted me with copies of the participatory management plans of the two state forests of Gogounou. I obtained a database on the evolution of children's schooling from 2004 to 2014 from the local school board of Gogounou. The University programs like SIMPROMEAT-Benin (Faculty of Agricultural Sciences, University of Abomey-Calavi) and NICHE-Benin (Faculty of Agronomy, University of Parakou) gave me access to diagnostic reports on pastoralism in Gogounou.

International partners: The technical and financial partners such as SNV Parakou, DDC/UGP Parakou, GIZ/ZFD Parakou and FAO Cotonou, supplied me with vari-

⁸⁰ Association Locale de Gestion du Marché à Bétail Autogéré de Gogounou.

⁸¹ Section Communale de l'Environnement et de la Protection de la Nature.

ous documents. These are typically activity reports, study reports, partnership agreements, in connection with the promotion of the pastoral sector.

Other sources of documentation: During my fieldwork, I made documentary searches in three other documentation centers. I was able to access the INSAE⁸² (National Institute of Statistics and Economic Analysis) recent data on Gogounou population and specific statistics on Fulani herders in the region. I visited the documentation center of Kandi Municipality, as well as those of CARDER B/A in Parakou and the Ministry of Agriculture, Livestock and Fisheries (MAEP⁸³) in Cotonou. I was able to access general reports on pastoralism, agriculture, pesticides and livestock marketing. The livestock department of the MAEP in Cotonou provided me with annual reports from 2002 to 2012, and livestock statistical yearbooks from 2007 to 2011. I was able to access the private documentation of some students and specialists who worked on pastoralism in northern Benin in general and Gogounou in particular.

5.3 Summary on data collection and analysis

During my long ethnographic stay of ten months, I collected a vast amount of research material to address the socio-technological changes among Fulani pastoralists in Gogounou. My strongly flexible multi-sited and multi-method approach, as detailed above, could also be seen as an “itinerant ethnography” as conceptualized and used by Schein (2000: 26), who captured the politics of ethnicity, gender and nationalism among Miao minority in China, through a roving approach. As in the case of the author, there were many things that I had not planned at the beginning, but which had become inescapable in the good understanding of pastoralism in Benin. I seized every available opportunity to collect useful data.

By drawing on multiple data sources, including informants, I could cross-check the data and avoid any one individual as becoming the single holder of all the knowledge about the Fulani community or Gogounou society in general. Similarly, no single technique was enough in itself to access an unquestionably “true” version of the information I had gathered. The cross-checking of sources and, to some extent methods, indeed, falls under what Olivier de Sardan (2008: 79f.) refers to as “common sense” in ethnography. This common sense approach liberated me from being a prisoner of single informants or sources since it allowed for me to seek out contrasting discourses, rather than inflexibly and unthinkingly search for “truthful” information. All of my recorded interviews and group discussions were transcribed with “F4 software” (version 3.1.0), codified and saved as Word files. I benefited from the support of my younger brother, Gildas Louis Djohy, an undergraduate in Geography, to do this tedious task. But having abundant material does not mean that the analysis is complete, for field data do not “speak for themselves” (Bernard, 2006: 503f.). They

⁸² Institut National de la Statistique et de l'Analyse Economique.

⁸³ Ministère de l'Agriculture, de l'Élevage et de la Pêche.

must be given a meaning by the ethnographer himself, who is responsible for processing them, poring over them, sorting them out and producing an analysis (*ibid*). This is what I have tried to do. The generated texts were supported by the personal field notes and grouped under themes and sub-themes. This corpus of data was analyzed and used to feed my arguments throughout the document. Discourses, short descriptions, tables and charts were used for the production of scientific knowledge of an ethnographic kind. Despite these efforts, imperfections remain. I admit that some constraints stood in my path, and would have certainly influenced my research. The main limits of my field approach are presented below.

5.4 Constraints and limits of the research

It would be very presumptuous of me to claim to have covered all aspects of pastoralism in Gogounou and in northern Benin. The analyses included throughout this document are based on information that I was able to gather from different sources available during my fieldwork. Some constraints of ethnic, linguistic and financial order may have induced some biases.

Identity constraint: My belonging to an ethnic group from southern Benin especially “Fon” may have unknowingly played against me to some extent. It was conspicuous that a real friendship was established between Fulani pastoralists and me. I spent time talking with many of them, who often told me that they had missed me during the days that I was away and could not visit them. I had daily encounters in which people begged me to visit and talk to them. I was even nicknamed *danirawo Fulbe* or *pasijo Fulbe*.⁸⁴ Similarly, an utmost trust was established between Fulani leaders and me. Leaders were often stunned by the way in which I moved back and forth between farms, camps and forests studying pastoralism. They saw me differently from many students and consultants with whom they had worked in the past, and who preferred documenting data in the city. At some meetings to which many herders were invited, the ANOPER president commended my efforts. During a training workshop organized by SIMPROMEAT-Benin on forage cultivation, the ANOPER president, while showing me around, told the participants alternatively in Fulfulde and then in French: “*O wai like Pullo, o wai like horejo Fulbe*”⁸⁵.

If I was considered “Fulani”, “Fulani friend” or “Fulani patron” by Fulani pastoralists and leaders, I was also as much for local farmers. I was very surprised one day when a Bariba opinion leader embraced me from afar, shouting “*Batonu, sunon bi gogu non*”⁸⁶. This image that the two opposing groups in the area had made of me,

⁸⁴ “Friend of Fulani” or *pasijo* is synonymously used with *danirawo*, which means friend.

⁸⁵ “He has become Fulani, he has even become the patron of the Fulani” (*horejo*, which means “authority”), was sometimes use synonymously with *mawdo* and *nyinijo*, which refer all to the Head of the Fulani).

⁸⁶ “Bariba, son of the King of Gogounou”, meaning “Bariba, prince of Gogounou”.

each pulling me to his side, was a great factor in the collection of field data. However, this did not prevent some interlocutors from considering my true identity of *dakumejo* or *dahumegi*.⁸⁷ respectively, in Fulfulde and Batonu languages. Two kinds of stereotypes have followed me throughout my stay in Gogounou. For some, I was considered as an intelligent young man to be doing doctoral studies, especially in the country of “white people”. The visit of my “white supervisor”⁸⁸ in Gogounou was tangible proof of my powerful network. Thus, I confirmed the intelligence and the capability known for a *dakumejo*. My friendship with some of my interlocutors and my presence in their homesteads were regularly imputed to them as improving and internationalizing their own network.

For other people from my research site, I was nothing other than a crafty and wicked guy to have travelled through all of southern Benin to arrive at Gogounou for research. For them, my research could have had a hidden agenda. I would be remiss not to provide a glimpse of the kind of experiences that I had in the field. For example, during the middle of an interview that I was having with the King of Gogounou on Gogounou’s history and Fulani settlement, he suddenly turned to my assistant and asked him in Batonu: “*Madi wuninm boro wi una?*”⁸⁹ The latter replied: “*Dahume tem dina owee.*”⁹⁰ And the King added: “*N’bam bosira dahume wi u ka sun na mini, ma u wim tem deri ma?*”⁹¹ And my assistant replied again: “*Si wi kasu mon*

⁸⁷ These words, which refer broadly to the people of Dahomey (now Benin Republic), refer more particularly to the “Fon” people from Abomey (former capital of Dahomey kingdom); where I originally come from. For the boundary between “Dahomey” and “Fon”, see Law (1986). Dahomey (or Daxome in Fon language) was one of the most powerful kingdoms in Africa between the seventeenth and the late nineteenth centuries. Its prominence was related to Abomey kings who had conquered several neighboring territories along the coast and in the farther interior (Heywood and Thornton, 2009: 88). Dahomey was a “scene of organized struggles for power, of political alliances and deals, of dynasties and successions, and of political manipulation of trade, especially the slave trade” and an “absolutist warrior state devoted to ancestor worship, was endlessly engaged in aggressive warfare” (Bailyn, 2009: 12). The stereotypes built on the natives of Dahomey for a long time, equate them with “trickery” and “wickedness”, feeding a kind of hatred from other ethnic groups in the country. This legacy well used in political manipulations in the recent decades, makes it difficult for a Fon to be accepted by the other ethnic groups. For people of certain ethnic groups, the man of Abomey is simply a devil, an evil genius and should not be considered a human being (Agossou, 2001). These kinds of ethno-regionalist and tribalist stereotypes that exist in both North and South of Benin somehow feed the ethnic solidarity which is the preferred means of mobilizing the electorate in the struggle for power conquest and ruling (*ibid*).

⁸⁸ My main German supervisor (Prof. Dr. Nikolaus Schareika) visited me during my fieldwork in Gogounou on 19–24 March 2014.

⁸⁹ “Where does your friend come from?” This question, which meant, “What is the origin of your friend?” showed that the King was looking for more details about my true identity. Although I had already briefly presented myself to the King before the interview, I did not go into details about my origin. The answer of my assistant also confirms my interpretation.

⁹⁰ “He comes from Dahomey” or, more literally, “Dahomey is his homeland”.

⁹¹ “What is an Abomey native doing here leaving behind his own land?”

naa yera so."⁹² When I realized that I was temporarily excluded from the discussion, I subtly asked my assistant to explain to me what was being said. When I understood that the discussion was about my ethnic background, I decided not to turn a deaf ear, but to talk about it and make the atmosphere more relaxed. I then explained to His Majesty that I was no longer just a "southerner", but my marriage with a Bariba woman had already made me a full member of this ethnic group. Very surprised that I was married to a Bariba woman, he smiled, and jokingly said: "*Nin bi wa ama su e mi! wi a ko kpın u behe dema ho kpo kpın onu gari dera sia.*"⁹³ We all laughed and I was able to revive the interview. This dialogue, which seemed playful, finds its very sense in the Benin democratic context of ethnic cleavages and regionalist differences often sharpened in political manipulations (cf. Agossou, 2001). Like His Majesty, the Bariba King of Gogounou, other people from my field sites might have also stereotyped me in one way or another. This might not have completely nullified the difference that I had seriously tried to avoid between my informants and myself.

The fact that I was completing my study in Germany was also variously interpreted by the development agencies that were already supporting pastoralists in Benin. As I was told once by a worker of an international development agency in Parakou, the German development cooperation had invested very little in pastoralism in Benin in recent decades. Therefore, I might be, for the other international partners, a German spy assigned to explore the pastoralist sector in order to offer my funders ideas for future development projects. I felt as though I was sometimes mistaken as a competitor, even if the Fulani association leaders liked very much this form of competition between donors, through which they expand their financing networks, as I examine later on in Chapter 8.

Linguistic constraint: My inability to speak Fulfulde and Batonu languages hindered direct conversation with some interlocutors, especially pastoralists and crop farmers. I had used a trilingual research assistant, Aboubakar Amadou, who was more accustomed to censuses and more rapid consultations. The ethnographic study that I was doing was the first in his life. Everything seemed boring and redundant to him in the very beginning, despite our time agreeing on preparations. I felt his fatigue and impatience. Sometimes he wanted me to avoid repeating questions, to which we already had answers, and to move on to new issues that we had not yet discussed. Abou, as he was commonly called, preferred that I shorten our discussions so I could release him earlier. He wanted to pursue other economic and political opportunities. As a young independent undergraduate, he was faced with many self-supporting issues. He even got married during my stay in Gogounou and his marital as well as financial charges increased. While the compensation⁹⁴ that I gave him was

⁹² "He is seeking information related to animals".

⁹³ "You even married my daughter! It is she who will betray our tradition (or our secrets)".

⁹⁴ I was paying Abou, 80,000 CFA francs (US\$ 160) per month. This monthly pay corresponded to slightly less than twice the monthly salary of a worker in Benin (all categories combined). The minimum wage rate per month gross is 31,652 CFA francs (US\$ 63). The median net hourly wage of

sufficient for this kind of work, it did not make up for his other responsibilities. I was forced to give him time to farm or attend political meetings for which he had at least received a per diem.

Despite the Abou's absences and the regular readjustments induced in my work schedule, the strong friendship that developed between us over time made it easy to catch up on lost time. Abou and I cooked and ate together, and we shared the same bed in a flat that I had rented in Gogounou. This was possible since his wife worked in Kandi and returned to Gogounou only on the weekends. We reached the point of also sharing confidential matters with each other. This helped limit the manipulations he was often susceptible to *vis-à-vis* his "friend researcher". My trustworthy relationship with Abou was much inspired by the experience of Sascha Kessler (a German doctoral researcher) and Lucien Tentaga (a Beninese research assistant), who used their commonalities and differences as opportunities to approach the field (Kessler and Tentaga, 2013). The behavior of some actors and the manipulation of my research assistant by some players were important clues that helped me to understand many issues related to the situation of pastoralism in Gogounou. Therefore, we were able to reduce the biases on the data and their interpretation.

Another challenge in using young Fulani as research assistants was to be able to minimise their politically motivated actions during the period of fieldwork. Fulani youth were prepared to take advantage of my status as well as my materials in order to feed their local political clientage. The situation was worse during my time in the field when several elections (local, municipal and legislative) were imminent in Benin. The young educated Fulani are often courted by many politicians who seek to use them to win the electorate of Fulani pastoralists, or position them on lists of political parties in some areas to weaken their political enemies. I have had different experiences during my two data collection phases. With Sanda Aboubakar, whom I used as interpreter during my exploratory research, my status as a doctoral student, my coming from Germany and my field materials (recorder, camera, GPS) were all useful to him. He claimed that he wanted to solve the problems of the Fulani and develop his region. His ambition to run in the local elections in the region of Zougou-Pantrossi and his desire to meet my requirements often placed him in ambiguous and uncomfortable positions.

This socio-political positioning of research auxiliaries between two worlds (society and researcher) is often seen in anthropology as important for data collection and analysis. The research assistants are active rather than passive, having their agency and pursuing their own agenda (Powdermaker, 1966; Lather, 1988; Tomaselli *et al.* 2008; Kessler and Tentaga, 2013). After my experience with Sanda, I sought to limit the biases by seeking an assistant outside Gogounou, but my efforts in this

a worker in Benin (all categories combined) is 214 CFA francs; and the usual average working week is 57 hours in 5.8 days (cf. Besamusca *et al.* 2013).

regard were unsuccessful.⁹⁵ I ended up recruiting Abou for the long-term fieldwork, but my experience with him had revealed other forms of positioning of the research assistant towards his employer-researcher and his own society.

Abou, who is one of the school-educated young Fulani of his village (Boro), had a great influence locally. He knew exactly how to mobilize supporters and was the kind of henchman liked by politicians. My research assistant was often courted by many politicians and would perform other plans during our investigation time. Some Fulani leaders, who also had ambitions to run in the municipal and parliamentary elections, often asked him to make contacts in the camps in order to make the upcoming campaigns more successful. He would regularly list Fulani camps and make key contacts to help improve the campaign strategies of some politicians (including some Fulani leaders) to win the elections.

Six months after my return to Germany, Abou was positioned on the list of the ruling political alliance in Benin to enter the Gogounou Municipal Council, but he did not succeed. This overview of young educated Fulani in Gogounou, who were not only political brokers in the making, but research assistants, precedes my analysis on development brokerage in which Fulani intellectuals were involved in transforming and modernizing pastoralism and pastoralists. Researchers must care about providing fair remuneration and developing flexible field approach, when using the services of these young Fulani that also offer another face of the transformation underway in pastoral areas in northern Benin.

Financial constraint: My fieldwork benefited from limited funding, but also restricted my analysis to several local cases. A larger sample and more quantitative data for statistical purposes would have been useful for studying certain phenomena (e.g. tree cutting, involvement of youth in the informal marketing of pesticides, involvement of officials in farming, herbicide use for land control, etc.). However, this was not possible for logistical reasons and prevented the extension of the study to the district of Malanville as originally planned. To do this, I would have required more research assistants and thus more financial means to complete the investigation. This constraint may have induced some methodological bias and thus influenced the interpretation of some data. It can sometimes seem a bit exaggerated in my analysis to generalize certain observed phenomena. However, I was able to limit this weakness in two ways. First, I visited other districts like Kandi, Bembéréké, N'Dali and Nikki where I was able to carry out some direct observations and converse with some local people on what was happening in those regions about the pastoralism. Second, I launched a debate on the online discussion forum "AgriProFocus Benin"⁹⁶ about informal marketing and the abundant use of herbicides in northern Benin and their

⁹⁵ Sir Amadou Bani Yero from Bembéréké District, with whom I had agreed to work several months prior to my arrival, finally withdrew to find a job in southern Benin.

⁹⁶ AgriProFocus is an online platform where farmer organizations, NGOs workers, researchers and agricultural entrepreneurs in thirteen countries meet and debate on all issues related to agro-pastoral family farms. I used the section on Benin (AgriProFocus Benin) to launch the discussion on herbicide use in connection with pastoralism in northern Benin. I launched the discussion on 20 March 2015

implications for pastoralism. The comments and cases raised by the participants on this internet-based consultation⁹⁷ corroborated my arguments in this document. In sum, the three aforementioned constraints have influenced my study. However, my knowledge of the area since 2008 and my strong integration into the local communities enabled me to develop strategies to avoid or mitigate any negative effects on my data and analysis.

5.5 Conclusion

Throughout this chapter, I have presented my itinerant field approach and the different techniques used to collect and analyze my data. I have also outlined several constraints that could be linked to potential biases in the arguments made in this document. Finally, I have explained the strategies that I used to reduce those biases.

In the chapters that follow, I will present the main findings of my ethnographic experience. I begin by showing the “crisis” of pastoralism through the land control and the dwindling of livestock feed resources in Gogounou (Chapter 6). I will then present how individual pastoralists address the shortage of resources (Chapter 7) and I will finalize my arguments by examining the strategies used by the pastoralist associations and their leaders to find solutions to the problems of pastoralists (Chapter 8).

and closed it on 29 March 2015, after successful interventions from five participants. For details, see: <http://agriprofocus.com/search?keyword=Georges+Djohy> (last accessed 10/12/17).

⁹⁷ The internet (and other communication technologies) is one of the many opportunities available to anthropologists nowadays. For other possibilities, see Bernard (2006: 254ff.).

6 Being pastoralists in a globalized world

Technological revolution, land use change and social exclusion in Gogounou

This chapter presents and analyzes the land use situation in Gogounou District over the past three decades. The different pathways for economic development, food security and sustainable natural resource management by the Government have some negative influences on pastoralism, especially in terms of land and access to resources. The state development policies supported by various other local, national and international actors have ultimately enabled crop farmers to consolidate their power over land at the expense of Fulani pastoralists. Cash cropping, logging, tree planting and land individualization are all powerful weapons in the hands of crop farming communities, which use them to better control land. There was a form of rangeland acquisition through various forms of territorialization detrimental to Fulani pastoralists who face huge difficulties in accessing pasture. Here, I argue that technologies promoted within the framework of rural development policies create imbalances in power relations between actors, and fuel multidimensional processes of territorialization, resulting in rangeland reduction. In the next section, I begin by mapping the land cover and land use in Gogounou during the last three decades. I will then present the socio-economic and political dynamics that explain the dwindling of pastoral resources through the use of remote sensing technologies.

6.1 Land use and land cover change in Gogounou from 1982 to 2012

The GIS-based spatial diachronic analysis of land use and land cover change in Gogounou (Figure 6.1) shows a subtle regression of open forests and wooded savannahs. From 85,060 ha in 1982, they have deteriorated by 0.53% and 1.11%, and were respectively, 82,430 ha in 2002 and 76,994 ha in 2012. Trees and shrubs savannahs have decreased from 337,827 ha in 1982 to 236,392 ha in 2002 and to 197,893 ha in 2012. The mosaics of croplands and fallow lands have increased altogether from 58,754 ha in 1982 to 160,188 ha in 2002 (20.54%) and to 199,364 ha in 2012 (7.94%). The built-up area, which was 297 ha in 1982, also increased over time. It became 1012 ha in 2002 and then 4472 ha in 2012 with, respectively, 0.14% and 0.71% as growth rates. The plantations covered a total area of 405 ha in 1982; but they increased respectively by 0.39% and 0.27% during the two sub-periods. Their area became 2345 ha in 2002 and increased to 3672 ha in 2012. In summary, the overall pattern of change in Gogounou has been the expansion of the various spatial units. Residential spaces, crop areas, grasslands and plantation areas have undergone significant change over the period concerned (Table 6.1).

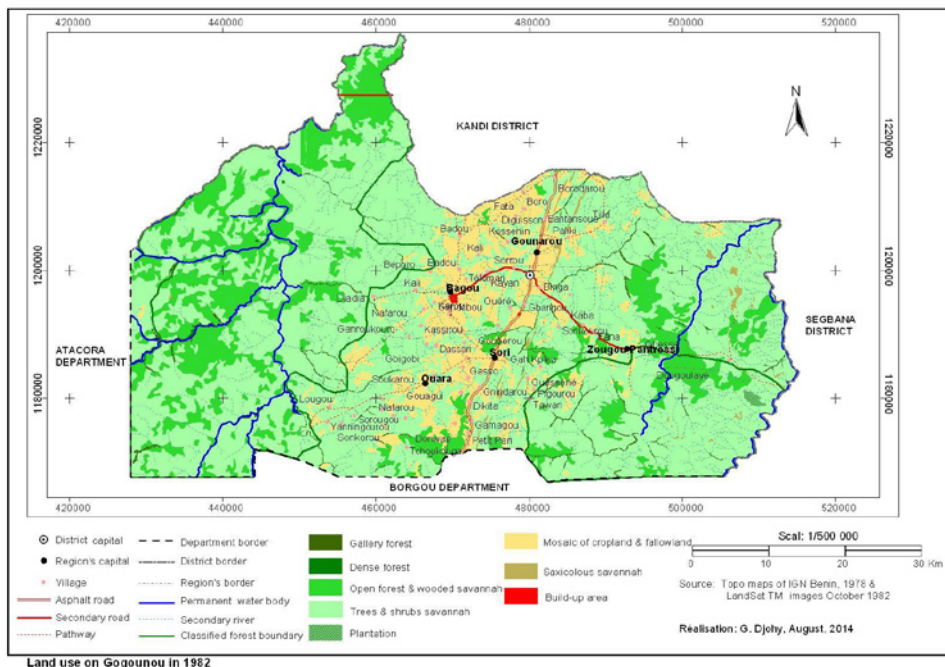


Figure 6.1: Land use and land cover changes in Gogounou (1982–2012) / part 1

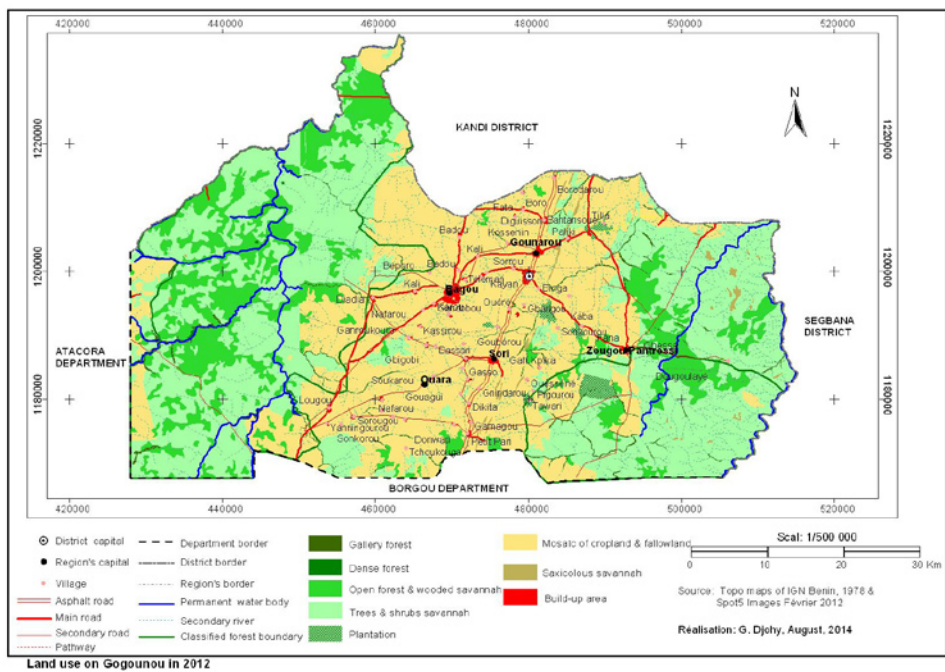
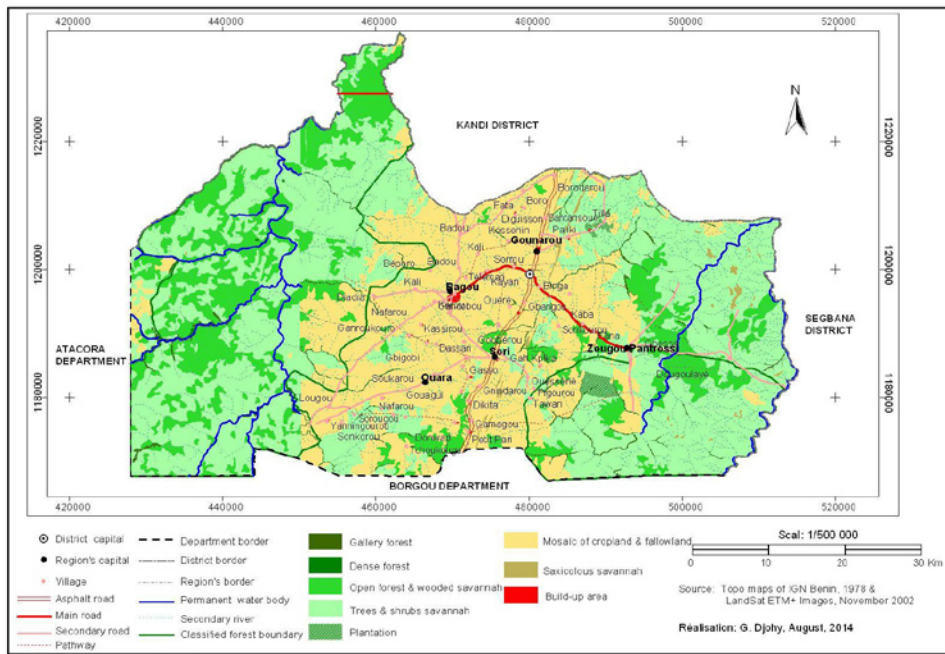


Figure 6.1: Land use and land cover changes in Gogounou (1982–2012) / part 2

Table 6.1: Area change through land use in Gogounou (1982–2012)

Land Cover and Use	Area 1982 (ha)	Area 2012 (ha)	Change (ha) 1982–2012	Change (%) 1982–2012	Observation
Built-up area	297	4472	+4175	+0.85	Increase
Dense forest	108	104	–4	–0.01	Decrease
Open forest & wooded savannah	85060	76994	–8066	–1.64	Decrease
Mosaic of cropland & fallowland	58754	199364	+140610	+28.48	Increase
Gallery forest	9082	9034	–48	–0.01	Decrease
Plantation	405	3672	+3267	+0.66	Increase
Trees & shrubs savannah	337827	197893	–139934	–28.34	Decrease
Saxicolous savannah	2203	2203	0	0	Stability

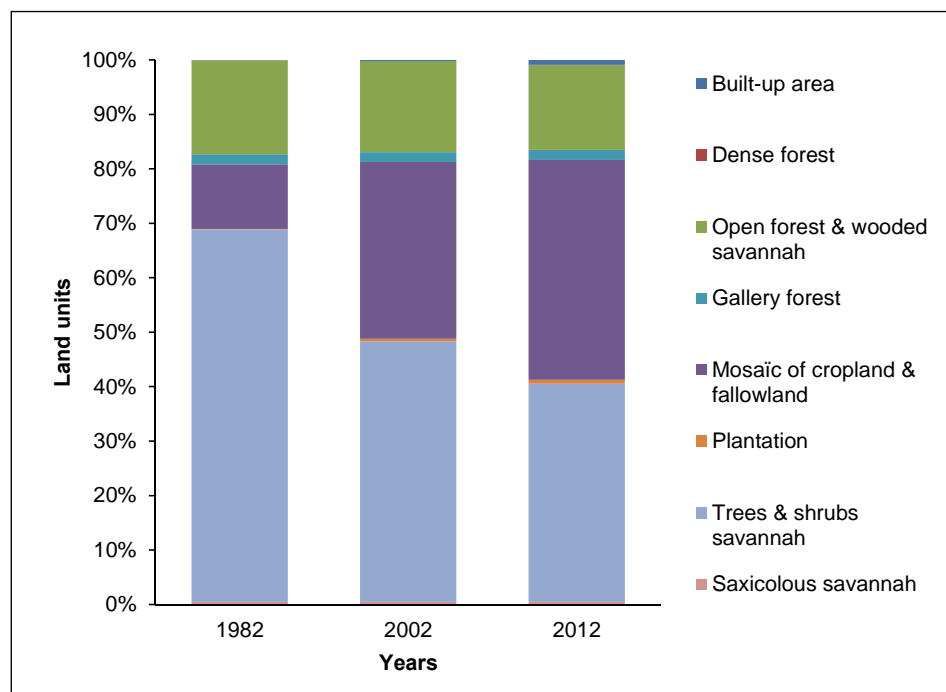


Figure 6.2: Distribution of land cover patterns in Gogounou (1982–2012)

The area of Gogounou has experienced growth in agricultural settlement. There was a dramatic increase in the amount of land used for cropping and fallowing. This expansion occurred through a continuous clearance of the savannah, which has decreased almost in the same proportion. Part of the destroyed trees and shrubs savannah was reverted into plantations, as it appears more conspicuously in Figure 6.2.

6.2 The hidden political ecology of rangeland reduction in Gogounou

After a technical or geospatial understanding of land use and land cover changes in Gogounou in recent decades, it is now important to link people to the pixels.⁹⁸ I will begin by presenting the demographic changes in Gogounou. The government policies and their implications at the local level will then be discussed, as well as the reinterpretations made by local actors who have access to various technologies.

Local population growth in Gogounou

Population growth is among one of the leading factors often indexed in most analyses of ecological dynamics in relation to pastoralism (cf. Hardin, 1968; Ostrom, 1990). When looking at the local trend, the population of Gogounou District has more than quadrupled in thirty years (Table 6.2). The total number of inhabitants, which was 27,830 during the first general population census of 1979 (RGPH⁹⁹), increased to 117,793 according to preliminary results from the fourth census in 2013 (INSAE, 2013a: 4). The most recent growth rate of the local population was 3.50%, practically equivalent to that of the whole country over the same period (2002–2013). The Gogounou population has, however, increased to a lesser extent than in other districts in the same region, since the growth rate of Alibori Province was 4.64% between 2002 and 2013. This demographic explosion implies an increasing land demand for both settlement and farming. It is an undoubted reality, but not enough to explain alone the whole observed spatial occupation trend. The disappearance of rangelands in Gogounou District is more easily understood when looking closely at the various rural economies in place: the cotton economy, the grain economy, the wood economy and, finally, the growing plantation economy. I will now turn to the government agricultural policies, the local crop economies and the power relations that undermine the pastoral practices in Gogounou.

⁹⁸ “People and pixels” is the main heading of a book by Liverman *et al.* (1998) to link remote sensing and social science. “People” refers to the socio-political landscape and “pixels” to the image-based geospatial technologies. I am referring here to the idea of merging remote sensing and socio-anthropological analysis. As McCusker and Weiner (2003) put it, the remotely sensed images are representations not only of nature but also of hidden socio-political realities (hidden political ecologies), and more social analysis is needed to better explain the uncovered underlying social processes.

⁹⁹ Recensement Général de la Population et de l’Habitation.

Table 6.2: Demographic change in Gogounou (1979–2013)¹⁰⁰

Area	Population						
	Total 1979	Growth rate 1979–1992	Total 1992	Growth rate 1992–2002	Total 2002	Growth rate 2002–2013	Total 2013
Gogounou District	27,830	4.28%	50,045	4.80%	80,013	3.50%	117,793
Alibori Province	213,078	3.73%	355,950	3.88%	521,093	4.64%	868,046
Benin Republic	3,331,210	2.82%	4,915,555	3.25%	6,769,914	3.51%	9,983,884

Agricultural mechanization and territorialization by farm extensification

As stated by Bryant and Bailey (1997: 57) regarding other Third World countries, the Republic of Benin is also part of the smaller and economically vulnerable countries due to its heavy dependence on export of few products. The cotton sector remains the biggest contributor to the national economy, which fluctuates according to the rhythm of production during the annual agricultural campaign. It is the basis of the agro-industry, accounting for about 60% of local industry. In 2009, the cotton sector contributed 13% to the GDP in terms of value added. The cotton production also contributed 45% to the domestic income (taxes and treasury) and was the primary source of income for Benin (MEF, 2010). Given its importance, priority is always given to the cotton sector. Nothing prevents cotton production and nobody can afford to destroy a cotton field because of a land dispute, animal grazing or forest conservation. In the political discourse, cotton farmers deserve special attention from the Government, since their commodity is source of foreign currency for the country and contributes to the growth of the national economy. The President of the Republic himself and various Ministers of his Government campaign each year across the country, moving from one district to another within the northern cotton basin to motivate farmers to increase their cotton acreages.

In addition to cotton, which occupies this privileged place in economic growth and development efforts, recent upsurges in agricultural diversification and food sovereignty of African nations have also fueled the promotion of grains and perennial crops, which have become very important in Benin's agricultural policy (cf. PSRSA/MAEP, 2011).

¹⁰⁰ Source: Adapted from INSAE (2013a: 4).

Farm machinery appropriation and land issues

The Government of Benin began to actively promote the mechanization of agriculture in 2006. The National Council for Agricultural Mechanization (CNMA¹⁰¹) and the Agency for Agricultural Mechanization Development (ADMA¹⁰²) were created for this purpose (PSRSA/MAEP, 2011: 31). Individual farmers who could not afford farm machinery grouped themselves into Cooperatives for Farm Machinery Use (CUMAs¹⁰³). The CUMA model was designed to promote a shared mechanization by a group of farmers who could access farm machinery with greatly reduced individual usage costs and by sharing the maintenance charges. This also reduces their reliance on costly imported tractor services, improves their access to knowledge and information and increases their bargaining power with market actors and decision-makers (CTA, 2011; Balse *et al.* 2015a; 2015b). More practically, accessing farm machineries through a CUMA enables a farmer to plow one hectare of land in only four hours rather than four days, as required by draft power, or eight to ten days by hoeing (CUMA-Benin, 2010).

The CUMAs were initiated in 1995 in Borgou-Alibori region by the French Farmers and International Development (AFDI¹⁰⁴) and the Departmental Federation of CUMA Dordogne in France¹⁰⁵. It was part of a North-South transfer of technology intended to improve the performance of small family farms. The first experience was made in Bembéréké District (about 65 km from Gogounou) through the Program for Professionalization of Agriculture in Benin (PPAB¹⁰⁶) endowed with funding from the French Development Agency (AFD¹⁰⁷). A CUMA is composed of about 10 members; and equipped with a 30–60/70hp tractor, a plow and a 3-ton trailer (Balse *et al.* 2015a: 6; Balse *et al.* 2015b: 6), requiring a total budget of 10 million CFA francs. Benin Government chose the CUMA model as key element to make the country an “agricultural power”. This vision was clearly defined in different policy documents such as the Document of National Strategy for Agricultural Mechanization (DSNMA¹⁰⁸) in 2005 and the Strategic Plan for Agricultural Sector Development (PSRSA¹⁰⁹) in 2006 (PSRSA/MAEP, 2011). This led in 2007 to the setting up of the Program for the Promotion of Agricultural Mechanization (PPMA¹¹⁰). About 300 tractors were distributed throughout the country as part of this program. The beneficiaries were individual farmers, farmer groups, agricultural education centers

¹⁰¹ Conseil National de Mécanisation Agricole.

¹⁰² Agence de Développement de la Mécanisation Agricole.

¹⁰³ Coopérative d'Utilisation de Matériels Agricoles.

¹⁰⁴ Agriculteurs Français et Développement International.

¹⁰⁵ Fédération Départementale des CUMA Dordogne (France).

¹⁰⁶ Programme de Professionnalisation de l'Agriculture Béninoise.

¹⁰⁷ Agence Française de Développement.

¹⁰⁸ Document de la Stratégie Nationale de Mécanisation Agricole.

¹⁰⁹ Plan Stratégique de Relance du Secteur Agricole.

¹¹⁰ Programme de Promotion de la Mécanisation Agricole.



Photo 6.1: Tractor use in crop farming in Gogounou

and various youth groups enrolled through the Special Program for Youth Integration in Agriculture (PSIJA¹¹¹) (Saizonou, 2009). The tractors are subsidized by 50% of the real price and the payment is spread over four years. A 60hp tractor is sold to the CUMAs for 6 million CFA francs and a 30hp tractor for 4.5 million CFA francs. The first portion of 20% is payable when collecting the machines, 30% in each of the second and third years, and, finally, 20% in the fourth year (*ibid*).

The number of CUMAs has increased considerably over time across the country. There were about 109 active CUMAs in the Borgou-Alibori Region in 2010, being referred to as the Regional Union of CUMAs in Borgou and Alibori Provinces (UR-CUMA B/A¹¹²). The URCUMA Borgou-Alibori mobilized about 953 farmers who cultivated altogether 10,112 ha in 2010 (CUMA-Benin, 2015). The other regions of the country also made progress in this way and the rate of agricultural mechanization was estimated at 17% in 2010, compared to 1% in 2006 (Agro-Benin, 2011). The process of machine exchange between CUMAs, the individual tractor acquisition and the availability of tractor service delivery promoted the integration of tractors in agricultural practices in various parts of Benin. This enabled an increase in the cultivated areas in some regions (Saizonou, 2009; Gibigaye *et al.* 2010, Balse *et al.* 2015a; 2015b). Balse *et al.* (2015b) found that the members of CUMAs in Benin increased

¹¹¹ Programme Spécial d'Insertion des Jeunes dans l'Agriculture.

¹¹² Union Régionale des CUMAs du Borgou-Alibori.

their crop areas 3.5 fold on average, 1.2 fold minimum and 6.4 fold maximum. In an information sheet disseminated in 2014 by the network of CUMAs in Benin, the agricultural performance of the CUMAs and their members was well explained:

The CUMA: a tool for sustainable development of Benin agriculture
 The CUMAs enabled:
 An increase in area cultivated by their members
 An increase in yields through better-quality plowing
 An increase in farmers' incomes
 An increase in school enrolment of children
 Investments within agricultural holdings
 An overall improvement of the living conditions of the CUMA member farmers and their families. (CUMA-Benin, 2014)¹¹³

The district of Gogounou did not remain on the sidelines of such agricultural “modernization” (Photo 6.1). Aside from the individually acquired tractors, and those of farmer cooperatives, the local authority invested in three tractors for service delivery. By 7 April 2014, fifteen CUMAs had been created in Gogounou and nine of them were equipped by the PPMA¹¹⁴. These local machines were supplemented by other tractors from neighboring districts and countries offering plow services within Borgou and Alibori Provinces, and, more specifically, in Gogounou. Another important aspect of this agricultural modernization policy is the Program for Youth Integration in Agriculture, which recruits and installs youth groups in different upland and lowland areas granted by the district authorities. In Gogounou, two groups involving about 115 young farmers occupy about 170 ha of land for agriculture.¹¹⁵ Their holdings are dedicated to maize and rice production. This kind of free installation of young people on lands they do not own, inevitably leads to strong dynamics around arable and pastoral areas (cf. Amoussou and Sagbohan, 2010: 11f.).¹¹⁶

¹¹³ I have translated it from its original French version.

¹¹⁴ At least 19 farms in Gogounou received machinery through the PPMA (cf. Ligan-Topanou *et al.* 2015).

¹¹⁵ There is a group of 100 youths in Bagou village for rice production on 160 hectares, and a group of fifteen youths who produce maize in Dougoulaye village on ten hectares of land (TSAGR, SCDA-Gogounou, 19/08/15).

¹¹⁶ The authors have shown that the granting of land by the State through these kinds of programs, in collaboration with decentralized authorities, to anyone with the ability and willingness to farm, has led to unprecedented territorial dynamics over land. In the Niger valley in Malanville District, for example, more than 9,000 youths (30% women) benefited from this agricultural integration initiative (Amoussou and Sagbohan, 2010: 12).

Labor shortage and territorialization by tractor

The adoption of agricultural machinery has been accompanied by serious labor challenges. It has the merit of reducing child labor, which was commonly involved in tedious operations such as plowing with hoes and draft animals. However, it generates a large labor deficit due to the extensive rather than intensive strategy that governs its use by local farmers (Balse *et al.* 2015a; 2015b). The savings in time and labor through tractor plowing – plowing being almost the only farm activity performed by a tractor – are constantly reinvested by farmers who continually increase their crop areas. Additional manpower is then necessary to cover other farm operations and achieve the objective of good agricultural performance. For CUMA members, for example, the average person would have farmed 1.7 ha in the past, but must now take care of 4.2 ha, despite the external labor often sought to fill the gap (cf. Balse *et al.* 2015b: 12). This labor issue has become even greater, since it was also aggravated by the higher school enrolment of children, the result of significant education policy efforts by the Government, with support from international development agencies.

Based on various regional and international commitments, the Government of Benin adopted a policy paper for education in 2005. This policy document was strengthened later by the Growth Strategy for Poverty Reduction (SCR¹¹⁷), which issued the political will of improving the human capital of the country by giving special priority to the “promotion of an education system for development” (SCR, 2010: 112ff.). This led to the adoption of the Decennial Plan for Education Sector Development (PDDSE¹¹⁸), supported by international partners. Since 2006, the “Education for All” policy also promotes free primary education for all children and free secondary education for girls, followed by various sensitization, advocacy and support measures. This has resulted in increased numbers of students at these two education levels (Zerah and Fontaine, 2012).

This education trend at the national level is also visible in Gogounou, where child enrolment in primary schools has increased by more than 147% between 2000 and 2014 (Figure 6.3). The total number of schoolchildren increased from 5,718 in 2000–2001 (46% female), to 14,132 (53% female) in 2013–2014. Several local NGOs and international organizations, e.g. DANIDA, UNDP, UNICEF, WFP/FAO,¹¹⁹ contributed by providing support to families in the form of food, uniforms, school supplies, etc. This improvement in the child education rate also impacted the availability of labor within rural households, where mechanization is an undeniable reality related to the increase in crop areas. Another labor-saving technology that has become accessible to many farmers is the use of chemical herbicides that are infor-

¹¹⁷ Stratégie de Croissance pour la Réduction de la Pauvreté.

¹¹⁸ Plan Décennal de Développement du Secteur de l'Éducation.

¹¹⁹ Danish International Development Agency (DANIDA); United Nations Development Program (UNDP); United Nations Children's Fund (UNICEF); World Food Program (WFP) of the United Nations Food and Agriculture Organization (FAO).

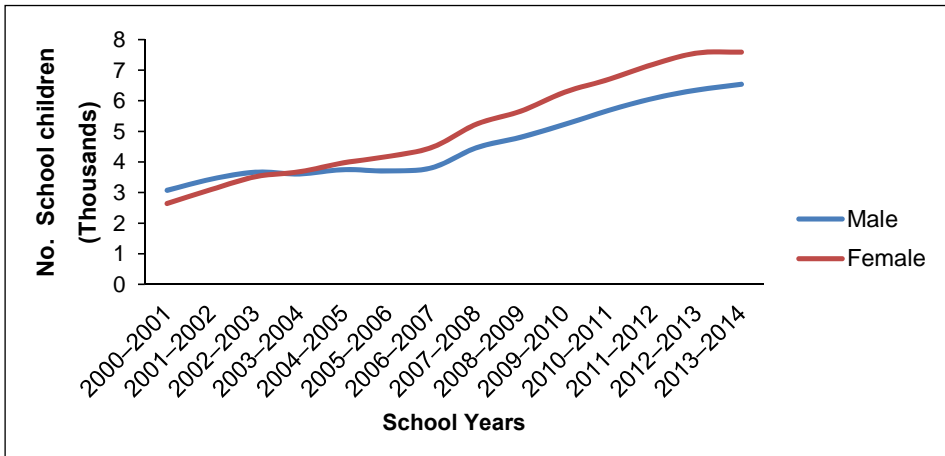


Figure 6.3: The changing numbers of schoolchildren in Gogounou from 2000 to 2014¹²⁰

mally supplied by local operators. Now, I will present how agricultural input supply has become an informal business in Benin, and how the adoption of herbicides has become a threat to pastoralism in Gogounou District.

Agricultural reforms, de-liberalization and territorialization through herbicide use

In the 1980s, the Government of Benin had a monopoly on the cotton sector, supplying seeds and inputs, providing training and advisory services, buying the production, ginning and exporting the cotton fiber, etc. As a result of the liberalization process started during the 1992–93 agricultural campaign, the input supply market was gradually granted to private actors (private importers-distributors) working in partnership with the Government through the public agricultural promotion and extension services (CTA, 2008: 3). The Inter-professional Cotton Association (AIC¹²¹) created in 1999 was in charge of critical functions in the cotton sector: cotton research, seed production, input supply, training and supervision of producers, quality control of cotton seed, fiber grading and road maintenance (*ibid*: 5). The inputs (fertilizers and pesticides) were provided by the businesses at a single price arranged with the Government, which strictly controlled the sector. This input policy was made up of three different components. First, the cotton inputs benefited from an import duty-free regime, while those of other crops were automatically charged import taxes. Second, cotton inputs were sold to farmers at highly subsidized prices.¹²² Finally, cotton inputs were supplied on credit to farmers according to their holdings and the

¹²⁰ Source: From Gogounou School Board's database.

¹²¹ Association Interprofessionnelle du Coton (AIC).

¹²² The input subsidy could reach 75% in 1970, but the implementation of structural adjustment programs reduced it to 50% in 1983–84 and to 0% in 1988–89 (cf. Kherallah *et al.* 2001: 8f).

costs systematically deducted from their income after commercialization (Kherallah *et al.* 2001: 8). Through this process, the sector was relatively well controlled by the Government, which hindered inroads from unlawful traders and unapproved private firms (*ibid.*: 12f.).

The conflicts of interest between ginners, the regular protests of input suppliers against the procurement process and the cleavage within the single grassroots farmer organization in 2003 resulted in parallel input supply channels going out of control (Gbeffo, 2012: 22). The Government in 2006 intervened to resolve these difficulties through the establishment of national councils for each professional group involved in the cotton sector (farmers, inputs suppliers and ginners). The informal input flows were relatively controlled until 2007, when the Government initiated a series of reforms to improve the contribution of cotton to the economy. The Decree No. 2007-238 of 31 May 2007 on the definition and organization of the transitional management framework for the cotton sector repealed all the earlier acts, including the Decree No. 99-537 of 17 November 1999 on the transfer to the private sector of the responsibility of organizing consultations for the supply of agricultural inputs, and the Decree No. 2005-41 of 2 February 2005, which laid down the Framework Agreement between the Government and the inter-branch organization of the cotton sector. These reforms were perceived by private-sector actors as Government interference in a liberalized sector, and this led to a major conflict between the two groups. As a result, the liberalization acts were unilaterally cancelled by the Government (CTA, 2008; Meenink, 2013a).

This complete breakdown in the public-private partnership meant that the Government took over the cotton sector again. The powerful economic operators who were controlling the sector confronted the Government, making it difficult to supply inputs to farmers (cf. Dossoumou, 2012). The slow formal market – managed by the public agricultural promotion and extension services (CAIA, CARDER, SONAPRA, etc.)¹²³ – was overtaken by informal flows of inputs out of Government control, rapidly developed by private businesses (cf. Meenink, 2013b:67). Farmers were supplied more quickly with pesticides for all types of crops and at very cheap prices. These chemicals, generally branded “Made in China”, are illegally imported from Nigeria and Ghana and directly dumped without any environmental controls onto the cotton basin of northern Benin through its various border routes. Alongside the roads, in villages and marketplaces, such products have become highly accessible, especially given the possibility of credit arrangements. With 2,000–4,000 CFA francs, farmers can access one liter of herbicide, almost the same product offered through the formal market at 5,000–8,000 CFA francs. The Government, which wants, at all costs, cotton as well as grains to be abundantly produced to ensure economic growth and food security, was unable to control the input supply and banish the informal market as was previously the case prior to the reforms and their related conflicts. This

¹²³ Centrale d’Achat des Intrants Agricoles (CAIA), Centre Agricole Régional pour le Développement Rural (CARDER), Société Nationale de Promotion Agricole (SONAPRA).

ubiquitous availability of agricultural pesticides has completely changed local farm practices, as I explain below.

Weeding technology and change in farm practices

For farmers in Gogounou, herbicide is one of the most important innovations that have revolutionized farming practices over the last decades. This is not to say that herbicides did not exist in the region before, but they had never been as accessible to farmers. Chemicals for weeding were introduced into Benin agriculture in the early 1980s. The first pre-extension tests dated back to 1979, when different products with weed-killing effects on cotton, maize, sorghum and peanut production were experienced across the country (cf. Atachi, 1979). This initial step in promoting herbicides was jointly made with other tropical countries of francophone sub-Saharan Africa in order to face the labor shortages challenging hand-weeding, creating a bottleneck in the cropping calendar (Gaborel and Fadoegnon, 1991; Marnotte, 1994). Since then, the use of herbicides increased mostly in cotton production due not only to the aforementioned input policy which targets cotton farmers, but also to the higher costs that non-cotton farmers could not afford to pay in cash. It is a fact that many cotton farmers diverted those products for use in their own food crops areas, or sold them off to their peers – which affected cotton yields (Kherallah *et al.* 2001: 16). However, the recent propagation of herbicides and the designed purchase facilities by sellers provide greater flexibility to farmers, who acquire these products in abundance not only for production purposes, but also to take control over the land.

According to the farmers, draft animals and tractors were the most remarkable innovations that preceded herbicides in Gogounou District. The advent of herbicides is therefore portrayed as the third milestone in local crop farming that brought it to a turning point in its history. The policy of the Government, oriented toward increasing the volume and price of cotton and the growth of the maize sector, justifies the choice of the farmers. On the one hand, they are increasingly involved in cotton production to meet the will of the Government. On the other hand, they have also increased maize production volumes to satisfy not only the expanding local market, but also the flourishing recent export market that makes the sector more attractive. Zato, a farmer in his eighties with the largest farmland in Zougou-Pantrossi Region, presented the agricultural trends from the 1960s onwards (Table 6.3), and Yarou, a farmer in his forties with the largest farmland in Boro village, shared his agricultural profile, showing the influence of herbicides on land occupation and farming activities (Table 6.4).

Closer monitoring of farm work reveals significant changes in the technical itineraries of the main crops grown in Gogounou District. I present here only the case of maize to show how the adoption of herbicides has changed the agricultural practices and the relations of rural actors to the land (Photo 6.2). I consider only the main cultivation operations from soil preparation up to the packaging of the grains to be

Table 6.3: Agricultural trends in Gogounou from the 1960s to date

Periods	Benchmarks	Main features
1960s	Before and during the term of President Hubert Maga	<ul style="list-style-type: none"> – Agriculture with rudimentary tools – Agriculture for subsistence (no craze for money, no commercial exchange) – Farming activities carried out by family (domestic agricultural assets, family labor) – Land available and fertile, but low acreages (less than 3ha) per family – Food crops essentially (millet, sorghum, maize, beans, groundnuts, sesame, yam) with predominance of intercropping – No use of chemical fertilizers, but good returns – Lush vegetation and a lot of rain during the rainy season – Water bodies abundant and permanent – No land troubles
1970s–1980	During the term of President Mathieu Kérékou 1 (Revolution times)	<ul style="list-style-type: none"> – Introduction of animal traction in agriculture – Introduction of cotton production – Small-scale adoption of fertilizers and insecticides – Increase in family crop acreage up to 10 ha – Limitation of intercropping and early practice of monoculture – Massive destruction of trees for agricultural purposes – Start of disruption and disorganization of rainfall and rainy season – No apparent or bloody land conflicts
1990–2005	From President Nicéphore Soglo term to the two terms of President Mathieu Kérékou 2	<ul style="list-style-type: none"> – Introduction of agricultural mechanization (promotion of tractors, cultivators, etc.) – Increase of family and individual acreages up to 30 ha – Remarkable population growth – Emergence then decline of cotton sector due to input quality, debts to the farmers and conflicts within farmer organizations – Proliferation of land disputes and violent land conflicts

Table 6.3: Agricultural trends in Gogounou from the 1960s to date / continued

Periods	Benchmarks	Main features
2006– 2014	During the terms of President Boni Yayi	<ul style="list-style-type: none"> – Facilitation of tractor access for all farmers through the agricultural mechanization program – Upturn in cotton sector first, then decline due to input quality, conflicts between the Government and the private operators holding the sector – Increase afterward in cotton price by the Government, but difficulty in accessing agricultural inputs – Emergence of maize sector and increase in prices due to exports – Development of informal inputs (especially herbicides) supply sector – Huge increase in individual maize and cotton acreages up to 50–100 ha – Illegal tree felling within state forests and on village lands – More remarkable variations in rainfall and rainy seasons – Movement of Fulani herders to the south and to the neighboring countries – Resurgence of violent land conflicts

sold on the market, without going into detail about possible differences at the individual level.

The former way of cropping maize included land preparation, plowing, sowing, hand-weeding (with weeding hoe) and/or ridge-weeding (with draft animals), fertilization, harvesting, shelling, packaging and handling/transportation. By contrast, the “modern,” technical route of maize production, chemicals are used for all weed-related activities. The use of herbicides has significantly relieved the manual soil-preparation activities, which currently involve spraying non-selective products on grassy plots to be plowed directly thereafter. The tedious time-consuming and labor-demanding hand-weeding is mostly replaced by easier herbicide-based weeding. Some farmers also adopt no-till farming, which is becoming common practice and offers great potential for labor saving and area expansion. Depending on their effects on grasses, crops and soils, farmers distinguish between three types of herbicides called *Kpake*, *Tangil Yangatime* and *Dame* in Batonu language.¹²⁴

¹²⁴ Some of these names are in Batonu language (*Kpake*, *Tangi*, *Yangatime*); and others, like *Dame*, are adapted from the French language.

Table 6.4: Agricultural profile of Yarou, a farmer in Gogounou

Periods	Main features	Crops and acreages
Years of dependency		
1969 (before 20 years old)	<ul style="list-style-type: none"> – Participation in family farming activities – Use of hoes for farming activities – Manual weeding – Low fertilizer and pesticide use – Family labor predominance – Land availability with good fertility – First family plow oxen purchase – First wife dowry payment and wedding celebration 	<ul style="list-style-type: none"> Cotton 1 ha Sorghum 2–3 ha Maize 0.5 ha Yam 1 ha
First years of independence, with cotton production option		
1989 (For 5 years)	<ul style="list-style-type: none"> – Empowerment and self decision-making and management – Land availability and relatively good soil fertility – Buying of the first own pair of plow oxen – First experience with cotton selective herbicides 	<ul style="list-style-type: none"> Cotton 7 ha Maize 3.5 ha
1994 (For 10 years)	<ul style="list-style-type: none"> – Purchase of other pairs of draft animals, plows and a modern seeder – Pleasure with cotton sector (quality inputs supply, rapid payout, kickback motivation, non-existence of conflicts) – First time using of tractor service – Further experiences with cotton selective herbicides 	<ul style="list-style-type: none"> Cotton 15 ha Maize 3 ha
Period of cotton and maize balancing		
2004 (For 4 years)	<ul style="list-style-type: none"> – Emergence of problems within cotton sector (poor-quality inputs, debts to the farmers, conflicts between actors) – Use of conventional cotton fertilizers and pesticides (insecticides and herbicides) – First experience in using herbicides for maize production 	<ul style="list-style-type: none"> Cotton 10 ha Maize 10 ha

Table 6.4: Agricultural profile of Yarou, a farmer in Gogounou / continued

Periods	Main features	Crops and acreages
Period of maize production option		
2008 (For 5 years)	<ul style="list-style-type: none"> – Schooling of children – Emergence and good pricing of maize sector – Development of informal market for pesticides (especially herbicides) – Increase in herbicide use in food crop production 	<ul style="list-style-type: none"> Cotton 2 ha Maize 18 ha
2013 (Since 1 year)	<ul style="list-style-type: none"> – Taking back land that the parents had granted to friends – Increase in herbicide use in maize cropping 	<ul style="list-style-type: none"> Cotton 00 ha Maize 27 ha
After 2014 (In the foreseeable future)	<ul style="list-style-type: none"> – Credit taking with savings and loans institutions – Purchase of agricultural lands in N'Dali District (costing 200,000 CFA francs/ha) – Purchase of own tractor and other modern agricultural equipment – Specialization in maize production with acreage and production volume increasing 	<ul style="list-style-type: none"> Cotton 00 ha Maize 127 ha

Kpake (meaning burning product): These are non-selective field-clearing herbicides used to prepare land by weeding out all types of vegetation. Their role is to “burn” everything as stated in the name that is given to them. They include different glyphosate-based herbicides having industrial names of Kalach, Sharp, Herbextra, etc.

Yangatime or *Tangi* (meaning selecting product): These are selective pre-emergence weed-killers used to control specific crop weeds (in maize, cotton, rice, yam, etc.) or particular types of weeds. For maize, farmers used to use herbicides with the names Amino-force, Atraforce (also called *Bogoumbo* in Batonu), Bic (also called *Somboure* in Batonu), Hervextra, Heabesta, etc. They are thought to have dual weed-killing and soil-fertilizing functions. This conceptualization is due to two main factors. Firstly, cropland treated only with herbicide, but without any application of fertilizers is supposed to have almost the same yield than a cropland weeded with a hoe or draft animals and sprayed with fertilizers. The application of fertilizers is sometimes considered unnecessary after the use of certain types of selective herbicides. Secondly, some herbicides are in the form of flour and farmers interpret them

as having the same role as fertilizers.¹²⁵ By using such herbicides, they believed they could solve the problem of weed competition and improve their overall crop performance.

Dame (meaning soil-compacting product): These are usually systemic herbicides used for their anti-germinative effects on weeds. They are applied just after sowing to prevent the sown fields from early weedy species at the expense of the main crop. Some post-emergence selective herbicides are sometimes placed in this category. The most important factor here is their action on the soil, which becomes unsuitable for the rapid emergence of weeds to compete with the crops. They are thought to have a compacting effect on soil over an average of 40 days, thus facilitating crop growth in the early weeks. This category includes mainly Atraz50FW, known by farmers as also having fertilizing effects.

These perceptions about chemical weed killers govern various farm practices that may vary from one farmer to another. Modern farmers in Gogounou are those who use not only the tractor for plowing, but also strongly incorporate herbicides in their farming practices. And when one is a good user of herbicides, three key factors can influence the agricultural performance: the type of crop (maize, cotton and so on), the type of soil (new or old land) and the type of plowing (hoe, draft animals or tractor-based plowing or no-till sowing).

Type of crop: Cotton for example requires more care than maize. Additional hand-weeding or herbicide spraying could be done by farmers to increase yields. The cotton field needs more care in terms of cleaning activities, and some operations such as harvesting are more expensive than in the case of maize. Farmers rarely practice no-till cotton because they perceive it as risky for cotton productivity. Furthermore, it is not allowed by the extension services, which can prevent them from receiving input credit if they do this. As the attention is lower in the maize sector, the no-till practice is fairly common in maize cropping. Maize crops are not subject to insecticide treatments for controlling pests and parasites, as is usually the case with cotton.

Type of land: Two types of land are distinguished: *Tem kpa* (new land) and *Tem toko* (old land). The new farmlands are fallow lands used for farming purposes for less than three years. They are characterized essentially by relatively high fertility and low susceptibility to weeds, but require more physical, material and financial effort for soil preparation (tree cutting, stump clearing, etc). The old farmland soils are those that are cultivated for more than three years, are relatively poor and where the weed attack is fast, heavy and oppressive to the main crop. Plowing, especially with tractors, as well as no-till seeding technique are easier on old farmland because the land is cleaner and does not need the removal of tree stumps.

Type of plowing: Tractor-based plowing is deeper, relatively more expensive, but more productive with the same level of care. Hoe-plowing is in essence equal to the draft-animal plowing in terms of cost and seeding easiness. Seeding in tractor plow-

¹²⁵ I have not checked whether herbicides are actually fertilizers at the same time. The perceptions and practices of actors were more important to me during my fieldwork.



Photo 6.2: Herbicide application for land preparation in Gogounou

ing is more demanding in terms of time and skills. Seeding on no-tilled lands is the most expensive. For each crop, yields may depend on which combination is used (tilling method and land type), without including the effects of weeding methods.

Short-term profitability of herbicide-based agriculture

From a comparative perspective, I present here the short-term profitability of herbicide use as seen by farmers themselves in maize production in both former and new farming systems (Tables 6.5. and 6.6). The costs of farming tasks are estimated in terms of the technical process through which the crop is managed. Only the most important farming tasks are considered: land preparation, plowing, seeding, weeding, fertilization, harvesting, shelling, packaging and handling/transportation.

In light of the assessments presented in Tables 6.5 and 6.6, herbicides have the advantage, at least in the short term, of partly addressing the problem of labor shortage. Weeding, which is one of the most important farming activities, is achieved with less difficulty. In the end, the farmer who uses these chemicals earns at least 35,000 CFA francs (US\$ 70)¹²⁶ more per hectare of cultivated land than the farmer who has not used them. This is a short-term advantage sought by all farmers and justifies

¹²⁶ 1 US\$ = 500 CFA francs.

Table 6.5: Maize farming without weeding chemicals

Activities	Average cost/ha (CFA franc)	Description of costs
Land preparation	15,000	This is an essentially domestic operation. Cutting trees and shrubs, stump clearing and burning crop residues and brush are done by the farmer and his family members. However, some may hire wage labor. The cost of preparing a new fallow land is estimated at 20,000 CFA francs/ha while an old field takes about 10,000 CFA francs/ha to be prepared.
Plowing	27,500	Plowing costs 25,000–30,000 CFA francs/ha regardless of the agricultural tools used (hoe, draft animals or tractor).
Seeding	10,000	Seeding costs 8,000 CFA francs, 10,000 CFA francs and 12,000 CFA francs/ha when the plowing is done by hoe, plow or tractor, respectively.
First hand-weeding	11,000	The first hand-weeding costs 10,000–12,000 CFA francs/ha.
Mineral fertilization	32,000	Farmers use an average of two bags of fertilizer (NPK and urea) for fertilizing one hectare of maize. The bag costs 10,000 CFA francs. Fertilizer application labor costs 12,000 CFA francs/ha.
Second hand-weeding	11,000	The second hand-weeding costs as much as the first one, meaning about 10,000–12,000 CFA francs/ha.
Third hand-weeding	11,000	The third hand-weeding costs as much as each of the previous two: about 10,000–12,000 CFA francs/ha.
Harvesting	12,000	Harvesting maize costs 12,000 CFA francs/ha.
Shelling	11,250	Simple maize shelling costs about 400 CFA francs per bag of 100 kg, but shelling coupled with husking demands 500 CFA francs. 25 bags of 100kg are harvested on average per hectare.
Packaging	8,000	Packaging costs 300 CFA francs per bag of 100kg. For 25 bags obtained per hectare, farmers need 7,500 CFA francs. Additional 500 CFA francs are needed for binding wire.
Handling/transportation	30,000	Loading and unloading a 100kg bag of maize cost 200 CFA francs, so 5,000 CFA francs for 25 bags. Conveying from farm to storage or trading place requires an average of 1,000 CFA francs per bag, so 25,000 CFA francs for 25 bags.
Marketing	412,500	The 100kg bag of maize is sold at 8,000 CFA francs minimum and 25,000 CFA francs maximum, so an average of 16,500 CFA francs per bag.
Profit	233,750	One hectare of hand-weeded maize cropping demands 178,750 CFA francs and the product is sold for 412,500 CFA francs.

Table 6.6: Maize farming with weeding chemicals

Activities	Average cost/ha (FCFA)	Description of charges
First herbicide spraying (<i>Kpake</i> herbicide)	7,750	One liter of non-selective herbicide costing 2,500–3,000FCFA is used for one hectare. Additional 5,000 CFA francs per hectare are committed for arranging trees and stumps before plowing.
Plowing	27,500	Plowing costs 25,000–30,000 CFA francs per hectare regardless of the agricultural machinery used (hoe, draft animals or tractor).
Seeding	10,000	Seeding costs 8,000 CFA francs, 10,000 CFA francs and 12,000 CFA francs per hectare when the plowing is done by hoe, draft animals or tractor, respectively.
Second herbicide spraying (<i>Tangi</i> and/or <i>Dame</i>)	2,750	One liter per hectare of selective herbicide or a half-liter of selective herbicide with a half-liter of non-selective soil compacting herbicide for 2,500–3,000 CFA francs/ha.
Third herbicide spraying (<i>Tangi</i>)	2,750	Selective herbicide spraying is done at an interval of 15–45 days depending on the farmer, the type of soil, the main crop's growth and the weed attack. This step can be replaced or not by ridging-weeding with draft animals.
Mineral fertilization	32,000	Farmers use an average of two bags of fertilizer (NPK and urea) for fertilizing one hectare of maize. The bag costs 10,000 CFA francs. Fertilizer application labor costs 12,000 CFA francs/ha.
Harvesting	12,000	Harvesting maize costs 12,000 CFA francs/ha.
Shelling	11,250	Simple maize shelling costs about 400 CFA francs per bag of 100kg, but shelling coupled with husking demands 500 CFA francs. 25 bags of 100kg are harvested on average per hectare.
Packaging	8,000	Packaging costs 300 CFA francs per bag of 100kg. For 25 bags obtained per hectare, farmers need 7,500 CFA francs. Additional 500 CFA francs are needed for binding wire.
Handling/transportation	30,000	Loading and unloading a 100kg bag of maize cost 200 CFA francs, so 5,000 CFA francs for 25 bags. Conveying from farm to storage or trading place requires an average of 1,000 CFA francs per bag viz. 25,000 CFA francs for 25 bags.
Marketing	412,500	The 100kg bag of maize is sold at 8,000 CFA francs minimum and 25,000 CFA francs maximum, so an average of 16,500 CFA francs per bag.
Profit	268,500	One hectare of herbicide-weeded maize cropping demands 144,000 CFA francs and the product is sold for 412,500 CFA francs.

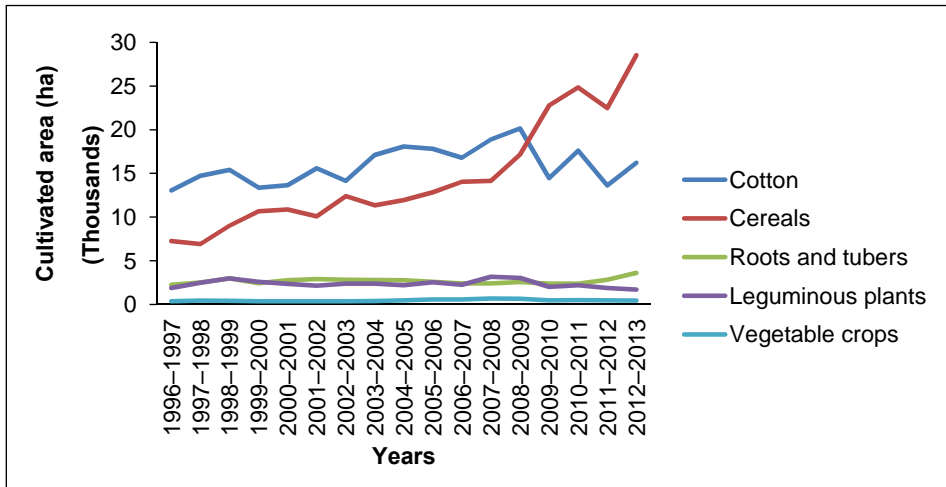


Figure 6.4: Evolution of crop areas in Gogounou from 1996 to 2013¹²⁷

the expansion of these products across Gogounou. The farmers regard herbicides as having helped to facilitate the education of children, since they alleviate the need for labor. This positive correlation between technological change and children's schooling in northern Benin was also established by Baco (2008: 11).

As cotton and maize receive special attention from the state agricultural policy – the former is for export and the latter is for food security – most farmers increase their acreages and the production of both. With successive crises in the cotton sector, priority is given however to maize cropping. This interest in maize production also increased with the growing exports to neighboring countries, which raises speculation on prices during certain periods of the year. Through improved varieties (white and mostly yellow) and higher production across northern regions, the maize locally produced in Benin has become highly profitable and competitive within the West African sub-region (cf. Baco *et al.* 2009; Diallo *et al.* 2012). Figure 6.4 shows the changes in areas of major crops in Gogounou District from 1996 to 2013.

Cotton (*Gossypium sp*) was by far the first cash crop in Gogounou. Its acreage has changed significantly from 1996 until the 2008–09 agricultural campaign, when the situation was reversed by a craze for grain production. The area covered by cotton, while still large, records an unsteady trend thereafter.

Cereal production has skyrocketed in recent decades. The cultivated area of cereals quadrupled between 1996 and 2013, rising from 7,258 ha to 28,525 ha. The main cereals planted are maize (*Zea mays*), sorghum (*Sorghum bicolor*), millet (*Pennisetum glaucum*) and rice (*Oryza sativa*). Maize is the top-priority cereal in Gogounou. Its area has increased fivefold from 4,454 ha in 1996 to 22,686 ha in 2013. Maize is followed by rice, which quadrupled in area from 338 ha in 1996

¹²⁷ Source: From CARDER B/A database (2014).

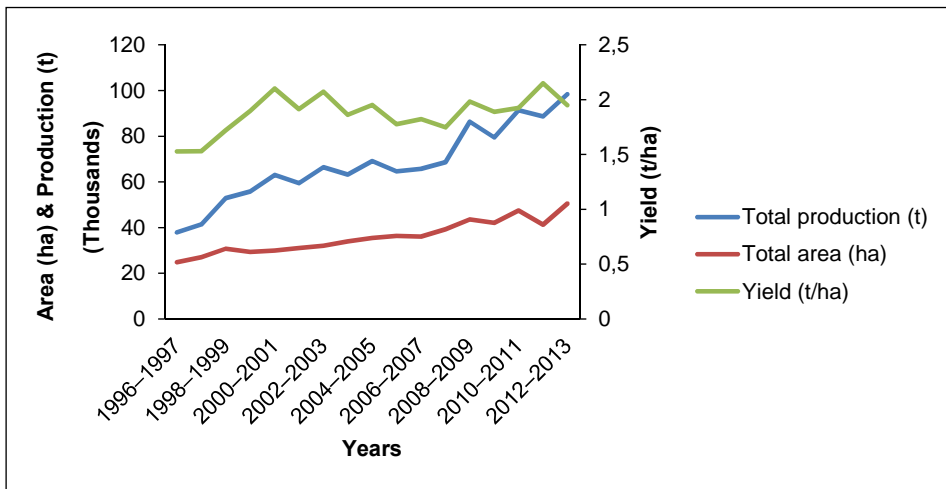


Figure 6.5: Evolution of total crop areas, products and yields from 1996 to 2013¹²⁸

to 1,258 ha in 2013. This implies a high exploitation of wetlands for agricultural purposes. Sorghum doubled in area with an annual average of 3,541 ha. The area of millet remained almost constant over the period, with an annual average of 123 ha. Maize and rice are two crops that contributed to the enormous increase in cereal area in Gogounou District.

The roots and tubers, being cassava (*Manihot esculenta*), yam (*Dioscorea spp*) and sweet potato (*Ipomœa batatas*), covered almost constantly an average of 2,664 ha per year over the period. This is also the trend in leguminous crops, being cowpea (*Vigna unguiculata*), groundnut (*Arachis hypogaea*), voandzou (*Vigna subterrianea*) and soybean (*Glycine max*), whose cultivated area averaged 2,358 ha from 1996 to 2013. The main vegetables produced in Gogounou are okra (*Abelmoschus esculentus*), pepper (*Capsicum annuum ssp*), tomato (*Solanum lycopersicum*), sesame (*Sesamum indicum*) and squash (*Cucurbita spp*). Their annual area averages 457 ha and remains almost stable over the period under consideration.

In summary, there has been an expansion of cotton cultivation and much more in grain production during the last decades in Gogounou. The other crops have relatively stable areas or have experienced a less remarkable increase over the period. In all cases, no crop in Gogounou District has significantly decreased in area. This partly explains the intense pressure on land and the impact on grassland availability observed. The increasing trend taking place is even more evident in the evolution of production per unit of land (Figure 6.5).

Figure 6.5 shows a continued increase in the total cultivated area from 1996 to 2013. The total annual crop area has practically doubled in seventeen years from 24,783 ha to 50,475 ha. The total production (all crops together) has also evolved

¹²⁸ Source: From CARDER B/A database (2014).

from 37,842 tons in 1996 to 98,375 tons in 2013. Despite this increase in both total cultivated area and total production, the yield has not significantly improved. The average annual yield is invariably equal to two tons per hectare over the whole period. This observable land-use trend, in which the value of product per land unit does not significantly improve despite a doubling of the total cultivated area over time, could be referred to as agricultural extensification. This was possible thanks to the access of farmers to the different technologies presented above, especially tractors and pesticides. The use of non-selective and selective herbicides has become alarming with regard to high pollution pressure and challenge to the agro-ecological sustainability of family farms (cf. Ligan-Topanou *et al.* 2015: 134). I will show in the next section the informal system through which farmers gain access to herbicides and the main trajectories of its appropriation by them.

Contraband trade and chemical flows in Gogounou

The informal herbicide market has become very dynamic in recent years in Gogounou District, as in other cotton-growing areas of northern Benin. The import is done by traders or economic operators who cross borders with their products to be locally retailed. The large scale of this contraband could raise doubt as to the unawareness of border authorities and government officials. In all cases, there are currently no worries for those who are engaged in such cross-border trade. As my informants often repeated, they are experts in legally crossing borders with illegal products.

The largest wholesalers located in neighboring districts of Gogounou (N'Dali, Kandi or Bembéréké) supply and control the retail trade sector. Some importers with smaller capital also live locally in Gogounou. When the products from Nigeria or Ghana eventually make their way to Gogounou, they are sold on credit to semi-wholesalers or retailers who are responsible for distribution to farmers. Many schoolchildren and undergraduate students were also involved. They were mostly semi-wholesalers or retailers in local marketplaces, along the streets, across villages and hamlets and even at home. This was the case of Idrissou, a young undergraduate in Geography who took advantage of the herbicide marketing opportunity to develop his own business. He is supplied by another young, unemployed Bachelor in Marketing and Management student from the University of Parakou. The latter is a semi-wholesaler coached by his uncle, a trader and importer of pesticides from Ghana, living in N'Dali District. Hundreds of herbicide boxes received on credit are sold for cash or distributed on credit to loyal customers like Idrissou, who goes through several local marketplaces and villages to sell his products in order to be in good standing with his supplier at the end of the week.

The herbicide distribution chain is a flourishing business to all actors involved. Mr. "3212" is an importer from Ghana and Nigeria with a financial capital of about three million CFA francs. He delivers his products on credit to semi-wholesalers for 22,000–25,000 CFA francs per box keeping twelve containers of one liter. The semi-wholesalers supply retailers at 25,000–29,000 CFA francs per box and earn

about 4,000 CFA francs per box sold. A container of herbicide costs 2,500–3,000 CFA francs from the retailers who recover 30,000–36,000 CFA francs per box. This activity procures finally 5,000–6,500 CFA francs to every retailer per box. The fairly dynamic young retailers like Idrissou sell an average of five boxes each week, yielding 25,000 CFA francs per week and therefore 100,000 CFA francs per month.

Within the context of growing youth unemployment, this business makes powerful actors on the ground.¹²⁹ The youth unemployment rate in Benin increased to 14% in 2012 from only 1% in 2001, while the youth underemployment rate ran to 70% in 2013 from about 50% in 2011. More than 150,000 young people join the labor market each year and 20% of them do not hold qualifications (INSAE, 2013b). The flourishing informal business of pesticide supply seems to be one of the most successful jobs for some of the youth who leave the cities to return to their villages. But the weeding chemicals distributed to farmers are appropriated, reinterpreted and used for land control and also to contest the land occupied by Fulani pastoralists, as will become evident in the following section.

New farmers, land dynamics and pastoralism in Gogounou

The ease of farming with various adopted technologies and the perceived profitability cause the intrusion of new actors in agriculture. Some unusual actors have come to increasingly make a place for themselves in the “modern” agriculture of Gogounou.

“Agriculture is now very easy and profitable. Anyone can have a farm and easily cultivate land”. This remark was made by an official working in the local authority of Gogounou. The adoption of herbicides has led to a kind of agricultural revolution. Not everyone has land, but seemingly everyone is trying to have a farm. Public servants, including agricultural extension officers, foresters, primary and secondary schools teachers, health officers and various employees of the municipal authority, are all engaged in cropping. This is the case of Dramane, who coincides his annual leave with the period of farming activities to personally supervise the work entrusted to laborers. Others, living far away from Gogounou, regularly use phone calls to get informed of the progress of their agricultural works and spend some weekends for visits. It is also common to meet some state officials, originally from Gogounou, but who work and live in the southern capitals, and who rely on chemical products to secure their land ownership locally. Herbicides have therefore enabled land control in Gogounou as I will detail later on.

“Banning herbicides is killing women”. This statement comes from a woman farmer of Boro village, who claims that herbicides have played a major role in em-

¹²⁹ This is to compare the young traders of pesticides to the former secretaries of cotton farmer groups in northern Benin. The annual rebates “ristournes” in the cotton sector had made the latter into important local powers (cf. Bierschenk and Olivier de Sardan, 1998). I have found that the large income from illegal pesticide trading is promoting economically capable youth in many parts of northern Benin.

powering women in agricultural society in Gogounou. Moving from a marginalized position with respect to land access, women are now strongly competing with men in terms of grain and cotton acreages and production volumes. With access to herbicides, Fatouma, a woman from Gounarou village, has doubled her cultivation area in the past six years. She could now afford ten hectares of various crops (two hectares of cotton, seven hectares of maize and one hectare of rice), instead of half to one hectare some years ago. Fatouma has the largest land holding of any woman in Gounarou village. She shared her profile, which is summarized in Table 6.7.

“I was refusing to work on the farm, but now I am cultivating my own field myself without anybody asking me to do that”. This is the new option for Yaya, a young scholar ending his fourth year at secondary school. At 16 years of age, thanks to herbicides, he was able to cultivate maize during the 2013–14 farming season on two hectares of his father’s land. Other schoolboys and students go further to access land. This is the case of Aboubakar, who relied on his maternal grandparents in Bérébouay Region (Bembéréké District) to access two hectares, where he has harvested 6,000 kg of maize sold for 150 CFA francs per kg. With his farm income slightly less than a million CFA francs, the student-farmer has renovated his room and settled his recent wedding expenses.

The increase in cultivated area by the old farmers and the zeal of new farmers led to new land dynamics. Land tenure has evolved greatly over the last few years. Land is accessed in Gogounou by inheritance, donation, purchase, lease, loan or confiscation. Inheritance was the dominant land access mode. As described by Zato, “land conflicts are mainly caused by those whose grandparents had been lazy in the past and have not left them a great land legacy, but now they want to cultivate land in the same way as those who inherited enough land from their grandparents” (Zato, Zougou-Pantrossi, 10/07/14). The gift of land is declining in Gogounou. It has become almost impossible to find people who were granted land by donation. Buying and leasing are two modes of land access that are becoming more common. They enable autochthonous people to expand their agricultural land. Purchase is the route most associated with conflict, giving rise to the appearance of new landowners in formerly common properties. Land is sold by third persons to foreigners from neighboring districts and urban centers for 150,000 CFA – 250,000 CFA francs per hectare, and leased out for 5,000 CFA – 20,000 CFA francs per hectare and year. It is also possible to encounter cases of interest-free loans of small plots to women or foreigners working on-site (forest officers, teachers, medical practitioners and other state employees), enabling them to crop maize.

The Fulani pastoralists, who are still considered as strangers or immigrants, generally lose out in land-access transactions in which Bariba farmers can confiscate their small plots by force to be cultivated, leased out or even sold to non-natives. This has enabled some youth to access land that their parents or grandparents had previously given to friends, kinsmen or immigrants on a freehold basis. The use of herbicides feeds various forms of abuse and enables farmers, who are keen to increase their holdings, to take hold of land that does not belong to them. It also allows those

Table 6.7: Farm technologies and a woman's agricultural profile in Gounarou

Periods	Features	Crops & acreages
Years of dependency		
Before marriage	<ul style="list-style-type: none"> – Farming activities in family (but agriculture predominantly male) – Agriculture with hoes (no plow, no tractors, no pesticides) – Plowing and weeding very difficult and dedicated to men; only seeding, fertilizing and harvesting were female operations – Land availability, fertility, but essentially male property – Existence of pesticides for cotton production 	Cotton 0.5 ha Maize 0.5 ha Sorghum-millet 1 ha
First years of marriage		
For 6 years	<ul style="list-style-type: none"> – Common farming activities with her husband – Farming activities with plow and draft animals – Land available, but less fertile – Small plot access by her husband to meet the needs of the household – Birth of the first two children 	Maize 0.25 ha Sorghum-millet 0.25 ha
First personal farming experience		
For 10 years	<ul style="list-style-type: none"> – Husband older and unwilling to care for the family (after her third child) – Inability to meet the needs of the family as she had no job – First farming experience possible with her husband's plow and oxen, but with great difficulty for hand-weeding and animal-driven weeding – Use of chemical fertilizers and herbicides for cotton 	Cotton 2 ha Maize 3 ha
Agricultural acreage and production increase		
Since 6 years	<ul style="list-style-type: none"> – More land access from parents – Use of tractor services for plowing – Schooling of children – Maize acreage increase – Use of herbicides for cotton, maize and rice 	Cotton 2 ha Maize 7 ha Rice 1 ha

who have land and could not cultivate it to keep ownership by spraying seasonally non-selective herbicides. Three examples of such situations are provided hereafter:

It is thanks to *kpake* that I could take back 10 hectares to increase my maize acreage. This plot was occupied by people who said they have received it as gift from my late father. Luckily for me, they were not able to cultivate all of it. There were unused plots each year. The first year I applied *kpake*, but I did not cultivate. It was as if I was struggling against the infestation of my bordering cotton fields by insects that could come from these unoccupied plots. They thought I was joking. The second year, I spread again *kpake* but this time I cultivated a portion of it. This is where the uprising began. But I took the opportunity from my local councilor position to confine the whole plot with landmarks. They could no longer hold it. Only *kpake* enabled me to achieve this, because I cannot myself cultivate all this land if these products were not accessible. (Chabi¹³⁰, Boro, 02/07/14)

Chabi's strategy was to take possession of uncultivated areas surrounding his field. On a plot close to his own cotton field, my interlocutor applied non-selective herbicides, giving the impression of protecting his crops against pests. Following the same practice for two years, he then took possession of the plot that he demarcated and claimed ownership. This unspoken strategy was successful, since it has become common in the region to control the crop pests by weeding out the uncultivated lands bordering the farmers' fields. The fact that this plot had belonged to his father in the past was an important, but not a sufficient reason to justify his attitude. He was seeking, at any cost, to broaden his area of cultivation and, therefore, would have likely behaved in the same way even if the concerned field had not been linked to his late father. His local councilor position gave him the additional power to do so. Like Chabi, many farmers are engaged in such abuses, as herbicides enable them to cultivate more than they could in the past. They surreptitiously used herbicides to claim ownership of lands surrounding their crop fields. The herbicide is here a technology for land conquest, favoring the territorialization by crop farmers. But people, who see through the "evil doings" of land confiscation, have begun to design some of their own counter-strategies to defeat them. This is the case of Adamu¹³¹:

The only way to keep the land now is to cultivate. If you cannot cultivate it, so you have to find a way to preserve it, otherwise people will quickly tear you. It is not to be victim of these things that every year I send money to my cousins who buy herbicides and spray all over my field. Then, people will not think of it as a virgin land without owner and will not try to take it. I always tell them

¹³⁰ The informant has been anonymized.

¹³¹ The informant has been anonymized.

if they can cultivate, it may be good, but if they cannot, the most important for me is that the herbicide is sprayed. (Adamu, native of Gogounou, Kandi, 07/07/14)

Adamu is a Gogounou native, state official and permanently settled further north in Benin away from his home village. Since he cannot cultivate the land he inherited from his father, and does not want to become a victim of the land pressure that is occurring in Gogounou, every year my informant sends a certain amount of money to his relatives, who buy herbicides and spray them on the plot. Adamu's objective is to show that his plot has, indeed, an owner; and that not being cultivated is not synonymous with abandonment or ownerless. The herbicide became a property right preserver for absentee landowners. But, preserving ownership by using herbicides is not an exclusive attribute of absentee landowners. Even large landlords on site also draw their tenure security from such practices. This is the case of Issifou¹³²:

There is a return of intellectuals to agriculture. Everybody wants to cultivate land. People are looking to gain some plots from me. I have enough land, but I do not want to distribute it to people; otherwise, my children will not have enough later. [...]. Therefore, every season I buy *kpake* that I dilute enough of and I spray it on the fields. As people know that it is land to be cultivated, nobody disturbs me again to give him land and I am quiet. (Issifou, Gogounou, 27/06/14)

The case presented above is that of Issifou, a large landowner in Gogounou. Not to have to lease out his plots to demanders and deprive his offspring later, one of his strategies was to buy herbicides and spray them on the land. While this strategy is questionable and may not last over time because of the related costs, it allows him not to be forced to rent his land to someone; and thus to avoid the problems and abuses associated with leasing. The herbicide is again a tool for confirmation and preservation of property rights for large landowners.

Here are some practices for controlling land, securing land rights and making territories. Like in the case of Chabi, Adamu and Issifou, land-control practices have spread across Gogounou. As reflected in the three case studies, access to land is no easy thing among Bariba farmers who have customary property rights to land. One could already imagine how difficult it could be for Fulani pastoralists, who are still considered strangers with no land ownership. These chemicals are regularly used to challenge and contest them. I personally witnessed, on 10 May 2014, a case of land expropriation in a Fulani camp in Boro village. I was conducting an interview within a Fulani household when their expropriator came onto the expropriated land that he had already prepared to be cultivated. The Fulani herders, who were looking at me as a genuine *missus dominicus*, tried to take advantage of my presence to confront

¹³² The informant has been anonymized.

their malefactor. This quickly turned into verbal confrontation. Although I could not make any concrete solution to this issue at this particular time, my presence at least deterred the antagonists and helped to avoid physical confrontation, which would have been detrimental to my hosts and myself. My research assistant was even intimidated sometimes by some opinion leaders who thought he brought a stranger to defend the interests of Fulani against Bariba. I have mentioned these incidents to demonstrate how the land issue has become so sensitive that everyone in my study area was on high alert.

“Herbicide has changed everything. Everybody has become lazy; nobody wants to make some effort”. This statement made by a farmer of Bagou village shows that herbicides have impacted more than only farming activities. This became most evident when I observed the courtyards of houses being cleared with herbicides. The weeding technology is increasingly used to clean the dwelling places. It is common to see people spraying non-selective weeding products inside and outside of their residences. It is the new way of cleaning homes and hindering reptiles and insects from invading. The trend is similar in both city and villages. Within villages, herbicides are used to clean up the pathways leading to the farms. Here, the weeding technology serves to maintain the rural tracks and footpaths.

The consequences of herbicide use on livestock production in Gogounou are twofold. The direct impact of herbicides is the poisoning of animals on sprayed farmlands, while the indirect consequences concern the general shortage of pastureland throughout the district. Old pastureland has been overgrown by crop fields. The regrowth of grasses in the new rainy season and animal corridors are also affected by herbicides. Pastoralism is significantly affected by this increase in cultivated area, reducing the availability of grasslands for feeding animals. Moreover, water resources are sometimes polluted with herbicides causing health problems for watering animals. The corridors leading to water resources are blocked by crop fields. All 68 corridors (making up a total length of 461 km) recently marked by pastoralist associations, consensually with representatives of all stakeholders, are almost fully occupied by crop fields (Boukari Bata, 2012: 11). A Fulani herder shared his experience of herbicides:

If people did not stand in solidarity in my neighborhood, I would be today without a herd. The herbicide lives in all of Gogounou. One day, my cattle went off to graze. But the fifty animals came back home with various symptoms. Some were crying, others were madly jumping and yet others were distending their tongues, salivating abundantly. In three days, I lost 10 of them. On my friends' advice, I sent three to Gogounou livestock market that I sold for 350,000 CFA francs. With this money I paid 100 liters of palm oil for about 300,000 CFA francs that I started serving as drink to the cattle. Some friends also proposed serving millet or sorghum porridge as a drink for my animals in order to urinate, which helps remove much of the herbicide they have swallowed while grazing. In this situation, I really experienced Fulani

solidarity; everyone brought porridge to my animals. Women offered my herd porridge in cans or bowls all day long. This support that I received, the grain-based porridge mixed with palm oil, helped me salvage my thirty cattle, even if they have not yet fully recovered. That I continue to be an animal owner, like the Fulani, is only because of the support I received from my relatives and my friends; otherwise, herbicides would have already completely changed my story. The herbicide-based agriculture in modern Gogounou society is the worst Fulani-experienced tragedy. Obviously, many have already left. (Oumarou, Wesseke, 01/08/14)¹³³

Oumarou suffered the atrocities of the use of herbicides as a trap against wandering animals. A farmer who was tired of the destruction of his maize fields by unknown cattle found the solution to his problem through herbicides. Amadou's herd, which was not directly targeted in this chemical ambush, ended up paying the price of the tense neighborhood relations between Bariba farmers and Fulani pastoralists. He finally lost ten animals and was able to get out of this situation only through his social network involving relatives and friends who offered him advice and recipes for preventing the worst. Herbicide is one of the most sophisticated weapons that farming communities have ever had to deal with their Fulani neighbors.

In summary, the weeding products enable farmers to expand crop cultivation in labor-constrained situations.¹³⁴ Land transactions, abuses and conflicts are increasing as new actors are also increasingly getting involved in the new-found ease of agricultural production. Some farmers use weeding products to lay claim to the seemingly ownerless lands surrounding their fields as a territorialization strategy. Others, mainly absentee landholders and large landlords, apply chemicals to maintain their ownership. However, such herbicide use has reduced the extent of rangelands and poisoned cattle grazing on sprayed lands or drinking polluted water, increasing farmer-herder conflicts. As argued by science and technology scholars about the re-interpretation and renegotiation of technology in use (Latour, 1986; Pfaffenberger, 1992; Wajcman, 2000), it appears that the herbicide is being reinterpreted as that of a simple weeding chemical, labor-saving and agricultural intensification technology, to that of an extensification chemical and weapon used to take advantage of land and social conflicts.

¹³³ The informant has been anonymized.

¹³⁴ Although this was not an area I focused on during the study, it is worth mentioning that crop expansion is supported by the unfortunate increase in doping practices. A single farmer, with a small family, and thus only a few laborers, can have over fifty hectares of maize. He must, therefore, perform most of the farm activities himself. To cope with the harsh workload, he might engage in various forms of doping, using various drugs, analgesics and mixtures. The most famous pain relief drug used is *Tramadol*, which is linked to overdosing. Pharmaceutical drugs are supplemented with alcohol, coffee, chewing tobacco, and traditional doping powders and the like to enable the farmer to exceed his normal daily capacity of work. This "Tramadol-based crop farming" has greatly contributed to the current land configuration.

Enclosure, logging and tree-based territorialization in Gogounou

The previous section has demonstrated how access to land and rangeland has become difficult for Fulani pastoralists. This section is a step forward to focus on forest resource governance and the influence of growing wood exports on pastoralism. I start by summarizing the institutional framework in which informal logging has developed. I will then present the local actors involved, the forms of legitimization of the activity, the mechanisms developed to raise awareness of decision-makers, and the influence of wood-selling practices on neighboring farmers and herders.

From enclosure to liberalized forest resource market

The enclosure of forest resources was initiated in Benin by the colonial administration in the early twentieth century. Two key policy documents characterize the context in which forests were classified. First, the legal basis, which was the Forest Decree of 4 July 1935, established forests within French West Africa and, second, a report of a diagnostic study in 1936 by Aubreville on forest resources in Dahomey (Aubreville, 1937; Houndagba *et al.* 2007). The Inspection of Nature Protection and Hunting (IPNC¹³⁵) was created in 1964 to protect nature and conserve wildlife, but did not operate well for various reasons (cf. Takpara and Moudachirou, 2012: 27). It was more successfully engaged in monitoring and struggling against poaching and transhumance within the forests (Tiomoko, 2014: 35). The limited use rights granted to the traditional users of forest resources during this period gave way to abuse, causing severe damage to forest resources (Hounkpodote, 2002a: 13). From the 1980s onwards, there was the implementation of an integral protection policy, which made use of more coercive measures inspired by the Law No. 87-012 of 21 September 1987 concerning Forest Code in Benin Republic and the Decree No. 89-385 of 24 October 1989, and laid down the detailed rules for the application of the latter law. During this “fortress discourse” period, the State was the holder of resources and relied on repressive approaches to control the use of them (Akouehou, 2004; Pochet, 2014).

The governance of natural resources has taken a new turn since the 1990s when processes of political democratization and economic liberalization were initiated in the country. Major institutional and technical progress has been made during this period. The forest policy has moved towards a participatory approach to reconcile the socio-economic needs of local communities with the environmental preservation and biodiversity conservation goals. This was made possible by the adoption of the Law No. 93-009 on 2 July 1993 dealing with forest management in Benin Republic and the enforcing of Decree No. 96-271 on 2 July 1996. A forest development policy was adopted in 1994 for the sustainable management of natural resources, considering participation from grassroots populations and knowledge from various players

¹³⁵ Inspection de la Protection de la Nature et de la Chasse.

involved in the sector. A forest action plan was established thereafter. Some classified forests and state plantations benefited from participatory management plans. The National Center for Wildlife Reserves Management (CENAGREF¹³⁶), responsible for wildlife conservation, was also created by Decree No. 96-73 on 2 April 1996 (DGFRN, 2012: 13).

The State monopolization of forest resources has given way to various forms of collective ownership and participatory management (Akouehou, 2004). The classified areas were separated from protected areas. The protected areas involved reserves controlled by the State that were not subject to any legal act of registration (cf. Art. 4, Law No. 93-009). While efforts are being made to make participatory management plans for classified forests, the protected areas are under free usage rights, but subject to compliance with established rules (Hounkpodote, 2002a: 15). This liberal trend has been reinforced by the implementation of the decentralization policy, which began in 2003 with the election and the establishment of local and municipal councils.

This liberal policy of forest governance has been marked by several changes: (i) the creation of a capital market for the exchange and consumption of natural resources, with the involvement of Beninese banks in granting investment and operating credit to the private actors involved in the timber industry; (ii) the privatization of control over forest resources, characterized by concessions to private actors being individuals, communities, local authorities; (iii) the withdrawal of the State from direct intervention in market transactions of forest products, resulting in an almost exclusive occupation of the export sector by private operators, etc (Edja, 2012). Regarding power and disciplinary sanctions, there was also a shift, since the Government began sharing some of its prerogatives with other stakeholders: local populations, grassroots organizations, local authorities, consumer trade unions and other market forces. Thus, the democratization progress and the decentralization efforts that subsequently followed have both resulted in power plays at the village level (cf. Bierschenk and Olivier de Sardan, 1998; 2003; Pochet, 2014: 8). Natural resource conservation has become a major issue at all levels.

In this context of liberal governance of forests and natural resources overlapped with “the back to the barriers” discourse (Pochet, 2014: 10), timber transactions have considerably expanded. Recent studies reported that forest products contribute 6.64% of GDP, which does not account for the huge illegal flow of timber products excluded from national accounts (Bertrand *et al.* 2009; 2013). This sector has great potential, especially with the development of the Asian market, which offers new prospects for African economies. In Benin in recent years, illegal and abusive tree cutting has taken place, which, beyond its contribution to deforestation, has greatly affected pastoralism. A brief history of this phenomenon in my study area, its legitimization at the national level and, finally, its contribution to the deterioration of Fulani pastoralist livelihoods are discussed below.

¹³⁶ Centre National de Gestion des Réserves de Faunes.

Browse vegetation and territorialization by chainsaws in Gogounou

The direct link between pastoralism and logging lies in the ability of Fulani herders to use browse from various woody plant species to supplement the diets of their animals under conditions of scarcity. The browse vegetation is a valuable animal fodder resource in different agro-ecological zones of sub-Saharan Africa, especially during dry periods and within the context of climate change (cf. Zampaligré, 2012; Zampaligré *et al.* 2013). The Fulani pastoralists in Benin are also experts in using certain browse species to maintain or improve the production and reproduction performance of their herds, when agro-ecological and pedo-climatic patterns lead to seasonal shortages in sufficient green pasture. Several authors have shown how significant plant species, such as, *Azizelia africana*, *Pterocarpus erinaceus* and *Khaya senegalensis*¹³⁷ are in the annual cycle of livestock production and the mobility strategies of Fulani pastoralists (Agbahungba *et al.* 2001: 12; Djenontin *et al.* 2004; 2012; Djenontin, 2010: 105ff.). Djenontin *et al.* (2004) gave details of the differential approach implemented by the Fulani to feed their animals. They reported that, during the dry season, draft animals, breeding bulls, dairy cows and calves are kept at the settlement, while the rest of the herd is sent to find pasture. The former are fed with crop residues collected by the herders in their own small farms, or negotiated with farmers who have larger fields. The lowland (*fadama*) grasses and tree forage species are then used as feed supplements to get through the unfavorable season.

In the particular case of Gogounou, some rangeland ecologists and animal scientists, who were interested in the local livestock production systems, reported that the tree forage mentioned above can improve milk productivity in the dry season. Their proven nutritional value and stimulating effect on milk production, helps herders face the major difficulties of accessing pasture during these periods (Bouraima, 2006; Houéhanou, 2006; Awohouedji, 2008; Alkoiret *et al.* 2009; Degbohuet, 2010). Some tree forage species are also preserved by pastoralists for their medicinal values for which leaves, seeds and bark are involved in treating animal diseases and providing various forms of veterinary care (Alkoiret *et al.* 2009: 87).

The above-mentioned trees are among the woody species most targeted by the flourishing trade of wood to Asian countries, especially China. This does not mean that forage plants had never been cut or exported in the past, but that the kind of export in question differs from the former by the extremely rapid growth of current logging practices in a short period of time (only since 2008). Another striking feature of this new form of logging is the systematic use of mechanical chainsaws, deliberately against Article 53 of the Forestry Code, which prohibits the use of such machines. There is no region in Gogounou that is untouched by the phenomenon; and there are very few days when the chainsaw does not resound in the bush and forest reserves. These timber transactions are now carried out by the same local communi-

¹³⁷ The Fulfulde names of these tree species are: *Warnyanhi* (*Azizelia africana*), *Banuhi* (*Pterocarpus erinaceus*) and *Kahi* (*Khaya senegalensis*).

ties who initially opposed them. Bariba farmers and all those who have some power over land have suddenly become wood sellers. The situation has changed since the people understood that the political elites were totally involved in what was initially perceived as a simple short-term activity. Some of my informants revealed that the booming wood trade is in line with the government's partnership with the Chinese, who have become very involved in providing aid for the country's development. Before showing the complex network of local actors involved in the wood-cutting abuse, I will first present how it started in Gogounou by drawing on the narrative of an administrative officer of Zougou-Pantrossi Region:

Tree-cutting began here in 2008. One Thursday, the head of loggers operating in Alibori Province and the chief of the regional forest office of Kandi came to request my collaboration for some timber harvesting for a short period of time in my region. I firmly rejected by explaining that there is no more wood in my area. They besought me for a while and suggested that we go together to ask the local forest officer living in the village to inform us on the availability of timber within both the forest and the village land. Once we arrived, the local forest officer convinced me of the possibility of logging without damaging. We therefore arranged a program to move the next Sunday around "Trois-Rivières" state forest and bordering villages to see where trees can be really harvested. Before leaving, our hosts gave me 100,000 CFA francs as motivation for my willingness to cooperate.

Very early on Sunday, I went to the forest office of Zougou, but unfortunately his wife informed me about his absence. I decided to move forward in meeting and informing local communities of Dougoulaye village. We agreed on 300 beams for 1,000 CFA francs per unit. The total amount 300,000 CFA francs this activity would generate was to be used to pay the salaries of teachers of the village school. For leaving, I gave 50,000 CFA francs from the 100,000 CFA francs I have been previously given by the loggers to the village chief for their agreement.

Surprisingly, none of these actors came back for further negotiations. Woodcutters were sent in the forest reserve and the surrounding areas to cut wood. In only few days, a lot of timber was already cut and conveyed to the village capital, and the end was not in sight. This situation was not understandable to me, and I found it was an abuse. I therefore angrily enlisted help from the municipal authority in punishing severely. The Mayor and the entire city council decided to pick up all the timber to be stored within the city office while waiting for the defendants.

Disappointingly, the municipal authority was subjected to pressures and threats from above and the Mayor was having serious problems. We heard that Parliament Members, government officials and various elites were involved in this business with the Chinese. (An administrative officer of Zougou-Pantrossi Region, 04/08/14)

I have reported this story to show the extent of logging in Gogounou. Logging is as old as humanity, but what began in Gogounou from 2008 appears to be related to the partnership between Benin and Asian countries, especially China. The export of wood to Asia is an activity that targets particular species of which, like those mentioned above, are useful for pastoralists. The seeming involvement of high state officials and government members in this business makes local authorities and local forest administration powerless to fight against the practice. This is why there was finally a strong involvement of local communities; each seeking to take advantage of the situation. One might even think that the activity is legal in light of the ongoing dynamics. The administrative officer of Zougou-Pantrossi, quoted above, further explained how the illegal logging was legitimized:

Everybody finally understood and realized the need to be careful and just take his share of the windfall. People were calling loggers to sell trees on farmlands. They also find good wood in Fulani camps because they are foreigners and do not normally own land. I decided myself as [*an administrative officer*] of the region to levy local development taxes on the activity. Therefore, I imposed that any logging shall be under an entry bond of 350,000 CFA francs and an exit tax of 200,000 CFA francs per loaded 10-ton truck. The front deposit belonged to me personally and was distributed as follows: 50,000 CFA francs for youth's local security forces that I have deployed on all roads for securing persons and goods, 50,000 CFA francs for my counselors and 250,000 CFA francs for myself. The 200,000 CFA francs operating tax is fully accounted for public funds dedicated to local development initiatives. We mobilized millions who have enabled us to achieve many goals for the population's wellbeing. For example, we invested 6.7 million CFA francs in building school residences for students coming from our area to provide them with enough housing conditions for their secondary education in Gogounou city center.

The City Authority also took substantial advantage of this trade. For a loaded 10-ton truck of timber, the municipality received an average of 600,000 CFA francs. Other actors such as gendarmes, foresters and farmers have also considerably benefited from the windfall of illegal logging. Wood has really enriched people in a very short time. My nephew became wealthy in four years. He built two-storey houses in Parakou; he opened several well-equipped carpentry and joinery workshops, and also built a sumptuous fully tiled villa here in the village. He went from being a poor carpenter, to becoming a great entrepreneur and businessman. For my part, I really enjoyed building a beautiful house in Gogounou city center. [...]. The forest, while belonging to all, is for nobody. As an old saying goes, "Collective death is not difficult to endure". Everybody is accountable for this crime. (Administrative Officer, Zougou-Pantrossi Region, 04/08/14)



Photo 6.3: Small truck loaded with wood in Pariki Fulani camp in Gogounou

The uncontrolled logging, as mentioned above, was profitable for several actors. The local people, especially farmers, sell wood and the local and municipal authorities levy taxes. Several local development initiatives were achieved with the money coming from illegal logging. Many farmers and laborers were enriched locally. One can imagine how the business would be more profitable for the elites who invested in exporting the wood to China. Only Fulani herders could not afford to sell the wood that is also valuable to them. But their landless status plays against them. Since the target species are found in the Fulani settlements, farmers can go and sell those trees (Photo 6.3). This causes violent conflicts and the herders were sometimes about to commit homicide or suicide. This is the case of Gida¹³⁸ in Bligobi camp:

Only God has been able to save the one who cut down this tree on whose stump I stand. The history of logging is hard to tell; it is very sad. There is no more space to graze. These are the trees that are used to feed animals. Unfortunately, loggers have invaded the area to cut down all the trees. What I experienced here is very serious.

When logging started in the area, I was informed by friends, and every day I hear the noise of the machines everywhere. I then took my bike to see our village authority in order to be enlightened on the situation. He reassured me that no one will come into my field without having contacted me and

¹³⁸ The informant has been anonymized.

obtained my consent beforehand. But, much to my surprise, loggers arrived one nice day in my camp to cut the trees that I kept for my animals. On the first day that they arrived, I begged them to stop cutting the trees, but they did not listen. When they tried to cut down the first tree, I hugged the tree to prevent it from being cut, but they told me that if I did not leave, they would saw me and the tree. As they started cutting with the machine [chainsaw], I finally left. Then, I tried in a gentle voice to persuade them to stop, but they ignored my sorrow and continued. They went to the tree that I liked most in my field, as it was the biggest and allowed me to feed a large part of my herd. I said and did everything I could to save this tree, but all efforts were in vain as I helplessly witnessed them cut it down. And they did not stop there; they went on to further cut about thirty *banuje* [*Pterocarpus erinaceus*] that day. My hope had completely collapsed; I realized that I have to live with the horror and shame towards my children, who will not grant me with any excuses if I do not leave as an inheritance a herd in good condition. I decided to kill myself by taking the herbicide, but before taking the poison I resolved in my heart to kill with a gun the logger who made me feel this pain. For five days, I pondered this project and, in my anger, I shared with a friend. Since I realized that village and district authorities were all accomplices, I stopped going to them. I went straight to pay for a liter of fuel that I poured on the tree that I liked the most, and I burnt it. I then reloaded my gun and I started to stand guard in the field to finish with the logger once he returned to collect the planks. Unfortunately, my friend went to inform the local head of the Fulani association and they have discouraged the logger from returning to my camp, and my plan was therefore foiled as well.

Over the past three years, if it was not God, there would already be a great war between Fulani herders and woodcutters. The machine [chainsaw] has finished the trees. Even now, when I hear its noise somewhere, it revolts me. I am not the only victim; you can go check elsewhere. (Gida, Bligobi, 07/05/14)

Gida's story about the removal of fodder trees on which he and his herds rely is not uncommon. He preferred to avenge his evildoer in the end, rather than admit to his family and community that he had anything to do with this shameful situation. Initially, however, he wanted to commit suicide in order to protect his Fulani identity, which is strongly attached to livestock. This kind of suicide option is common in Fulani communities whenever there are factors that attempt to undermine cultural values that are closely linked to their pastoral identity (cf. Guichard, 1990: 31; Diallo, 2004: 55). Logging is one of the major factors threatening pastoralism in the district of Gogounou, since *Masinije henyi ledde*¹³⁹. The Bariba farmers use their autochthony discourse against Fulani herders to sell the trees that the latter rely on to

¹³⁹ "The machine finished the bush."

feed their animals. The main logic is that the Fulani have no land and, therefore, no trees. Thus, pastoralists are victims of forest conservation policy and timber export dynamics.

The Government was often blamed by some of my informants, since it has not managed to stop the logging bonanza since 2008, despite warnings from various actors. Two complaints urging decision-makers to improve the conservation of forest resources come to mind. First, the natives of Gogounou District, in particular those from areas of wood overexploitation like Zougou-Pantrossi, addressed their complaints in an open letter to the President of the Republic on 28 June 2011. An excerpt presented below helps to clarify the key message of the Diaspora of Gogounou District to the Head of the Government:

Excellency, Mr. President of the Republic, [...]

Today, loggers stormed the two forests and systematically cut with chainsaws valuable species that are conveyed in Cotonou using large-tonnage vehicles called “titans”.

Thus, every week, four titan vehicles travel back and forth between Gogounou and Cotonou and woe to anyone who dares to lift his small finger to oppose not only the smuggling but also the massacre. For example, some youth of Zougou-Pantrossi, region capital, spent several nights at the brigade of gendarmerie of Gogounou for daring to stand against the evacuation of woody material collected in the classified forest of “Trois-Rivières”.

Excellency, Mr. President,

We know that the populations of all the municipalities bordering these classified forests silently complain of abuse that is made in the said forests for several years. But as the Diaspora of Gogounou District in southern Benin, we make it our duty to grab your attention by saying out loud what others have been quietly thinking of. We are pained to see this rich heritage, protected for more than sixty years, go up in smoke in such a short time. We also know that logging licences should not be granted for cutting trees in light of the current conditions of these forest reserves.

Keeping silent about this large-scale forest offense, which we equate with an unspeakable crime, will make us accomplices in the destruction of the national forest heritage [...]. We would not be able to recall the role played by these two forests in our daily life and that of the whole of humanity. However, we should like to emphasize your High Authority that with the classified forest of Sota, located a little further north, and the cross-border National Parks Pendjari and W; they provide a natural shield against the advance of the desert that has struck the northern border of our country [...]. (Gassi Bani, 2011 in “La Nation” 30/06/11)¹⁴⁰

¹⁴⁰ I have personally translated this excerpt which was originally in French.

In his letter to the President of the Republic, the leader of Gogounou Diaspora has shown the scale of the logging activities and the extent of degradation that could result from this. Four titans (10-ton trucks) of wood were being conveyed weekly from Gogounou. In addition, he also mentioned how the opponents of this situation risked imprisonment. His message was mainly about the two classified forests “Trois-Rivières” and “Alibori Supérieur”, despite the fact that logging covers the entire province of Alibori and beyond.

Gassi Bani proposed a national struggle against logging in Gogounou. He suggested the immediate eviction of illegal operators through the deployment of military forces, if necessary. He recommended legal action against the promoters of this activity, and a better monitoring of the forest. The author of the letter also asked for greater accountability of the forest administration and local authorities involved in this struggle of forest resource conservation. These suggestions certainly would undermine the newly developed timber export to China. The public elites did not favor the implementation of these measures. “Coincidentally”, Gassi Bani passed away six months after issuing these proposals, precisely on 5 January 2012. There was a lot of fear among the local population and suspicions spread over Gogounou that they needed to either accept the situation or oppose it and die. This has strengthened the involvement of farmers who are landlords, at the expense of Fulani pastoralists considered as immigrants and landless people.

The second complaint about the uncontrolled logging underway in Benin came from Parliament. A former Director of Water and Forests, an MP from Alibori Province, had proposed a law during the same period in order to control the timber trade and the illegal practices that had developed over time. A summary of this proposed law is given below:

Since July 2012, the MP Azizou El Hadj Issa, [...], filed a draft bill on the wood trade in Benin. The goal is to fill the legal gap in this sector, in order to fight against the widespread impunity, on the one hand, and control, on the other hand, the strong demand for forest products from Asian countries, especially China. The proposal also targets the abuse of specific species, primarily *Pterocarpus erinaceus*, commonly called *kosso* [...].

The MP proposed and sent to the President of the Parliament a law on marketing, industrial processing, export, re-export and import of forest products. The text is structured in nine chapters detailed in forty-eight articles. It aims to fill the legal gaps about the export of wood. This includes the interruption of: the massive export of Beninese wood [...], the systematic issuing of fake documents called “special import permit for forest products” which subjected these products cut in Benin to the customs clearance procedure, just to free them from the ban on chainsaw cutting [...]; the regularization of the situation of many illegal traffickers whose activities, in the past, could not help to keep good statistics on wood [...].

The focus of the MP is to reverse: the inadequacy of existing laws in this regard; the lack of a specific law on domestic and foreign trade of wood; the use of chainsaw to cut wood; the complicity of all categories of stakeholders and local elected officials to the non compliance with laws in force; the widespread impunity. Also, the law aims to master the strong demand for forest products from Asian countries mainly China [...]. (Ahlonso, 2012 in “La Presse du Jour” 04/09/12)¹⁴¹

The MP Azizou El Hadj Issa, an expert in the forestry sector, proposed a total reform on timber trade. The most important measures in his drafted law were to fight against fraudulent timber trade, to preserve endangered species and to ban tree cutting with chainsaws. There has not been any positive response from MPs so far. One might suspect the involvement of several MPs in this business as recounted to me by a forest officer of Zougou-Pantrossi Region:

The loggers are not owners of chainsaws. These often belong to wood businessmen, MPs, Ministers and senior politicians. In 2012, I caught hold of six chainsaws with loggers who were illegally cutting trees in the forest. These saws belonged to an MP who called me later on. [...]. Other politicians often threaten us, and if we did not give up, we would have had problems with our superiors; for having enforced the forest law for which we have been recruited. (Forest Officer, Zougou-Pantrossi, 08/04/14)

Several civil society organizations also rang the alarm bells by undertaking various movements and press conferences, but nothing has changed. The Government has maintained its silence. This led Agbodji (2011) to assert that Benin pays heavily for the philanthropy of China:

[...] The People’s Republic of China supports Benin in several areas. Construction of road interchanges, classrooms, arrangement of tracks, granting of scholarships. The generosity of China has increased significantly in recent years to such an extent as to make us ask questions about what the poor country of Benin in exchange gives to the great China. In light of the scandal engendered by wood cutting in our country, it would be justified to consider that the philanthropy of China is alternatively well paid by Benin. The proof of these claims lies in the fact that China is the sole destination where thousands of wood containers are shipped. Consequently, the local craft industry suffers from the lack and therefore the high cost of this resource almost all of which is conveyed to China. The scope of the case and the increasingly displayed involvement of national authorities are not auspicious to consider

¹⁴¹ I have personally translated this excerpt which was originally in French.

improving the situation over the coming years [...]. (Agbodji, 2011 in Actudubenin blog, 08/09/11)

Agbodji (2011) showed that Benin pays back somehow the generosity of China. The export of wood fueled by illegal logging could be one of the ways the country compensates the Chinese supports in infrastructure, scholarships and training grants, etc. Some local newspapers even reported that, since 2009, the country has been ranked fourth among the world's worst destroyers of forests. This position, assigned by a ranking from two international organizations, World Resources Institute and Greenpeace, was maintained until 2012 (Beninactu, 2012). The forests of Gogounou, though they were under a restrictive management system until 2011, were occupied by crops from 25 to 40% of their total areas. The result is the disappearance of several species: *Milicia exelsa*, *Triplochiton scleroxylon*, *Azelia africana*, *Pterocarpus erinaceus*, *Khaya senegalensis*, etc (Tchiwanou, 2003: 3; CES, 2011: 17). The overharvesting of this ligneous vegetation with chainsaws has affected pastoralism in northern Benin, including Gogounou (*ibid*).¹⁴²

I have included these complaints and proposed solutions from citizens or groups of citizens in my analysis, in order to argue that the complicity of the State in the thriving timber trade has greatly influenced Fulani pastoralists. The impacts on them are of several kinds: First, the Fulani herders lack browse species to feed their animals. Second, since the right to enjoy trees is associated with land rights that the Fulani do not have, they lost trees in their camps, which they have long preserved. This way of laying claims on Fulani-used lands through trees, is a territorialization supported by the emergence of international wood market. Third, conflict and violence between actors have developed, including Fulani against farmers who are tree sellers, and the woodcutters. Fourth, Fulani pastoralists have developed some hatred against woodcutters and all wood sellers. They feel sorry every time the *kiisoowel* or *regi-regi* (chainsaw) makes noise. This allows developing arguments for psychosocial influence, in cases such as that of Gida, who is now prepared to kill anybody who would dare to cut trees in his camp. The illegal exploitation of wood, while encouraging farmers who have ultimately invested in the sector, has restricted the Fulani pastoralists' access to pastureland.

This is not to say that Fulani pastoralists are innocent in this situation (cf. pastoralist incursion in local forests in Chapter 8). The current situation of forest resources in Gogounou is a result of the separate actions of all stakeholders. This involves a complex network of actors from the local to the national level. Some authorities in land administration also assume that the Fulani are not to be made blameless in this situation. Everyone is guilty of violating the established forest law:

¹⁴² The methods that Fulani pastoralists use to collect tree forages are also often blamed for threatening the sustainability of these species (Tenté *et al.* 2013).

All actors act against the law and nobody should accuse anybody. All are guilty. When I have heard that some farmers and herders were protesting against tree cutting by the loggers, it seemed to me like people were just joking. How can a guilty person tell others off? How can a thief catch another thief? Farmers, herders and loggers all break the law. None of them has the absolute power to dispose of the vegetal species on their own will. What is most important is what the forest laws provide. We cannot ask the loggers to cease cutting trees because the herders use them for their animals. The opposite is also not possible. Everyone has to look at the law and do what it is right. (Forest Commanding Officer, Parakou, 27/03/14)

This discourse of a regional manager of the forest administration oversimplifies the situation by claiming that no one individual is responsible for the abuse of forest resources, but that all are equally guilty. This kind of statement, which is common among forest officers, reflects the failure of law enforcement in the preservation of natural resources.

From tractors, weeding chemicals and chainsaws, to the landless and stranger status of Fulani pastoralists, as repeatedly recalled by local farmers, has strongly influenced the Fulani's access to pastoral resources. The last element that influences the availability of pastoral resources is the plantation economy and the reforestation policy, which I will discuss in the last sections of this chapter.

Reforestation rationale and territorialization by tree planting in Gogounou

The reduction of rangeland, besides being strongly linked to the extensive agriculture-based use of herbicides and land claims through tree cutting, is compounded by the growing perennial plantation economy (especially based on cashew nuts) in Gogounou District as in other parts of the country. The link between plantation economy and ecological dynamics is established by Balac (1999), who showed that expansion in area with regards to cocoa and coffee plantations has strongly contributed, more than logging, to the reduction in primary forests in Ivory Coast. Benin's agricultural policy, oriented towards intensification and crop diversification, has also allowed farmers in Gogounou to increase their plantation area, as shown earlier in Figure 6.2. Cashew (*Anacardium occidentale*)¹⁴³ is also one of the crops promoted by the Government, with support from various outside partners.

This Brazilian crop was introduced in Benin during the colonial period and is mainly grown for its nuts (Sedjro and Sanni-Agata, 2002; Lacroix, 2003; Singbo *et al.* 2004). The development of the cashew sector in Benin has grown in importance, particularly in the late 1990s with the rise of the purchase price of nuts in the international market, the need to diversify agricultural income due to the difficulties in

¹⁴³ The cashew tree is called *akayuy* (plur. *akayuuje*) in Fulfulde language in Gogounou.



Photo 6.4: A cashew orchard encroaching on a Fulani camp in Pikoua village

cotton sector and the impact of the CFA franc devaluation that made local cashew production more attractive (cf. Tandjiekpon, 2010). The production of cashew nuts from the parallel passing by Abomey District in the south ($7^{\circ}10'N$), to that connecting Natitingou District to Gogounou in the north ($10^{\circ}25'N$) has since brought significant economic benefits to the State as well as to the local farmers (Adégbola *et al.* 2005; Yabi *et al.* 2010). It represents officially the second export source of Benin Republic after cotton (Gagnon, 1998; PSRSA/MAEP, 2011: 69; Afouda *et al.* 2013). Exports of raw cashew nuts in Benin on the international market (China, Indonesia, Vietnam, European Union, etc.) increased from 19,174 tons in 1997 to 69,357 tons in 2006 and 116,398 tons in 2008 (PSRSA/MAEP, *loc.cit.*; PAC, 2009 quoted in Tandjiekpon, 2010: 20). Cashew has emerged as one of the promising economic sectors of the Government, which, with the support from outside partners, implements various programs for its development. It is of paramount importance the agricultural and environmental policies of the State in recent years. The national cashew acreage in Benin has increased from 10,000 ha in the 1990s to 468,000 ha in 2012 (FAOSTAT, 2015).¹⁴⁴

The district of Gogounou did not remain on the sidelines of this evolution of the cashew sector (Photo 6.4). It enjoys the increased support recently provided by various donors who have long been reserved with regard to funding because of the

¹⁴⁴ These statistics should be taken with caution.

location of Gogounou in the boundary of the species' range. The local area of cashew is increasing from year to year even if there are no long-term statistical data to prove it. However, the regional union of cashew farmers of Borgou and Alibori (URPA B/A¹⁴⁵) recently reported that about 252 cashew farmers including 13 women (5%) own 402.44 ha in 2014 (URPA B/A, 2015).

Cashew farmers in Gogounou, who increasingly benefit from support from extension services and development agencies through various programs, take advantage of this to increase their power over land. Indeed, planting cashew trees has always been a strategic way for men to assert their land power over women, since cashew plantations are mainly owned by men, due to the limited access of women to land. They are also means of land discrimination by local people over the foreigners, because there are more properties of local people who have customary rights. The strangers and immigrants are generally not allowed to install perennial crops such as cashew on land used by them for crop farming and related activities (Tandjiekpon, 2010). More quantitatively, 90% of cashew farms in Benin belong to male farmers; and 93% belong to locals with some kind of land title (Balogoun *et al.* 2014). In the particular case of Gogounou, Bariba farmers take advantage of their power over land to increase their cashew acreage on livestock corridors, grazing areas and sometimes on small plots to which Fulani have access around their dwelling camps. It is a means of territorialization and a gradual encroachment on pastoral areas for the benefit of a plantation economy, as confessed by a cashew farmer in Gounarou village:

I cultivate cashew to prepare for my retirement. And I cannot allow anybody to destroy it because of his animals. [He nodded to ask me if I can accept that]. The land belongs to us. We cannot prevent ourselves from planting cashew because there are Fulani who need to move with their herds. If I did not prepare for my retirement, will the Fulani look after me when I am no longer able to farm crops? [...] Planting cashew has too many advantages. We are even currently campaigning to urge small producers to increase their acreage. [...] We do not refuse herders to graze in the cashew fields. But when plants are still young, we cannot allow that, because the cattle eat and damage the seedlings. In the fruiting period, they eat cashew apples and damage the nuts. Therefore, they should not graze in the cashew fields during those periods. But after that, they can graze as they want. (President of cashew planters of Gogounou, Gounarou, 25/08/14)

Another contributing factor for this increase in plantations is the national reforestation program initiated by the Government and developed by the municipalities across the country. In 2013, the Government started the environmental program

¹⁴⁵ Union Régionale des Producteurs d'Anacarde du Borgou et de l'Alibori.

called “10 Million Souls, 10 Million Trees” or “10MAA”¹⁴⁶ inviting all Benin citizens to plant trees to ensure a green future for the country. This green program aims at making citizens more aware of the need to reforest the country in order to improve its vegetation cover. It also aims at improving accountability of forest rehabilitation and creating new maps of Benin forest cover that include reforestation (MEHU, 2012: 32). This was the topic of an extensive reforestation and propaganda campaign launched by the President of the Republic himself in June 2013 (Photo 6.5). This is also one of the responses of the Benin Government to climate change, sustainable natural resource management, desert encroachment, environmental crises and disasters threatening the whole of humanity (SNU-Benin, 2014: 28).

This green initiative, supported by the United Nations Development Program (UNDP), the Kingdom of Morocco and other partners at the local and international level, has spread across the country. Politicians have taken action in their electoral strongholds to support their political leader, the President of the Republic. Plants of economic value, such as cashew trees, mango trees, eucalyptus and others have been generously given out free of charge to the local people enrolled in replanting demonstrations, which have become political and symbolic rituals widely reported through the media.

Since the municipal authorities of Gogounou are members of the ruling political alliance, the Mayor and many local political elites have been involved in preparing the local communities to achieve good reforestation scores in Gogounou. The Gogounou local politicians did not hesitate to graciously supply citizens with various seedlings in order to accommodate their Head of State’s vision, as is the common discourse around the 10MAA program. Several political events have been held in Gogounou to discuss seedling provisions and tree planting (cf. ABP, 2014). Some farmers in Gogounou have taken advantage of this sudden generosity and benevolence of political players to access the various seedlings used to increase their plantations and thereby improve their control over land to the detriment of Fulani pastoralists.

There was a particular interest that developed locally for species of economic value, with especially cashew trees, followed by other species such as mango, teak, melina, eucalyptus.¹⁴⁷ All of this has contributed to territory making by way of increased orchards in Gogounou District and has negatively impacted pastoralism in terms of rangeland availability. Lafia Moura Moussa, the Chief of Gounarou Region, who had recently been promised seedlings free of charge by local officials to plant

¹⁴⁶ This government project was initially called “9 Million Souls, 9 Million Trees” before the fourth general census of the population in 2013, which revealed a population of approximately 10 million. The project title was therefore changed to “10MAA”: “10 Million Souls, 10 Million Trees”.

¹⁴⁷ Ligan-Topanou *et al.* (2015: 133), who has studied the agro-ecological sustainability of mechanized farms in the district of Gogounou, also noted cashew ahead of perennial crops, followed by teak, mango and others.



Photo 6.5: Launch of 10MAA program by the Benin Government¹⁴⁷

fifteen hectares of cashew trees, confirmed the prevalence of this crop dynamic in the region.

These trees are usually planted on poor soils or fallows that were formerly used for grazing livestock. The agro-ecological approaches conducive to the sustainability of perennial and annual crops are not met in many cases. The poor orchard maintenance practices require the permanent mobility of farmers in search of new land for the development of annual crops. In this growing plantation economy, fields planted with cashew are being phased out in favor of new crops. Therefore, the more a farmer develops plantations, the greater the need for new pastureland after two or three years, for cotton, cereals and other crops. Some are forced to move their crop fields, encroaching on Fulani camps. This is the case of El Hadj Gnoma in Ouessene village, whose camp was largely encroached on by the cashew plantations of a Bariba farmer. Some plantations are established in areas commonly known as animal corridors, grazing areas or Fulani farms often located around their homesteads. Gnoma, who recently paid 50,000 CFA francs to a farmer as a penalty for damages caused by his animals to a young cashew orchard, a plantation that he condemned as having been set up on the livestock route, expressed his bitterness during our interview, or wear-

¹⁴⁸ By courtesy of the public print media in Benin (La Nation): Benin President (Dr. Boni Yayi) is at right side dressed in white shirt with white hat, while the Minister of Environment and Climate Change (Mr. Raphael Edou) is dressed in dark green on the left side.

ness, *tampiri*¹⁴⁹, which he translated as “I am tired enough” or “enough is enough”. Although cashew plantations that are left to become bush again can also sometimes serve as pasture for animals, the disappearance of animal corridors and mobility difficulties remain omnipresent.

In short, the agricultural mechanization policy of the State has increased labor problems. To meet this challenge, farmers have taken advantage of the fragility of the input-supply policy to appropriate and even reinterpret herbicides to better control the land. The abundant wood export to China has involved the guilty silence of the Government since 2008 and has been to the detriment of all forest and natural resource conservation acts. The farmers, who cannot change this situation, have decided to take advantage of the situation in order not to become the losers. Therefore, they are engaged in the timber trade in their own fields, even classified forests and in Fulani camps by brandishing the permanent discourse of the Fulani as foreigners or outsiders.

Farmers also took advantage of agricultural and environmental policies implemented by the Government and supported by various partners to increase their plantations that enable them to encroach on pastoral lands and Fulani settlements. Reforestation initiatives targeting particular species, such as eucalyptus, have been perceived in the scientific literature as falling under the “green capitalism” of states and power struggles (Sargent and Bass, 1992 quoted in Bryant and Bailey, 1997: 60). In Gogounou, this has led to a new way of valuing poor land, with negative impacts on livestock keeping. In what follows, I detail the influences of agricultural and environmental policies on rangeland availability in Gogounou, before turning to the recent land reforms in Benin and their impacts on pastoralism.

Privatization of the commons and the land grabbing question

One factor that has influenced pastoralism in Gogounou is the rural land privatization policy recently implemented in various regions across the country. Benin’s land policy has been evolving since the colonial period when the Decree of 26 July 1932 reorganized the land tenure system.

The first land acts of Benin after independence were: the Law No. 60-20 of 13 July 1960, establishing the system of housing permits in Dahomey, and the Law No. 65-25 of 14 August 1965 on the land tenure system in Dahomey. Since the 1970s, the socialist Government of Benin complicated the land tenure system through the nationalization of land and the creation of several national agricultural cooperatives. With democratization and economic liberalization in the 1990s, the country experienced a de-monopolization of land from the hands of the Government. This

¹⁴⁹ This is a concept used sometimes by Fulani pastoralists to show their indignation and resignation over an afflicting phenomenon for which they have not yet succeed in finding solution. It is also used for a difficult situation that seems to have no foreseeable end, although efforts are made to overcome it. This seems to originate from the French adverb phrase “Tant pis”.

transformation has also been linked to the growing sense of tenure insecurity prevailing at that time (cf. Comby, 1998 quoted in Lavigne Delville, 2014). Various reforms were then made to secure land access across the country. Different projects supported by partners, including French and German development agencies, helped to experiment with the Rural Tenure Plan (PFR¹⁵⁰) through a process of identifying consensual land rights at the local scale (Hounkpodote, 2002b; Edja and Le Meur, 2004). The PFR¹⁵¹ is:

[...] a document which makes an inventory of rural lands. It refers to the rights attached to them and the identity of their holders. It also responds to individual and collective needs of land security, planning and investment. It allows each region to have a record, which specifies the property assets of the alleged landowners, the modes of land acquisition, and the characteristics of the held rights and the full identity of the holders of these rights. Achieving the PFR leads to the delivery of rural tenure certificates (CFR), equivalent to the land titles issued in urban areas. (MCA-Benin, 2011)

The land data gathered throughout the PFR projects led to the adoption on 16 October 2007 of the Law No. 2007-03, establishing the rural land tenure in the Republic of Benin. Through this Act, the State approved the private ownership of land, which helped to clarify all of the existing misunderstandings of State ownership over customary land. This also enabled the Benin Government to benefit from American funding through the Millennium Challenge Account (MCA-Benin)¹⁵².

With its “Land Access” project, MCA-Benin implemented the PFR over five years in 300 villages and 40 municipalities across the country.¹⁵³ The various studies conducted led to the drafting and the adoption of a State Land Policy¹⁵⁴ on 14 July 2010 (Noudegbessi, 2011). The finalization of all the efforts to implement the country’s “replacement”¹⁵⁵ land policy is the adoption on 14 January 2013 of the Law No.

¹⁵⁰ Plan Foncier Rural.

¹⁵¹ For details on the history of the PFR in Benin, see Hounkpodote (2002b) and Edja and Le Meur (2004).

¹⁵² The Millennium Challenge Account (MCA-Benin) is the program responsible for implementing various projects negotiated by the Benin Government and the Millennium Challenge Corporation, a US fund for bilateral development. For details on MCA-Benin, see <http://www.mcabenin.bj/r%C3%A9sum%C3%A9-du-programme> (last accessed 02/08/15, still available via archive.org).

¹⁵³ In total, 294 PFR were in fact completed by MCA-Benin and an additional 89 were previously made with German and French funding, that is, a total of 383 villages in 45 districts (Idrissou *et al.* 2014: 63).

¹⁵⁴ This document is also known as the White Book of Land Policy. It was developed as part of the “Land Access” project of MCA-Benin.

¹⁵⁵ The land policy of “replacement” aims to replace existing land rights with private ownership. It was criticized in the 1980s and 1990s and the solution found was to shift to an “adaptation paradigm” (Bruce, 1992). According to Lavigne Delville (2014), Benin’s land tenure law of January 2010 was a step backwards to the replacement model.

2013-01 regarding Domanial and Land Code in Benin. Thus, the Benin State endorsed policies of privatization and the massive formalization of land rights, strongly supported by international institutions (Lavigne Delville, 2014). As shown above, any parcel of land mapped by the PFR receives a Tenure Plan Certificate (CFR)¹⁵⁶ issued by the concerned municipality to its given private owner. The CFR is a better alternative to land registration and titling, often inaccessible, too expensive and unsuited to rural areas where property rights are mostly collective (Lavigne Delville, 2014). This rural land “title” is irrevocable and unassailable, transferable and assignable, individual or collective, and easily convertible to cash (MCA-Benin, 2011).

The new Land Tenure Code of Benin has caused many controversies since its adoption. It is contested by municipal authorities (Gandonou and Dossou-Yovo, 2013), and challenged by many civil society organizations, which are “committed” to fight against land mafia (Idrissou *et al.* 2014)¹⁵⁷. The main concern often raised by these players is the development of land markets and informal large-scale land grabbing. There are doubts about the effectiveness of the law to ensure land security. The scientists have not remained on the sidelines of the recent development of Benin land policy. Lavigne Delville, in his paper presented at the 2014 World Bank Land and Poverty Conference, argued that the promotion of private ownership of land without greater attention to local land relations may add to the marginalization of local communities:

[P]romoting a single legal status of private ownership will require a massive restructuring of local land relations, which are mainly based on more or less extended family holdings, with de facto ownership largely confined to southern Benin. It would mean breaking with this heritage aspect of land tenure, which constitutes a form of social security in the face of life’s perils. If it is effective, rapid privatisation is highly likely to marginalise a large part of the rural population within a short space of time. (Lavigne Delville, 2014: 6)

The district of Gogounou is among those districts wherein the Land Access project of MCA-Benin has been implemented (cf MCA-Benin, 2008: 8ff.). It has helped those in seven villages to fully complete PFR requirements, and some CFR were delivered to the beneficiaries in February 2011. The secured land tenure required for Gogounou, as in most other parts of the country, has led to new dynamics. The struggle for land procurement by some, and that of property preservation, by others are often to the detriment of the Fulani. The PFR is locally received by Bariba farmers as a document confirming their landlord status and their local citizenship. Similarly, it lays bare the foreignness and landlessness of non-beneficiaries, including

¹⁵⁶ Certificat Foncier Rural.

¹⁵⁷ The title of a book by Idrissou *et al.* (2014) is suggestive of this commitment: *La gouvernance du foncier rural au Bénin: La société civile s’engage*. Its translation could be “The governance of rural land in Benin: The commitment of civil society”.

Fulani pastoralists. In villages where land certificates were received by Bariba farmers, like Borodarou, where I conducted some interviews, the PFR and, consequently, the CFR, locally called *tem bamsu tereru*¹⁵⁸ in the Bariba language, serves as a distinguishing factor between locals and immigrants, and therefore between those who own land and those who do not. An administrative officer of Gounarou Region, and member of the land individualization committee, confirms this analysis in his claim that:

The PFR is a good thing. It has many advantages, but it has also created many problems here in our region. Many people use the PFR to grab ownerless land, and even land that belongs to others. All of this has given rise to tensions among some communities. There have already been two violent conflicts in the village of Borodarou. The problem of the Fulani is even greater, and I am sure it will be even worse in the future. People locally think that they are not landowners; they live on lands that belong to the farmers. Most of the time, people do not want to share the fields, which they acquired or which their parents had given to Fulani several years ago. Nobody thinks about grazing area and livestock corridors to protect them. All that interests people is to own land certificates. When the PFR covers all of Gogounou, I am a hundred percent sure that many Fulani will be sent out and there will be a lot of clashes. (Administrative Officer of Gounarou Region, Gounarou, 03/07/14)

The local population takes advantage of the fact that no Fulani or group of Fulani has been granted a CFR as evidence to confirm that the Fulani herders are landless foreigners. Some Bariba farmers even told me that it is impossible and even unacceptable to find such highly secure land property documents with Fulani. Giving Fulani access to CFR is to agree that they are *Gogounois*¹⁵⁹ and, consequently, that they also have land. This seemed unacceptable to them, since land is said to be owned only by Bariba. These immutable property rights are related to their “first settlement”

¹⁵⁸ This concept can be literally translated as “paper of land right recognition”.

¹⁵⁹ The words *go-n'guuru temtombu* are often referred to in French as *Gogounois* or *himbe gogunu* in Fulfulde, which means “people of Gogounou”. This term was often used by some of my respondents to show that the original name *go-n'guuru* of the district is in the Bariba language showing the real identity of its founders and consequently the true owners of land. For them, being *go-n'guuru temtombu* is first about being Bariba. If the name of the district was a Fulfulde name, they would admit that the first owners of land were Fulani, but it is not the case. This is therefore considered to be great proof of their autochthony. This is also the reason why the places where the Fulani have settled have often no meaning in Bariba language. They are often in Fulfulde language and are in accordance with Fulani place names. For example, *Pariki*, a local Fulani camp, means “pleasant pasture”. These discriminatory discourses accord well with Hounkpodote (2002: 139) who argued that the PFR, while providing security to tenure in rural areas, does not solve every problem, particularly the conflictive coexistence between farmers and pastoralists. He concluded that the PFR would be more effective if it were accompanied by a complementary program that supports and advises on context-based land tenure issues.

and are generally maintained by an inheritance system (Noudegbessi, 2011; Comlan Aguessy, 2014: 28f.). The Fulani pastoralists to whom they have granted land cannot become their equals in terms of access rights. This redefinition of local citizenship (Jacob and Le Meur, 2010; Lund, 2011b) around the PFR at the local level is also for commercial purposes. That is why, in some areas where the PFR was implemented, fallows and grazing areas are often confiscated and sold.

In the district of Djougou, further west of Gogounou, land grabbing by multinationals is already a reality. Large amounts of land, up to 504 hectares, are being bought up by multinationals and politicians for, as they have claimed, modern agropastoral investments (Idrissou, 2014: 21). The development of this phenomenon is in line with the concerns of Sylla (1999: 263), who stated some years ago that the State is not always able to prevent land grabbing or control all transactions when it implements a privatization policy. In recent years, talk about the foreignness of Fulani has continued. The Bariba farmers do not hesitate to resort to their history of settlement to explain to Fulani herders the conditions in which their grandparents were welcomed and accepted by Bariba landlords. I tried to better understand this issue by having individual interviews with different traditional authorities. A traditional leader of Gounarou, whom I interviewed, confirmed the “allochthony” of the Fulani with an argument based on their late arrival and their agreed settlement favored by the Bariba:

The Fulani came from Daburu, somewhere around Malanville [to be seen like Niger Republic]. At that time, animals and people were not many; and there was land [*He raised his voice and snapped his fingers to show that the land was not a limiting factor*]. That is why the Bariba gave them land to settle down. Nowadays, there are many people as well as animals. With modernity, one person can cultivate a large area. The Bariba need more land to farm. I do not find any problem if someone decides to hold back his land. [*He looked at me, laughed and continued*]. Fulani normally do not stay anywhere for long. They were here for a long time because the conditions were good for their animals. If the conditions are no longer good for them, they can leave and continue their lives elsewhere as they were doing before reaching here. This is not to say that we are enemies with Fulani. We have no problem with them if they do not bring their animals to destroy our fields. (Traditional leader, Gounarou, 10/05/14)

The traditional leader in Gounarou showed in this statement that the Fulani are strangers and landless. The plots they have belong to Bariba who gave them land at a time when land was readily available. Consequently, if there is now less land than before, the owner should be able to easily get back his property. Another important factor in the traditional leader’s statement is that the stereotype of the Fulani that has been existed since the colonial era still prevails. They are considered nomadic people who do not stay anywhere permanently (cf. Bierschenk, 1996: 103). This also influ-

ences their relationships with other groups who use this stereotype to expel them. I was also received by another customary authority in Gogounou, whom I interviewed about the foreignness of the Fulani. His statements suggest that the Fulani are useless neighbors:

[...]. They are not local people. They left Burkina and were established by the Wasangari. Each Wasangari had his Fulani who had given him various gifts. When my grandfather was [Chief] here, he used to visit Fulani camps. When he arrived somewhere, Fulani automatically touched the tail of an animal and offered it to him. At that time, Fulani were more powerful than Bariba, because of their animals. But all has changed and the Fulani's *eyes are very open* nowadays. They do not give anything to anyone. They are poorer [*He paused and asked my assistant if he was lying*]. In their camps, it is difficult to find chickens, even milk. Before, we were fed by Fulani; because they use our land. We were enjoying their being here. If it was like the past, I will not be even at home right now, but I will be collecting gifts across my Fulani camps. [*He now breathed in deeply and asked my assistant if I wanted to talk only about Fulani*]. (Customary authority, Gogounou, 12/05/14)

The customary authority in Gogounou confirmed the othering that prevails locally over Fulani pastoralists. He also showed that their settlement in Gogounou has been subject to patron-client power relations with the *Wasangari*. Fulani have nurtured this relationship with various gifts that have stopped over time (cf. Lombard, 1965; Bierschenk, 1996). For the customary leader of Gogounou, the Bariba do not gain anything by leaving Fulani on their land. The Fulani are now considered poor and useless, as indicated by my informant who became tired of talking too much about them.¹⁶⁰ Like many Bariba, this man had once given the Fulani land because he had plenty of it and their cohabitation was fruitful then. Only now that land has become costly, does the Bariba man need more land to farm. He might even divide it up and sell it. In any case, he is no longer prepared to tolerate the Fulani, who are said to eventually become useless and even harmful, given the regular destruction of crops by Fulani animals.

The congruence of both traditional leaders' discourses shows how traditional leaders have helped to perpetuate the landless and foreign status of Fulani herders. This also has to do with the strong involvement of such customary authorities in the burgeoning development of land grabbing in northern Benin. They often use these kinds of exclusion strategies to decide or endorse various land transactions in

¹⁶⁰ His desire to change the discussion topic during our interview is my own interpretation of my informant's behavior. He wanted to continue to discuss other topics, as he had enough talk about the Fulani who had given him nothing as chief; a situation that was different during his grandfather's time.

opaque conditions. This is where the concept of *filis du pays*¹⁶¹, as recently reported by Comlan Aguessy (2014: 30ff.), has become increasingly prevalent. Fulani pastoralists generally suffer the consequences of this term, which further perpetuates their marginalized status.

Fulani cannot argue against a “reality” created by the Bariba community that undermines the Fulani. Even when efforts have been made to provide better access to resources for the Fulani, very few arguments demonstrate their autochthony. An influential leader of Fulani associations in Benin expressed his indignation during a friendly discussion in his courtyard in Gogounou:

Bariba were lazy people in this Gogounou [of the past]. The Fulani¹⁶² were doing everything. The Fulani were even feeding them. Now they are chasing us out. They say that Fulani do not have land; we are foreigners. Could somebody still be considered a foreigner after [living] fifty years somewhere? Some herders even lasted more than that; their grandparents were born, died and buried here. But one day they are sent out of this land they have used for a long time. This is an injustice and nobody cares. This situation cannot continue; otherwise, Fulani will stand up one day and it will be a disaster. (Fulani leader, field notes, 10/06/14)

As argued by Hagberg (2000: 176), the recent development of Fulani strangerhood in Gogounou reflects a boundary of exclusion, denying them access to pastoral resources. The Fulani do not individually or publicly challenge the common discourse on their landlessness and foreignness. They almost never claim ownership on plots when required by Bariba farmers. It seems like they agree on the grievances made against them and sometimes call Bariba farmers their landlords. This way of making themselves non-locals was seen as a positive strangerhood they admit, as part of their communication code, whenever it is to their advantage (Guichard, 2000: 113ff.). They often rely on the strategy of considering Bariba farmers as above them in knowledge and power. However, they do not agree that their foreign status should be equated with land exclusion, as official discourse generally postulates, and places nomadism at the center of their identity (*ibid.*: 115). All of the public discourse that recognizes the Fulani as subordinate in terms of land ownership, and Bariba as their dominant landlord, could be seen as, what Scott (1990: 14f.)¹⁶³ terms “public transcript”.

¹⁶¹ *Filis du pays* could be understood as “natives”, “locals”, “local citizens” or “son of the soil”. This has to do with “belonging” (Lund, 2011b). For a deeper understanding of all the complexities of “indigeneity” and “autochthony” in Africa, see Pelican (2009).

¹⁶² He includes here the Gando group that is composed of former slaves of both Fulani and Bariba (cf. Guichard, 1990). Sometimes when he says Fulani, he does not associate them with the Gando, as I will show in Chapter 8.

¹⁶³ For further arguments on “public transcript” and “hidden transcript” in relation to political ecology, see Bryant and Bailey (1997: 62). Guichard (2000: 115) also talked about the hidden transcripts

But, conversely, the speeches of individual Fulani also resemble the one evoked by their leaders, as quoted above. They often whisper softly, pitying their fate as victims of the land competition. This is the “hidden transcript” that influences individual actions and relies on a kind of silent resistance to their conditions. These land access predicaments, as experienced daily by Fulani pastoralists in Gogounou, and probably in other regions of the country, makes the establishment of various pastoral infrastructures and the implementation of local and regional rules on livestock mobility unfruitful. This was one of the concerns of the regional forum on cross-border transhumance organized in Gogounou on 14–16 April 2010. One of the most important resolutions was: “To pay more attention to the challenge of enforcing laws, in particular those relating to delimiting and securing animal corridors and transhumance, given the importance of land issues in certain countries, such as Benin” (RBM, 2010: 7). However, at the time that I was conducting my research, the effects were not yet visible and there was still no easy solution to the marginalization of Fulani pastoralists.

6.3 Conclusion

I have shown in this chapter that various state policies supported by national and international partners have led to the development of different economies predatory of land, forest habitats and natural pastures. The human population is increasing, but this is insufficient to justify the disappearance of rangelands. Family farms are expanding and encroaching on rangelands through new technologies, which have also favored a more beneficial growing plantation economy. The illicit exploitation of forest resources is legitimized, giving rise to various abuses. Herders have further lost access to tree forage, as trees are sold by farmers who take advantage of the flourishing wood export to China. The establishment of the rural tenure plan became a factor in confirming the indigeneity of farmers’ over the foreignness of pastoralists. The appropriation and reinterpretation of technologies also allowed Bariba farmers to consolidate their power over land to the detriment of Fulani pastoralists. All of these factors have fueled the disappearance of grazing resources through the multifaceted dynamics of territorialization.

The balance of local pastoralism has been upset by this very complex set of power plays similar to what Bryant and Bailey (1997: 62f.) termed “an amalgam of institutional interests” that increase tensions between the roles of the State as both a developer of the country and a steward of its natural resources. The result of such tension has been the stiff competition and different conflicts between actors. The farmers, relying on their landlord status, maintain the strangerhood of the Fulani to further marginalize them. As power over local land becomes increasingly concentrated in the

among the Fulani of northern Benin, as being statements relating to the rivalry for land control and the allocation of power during the first contact between Bariba farmers and Fulani pastoralists.

hands of Bariba farmers, one can argue about a kind of “enclosure of the commons” that is taking place. The enclosure here, although, it is achieved by farmers in many different ways – e.g. by using herbicides, cutting pasture trees, planting cashew trees or exhibiting land tenure certificate, etc. – significantly decreases the availability of grazing resources for livestock, with huge consequences for the sustainability of local pastoralism. The district of Gogounou, like many other regions of north-Benin, is already feeling a kind of “tragedy of the enclosure” as superbly used by political ecologists to portray rural land eviction as a destroyer of livelihoods and socio-cultural patterns that maintain the common properties (The Ecologist, 1993; Fairlie *et al.* 1994). There is indeed a pastoral crisis in Gogounou; and the situation might be similar in other regions of northern Benin where livestock keeping has become a huge issue. Now that I have raised the land crisis in the pastoral sector, I will present the Fulani adaptive strategies in Chapter 7.

7 Staying Fulani or changing identity?

Mobility, socio-technological innovation and livelihood diversification among pastoralists in Gogounou

The previous chapter has shown that marginalization and exclusion are major obstacles for resource access and that climate change is not ranked first in the laments of Fulani herders in Gogounou District. This chapter deals with the strategies developed by the herders to adapt to the risky conditions and to become self-sustaining. My main argument is that pastoralists respond differently to uncertainty due to the unequal access to resources, and that any generalization would be biased. Based on the rationale behind their practices, I have distinguished three categories of pastoralists in the study area. The first group is made up of emigrant pastoralists who have permanently left the district of Gogounou to take refuge in other regions, mainly in the west and south of the country – or cross borders into other countries such as Togo and Ghana. Nomadism is again the option for these households, which had previously settled in Gogounou several decades ago. The second group is composed of fragmented pastoralist households with two or more units scattered across the country and abroad. The strategies implemented here are mostly aimed at economic complementarity to pastoralism and the protection of social ties. Often, one household unit is responsible for managing the herds that are far beyond the borders of

Gogounou, while another stays in the area for cultivation, alternative sources of livelihood and social assistance from peers. The third group includes the permanently settled Fulani pastoralists with a larger social network. They depend on growing both food and cash crops to diversify their income sources and they give high priority to the education of their children to ensure a better future for them. Whatever the category is to which they belong, Fulani pastoralists in Gogounou have become active users of modern communication and transportation technologies that contribute greatly to how each lives with uncertainties.

7.1 *Perube* pastoralists and the return to nomadism in Gogounou

Mobility remains the main strategy of securing pastoralist livelihoods in Africa, as shown in Chapter 2. But, for herders who have already settled over decades, like those in northeast Benin, their movements have been often limited to seasonal transhumance, enabling them to use efficiently pastoral resources for their livestock production (De Haan *et al.* 1990; Bierschenk, 1996; Van Driel, 1997; 2002; Alkoiret *et al.* 2009; Djenontin, 2010; Djenontin *et al.* 2004; 2009; 2012). Calling the Fulani herders in Alibori region “nomads” was essentially stereotyping and marginalizing them (cf. Bierschenk, 1996: 103; 1999: 204). Their movements are part of a concrete pastoral calendar in which their return home is fully planned using sound ecological knowledge, planning expertise and complete flexibility (cf. Djenontin, 2010; Djenontin *et al.* 2012; Djohy *et al.* 2014a). The return to a more mobile life, by moving part or all of the livestock and the household, is a recent mass social phenomenon induced by the poor access to land and pastoral resources. However, trends like this exist in the history of the Fulani in West Africa. This was revealed by Santoir (1994: 252), who observed that pastoralists in the Senegalese Ferlo used this strategy to be self-sustaining in a context of total loss of access to grasslands.

The *perol*, generally equated with *ferol* (sing. *ferugo*), was one of the words most frequently used by Fulani pastoralists in Gogounou during my research stay. *Perol* means a move where there is no particular intention of returning to a place. This irreversible movement is closely related to the challenges facing the Fulani over which they have little influence. The only way to achieve a sense of normalcy is to continue moving with their herds (Stenning, 1959: 207; Schareika *et al.* 2000: 319f.)¹⁶⁴. The word *perube* (sing. *perudo*) or *ferube* (sing. *ferudo*) refers to the land refugees, who are emigrant Fulani herders. For those who have permanently emigrated from Gogounou, there is little hope for livestock and herders in that place. The only way to preserve their Fulani identity is to move. In the Binga camp, I met a Fulani herder who had returned from northern Togo, where he had found refuge for nearly two

¹⁶⁴ Stenning (1959: 207) called it “migration proper”. This was undertaken by the Wodaabe pastoralists as a demonstration to challenge an absolute political domination in the Bornu (*ibid.*: 222ff.).

years. He had planned to remove and sell the metal sheets covering the houses on his farm, pick up the rest of his belongings and bid the camp farewell. When asked about the reasons for his move, he replied:

There is nothing for us here. Nothing will change here. The situation is deteriorating every day. The best way is to leave. The situation is better elsewhere. Gogounou is no longer liveable for Fulani and cattle. We cannot stay here. We are in danger. Being Fulani means that you have a herd. No herd; no Fulani. This is why we are all moving. We must save our animals and our own lives. As you are seeing, I am collecting right now all of my remaining property. We will not come back. We are leaving Gogounou forever [*He started laughing*]. (Abdoulaye Belko, Binga, 30/03/14)

Abdoulaye Belko came back from northern Togo to make some final arrangements and to move forever from Gogounou. He had already spent nearly two years abroad, waiting for the situation to change before returning home, but the information he receives daily through mobile phone calls confirmed that nothing will ever be as before. The periodic visits to his family had also dashed all hopes. He concluded that the future of Fulani herders is uncertain in Gogounou and that his pastoral identity will be lost if he stays there. This is why he chose to leave permanently – moving family members, herd and all of his belongings. His discourse suggests that in our ever-changing world that the passage from transhumance to emigration remains a core element in the culturally mobile Fulani system (Schmitz, 1999: 25). Emigration appears to be a way to preserve a pastoral identity. While this may not be possible in the future, the Fulani continue to move to save their livelihoods. This “security emigration” underway in Gogounou sees the use of a variety of transportation and communication technologies, as was the case with Abdoulaye.

Abdoulaye sent his herd with part of the household (two young brothers and their small families) so that he could inspect the new area where they were to stay. When a new location was found and the living conditions were acceptable, he rejoined the first group with his third wife and two children. He used to come seasonally to visit other family members (his elderly father, and his first and second wives with their two and three children respectively) in Gogounou. He also regularly called them with his mobile phone to check on them. He finally came back to collect the whole family and all of their belongings. He later used a truck for this relocation, since the new settlement was far away from Gogounou. The small ruminants, the poultry and all the material goods were transported by truck to the new destination.

When the permanent decision to emigrate was made, all houses (*suudu*) within a household were systematically deconstructed and the metal sheets put up for sale. If some forage trees are still in the camp, they are also sold to tree cutters. It is often in these cases that Fulani pastoralists are also stereotyped as being sellers of wood in certain areas of Gogounou District. Those who still have cattle on site can seldom afford to take part in this wood transaction. The money mobilized contributes to the



Photo 7.1: Ruins of an abandoned house in a Borodarou Fulani camp

moving expenses. When the funds are insufficient, small ruminants or poultry can be sold. For some herders, head of cattle can be sold earlier before the herd's relocation in order to have enough money to deal with the moving expenses. The farm (*wuro*) is finally abandoned and the houses fall into ruin. A quick takeover by local farmers to increase their own farmlands (Photo 7.1) is common.

There is a second way of managing the farm when a Fulani household decides to leave Gogounou in search of safety elsewhere. In this case, the houses are simply emptied and the roofing preserved. The farm is secretly sold as it is to other Fulani herders – members of the emigrant's social network (distant relatives, friends, neighbors), who are willing to move in. This transaction does not include the land, since the Fulani do not have ownership of the land and are not allowed to sell it. Only the buildings and other infrastructure are involved. However, the new tenant inherits directly the small piece of land that the previous Fulani occupants were cultivating, that is, if it has not already been expropriated by the landlords. This is the case of Djodi, who bought a *wuro* for 200,000 CFA francs in Kagnan camp, where he has access to about 0.25 hectare of land for food cropping (Photo 7.2). If no Fulani herder is interested in such an arrangement, the *wuro* is sold to a Gando agro-pastoralist, who agrees to the sale conditions. If there is no possibility to sell the *wuro*, the Fulani proceed to remove and sell all of the roofing sheets. The walls are left to go to ruin, as in the previous case, and farmers often reclaim ownership of the land.

The decision to emigrate is not always consensual among Fulani household members. In some cases, young people reject the ideas of their parents and move with the

family herd. While people of advanced age will often plead to staying in Gogounou, the youth usually take the initiative to move. It is common to see Fulani camps in Gogounou where only old people (men and/or women) are left behind. Some elderly pastoralists, whose children have been gone for more than two years, would beg me to help them to trace their family herd. Besides the loss of property rights, the disruption of social ties caused by emigrating is much more difficult to endure. This situation is similar to what De Bruijn and Van Dijk (1994: 100) encountered in central Mali, where some old *Jalloube* women asked the researchers to send out through Mali Radio a wanted notice to get news about their missing children. Those who can still farm rely on food crops to meet their daily needs. For those of very advanced age, who can no longer cultivate land, their livelihood is provided by the kindness of some relatives and neighbors. Alms were sometimes collected from third persons or Muslim colleagues in the mosque. This is the case of many poor households in Boro, Kagnan and Wessarou that have been emptied of their able-bodied youth, and whose older inhabitants are incapable of farming and performing other economic activities, and must therefore rely on the benevolence of others and religious gifts (*zakat, sadaqa*, etc.).

The second type of migration also widespread in Gogounou is *egirol* or *egiru* (sing. *egugo*; vb. *egi*). It refers to a long-distance move from Gogounou to a new destination, with the possibility of return after two or three years. This seems to be what Stenning (1959: 207, with exemplification in 221f.) called “migratory drift”, which caused many Wodaabe pastoralists in Bornu (Nigeria) to finally land



Photo 7.2: House sold in Kagnan Fulani camp



Photo 7.3: A house entrusted to Salou in Wessarou Fulani camp

in Adamawa (Cameroon). The practitioners of *egirol* are called *egube* (sing. *egowo*). In this case, part of the household – usually the elderly – stay put. They are often known as *haccabe wuro* (sing. *haccadô wuro*), which literally means “house guards” or “farm-keepers”. When there are some able-bodied youth, under-age children or handicapped persons, the term *horiibe* (sing. *horiido*) is rather used, meaning the “remaining people”. Some herders move with all household members and entrust their residence to their Fulani neighbors within the same hamlet (*gure*) [Photo 7.3]. The contact is maintained through mobile phone with the latter regularly reporting to them on the livestock-keeping conditions in Gogounou. These are mostly people who still want to return back to Gogounou as soon as the situation has improved. But after a waiting period of two years on average, some of them come back to organize their final move (*perol*). When this decision is made, the *wuro* is finally sold when tenants are found or the corrugated iron roofs are removed and put up for sale, as is the case of the *perol*, presented above.

New destinations of Gogounou Fulani pastoralists

The new destinations of Gogounou Fulani emigrants are usually quite diverse. Both *perol* and *egirol* migrants can be found in different regions of the country and beyond the national borders. Three major groups can be distinguished: the southern group, the western group and the cross-border group (Figure 7.1).

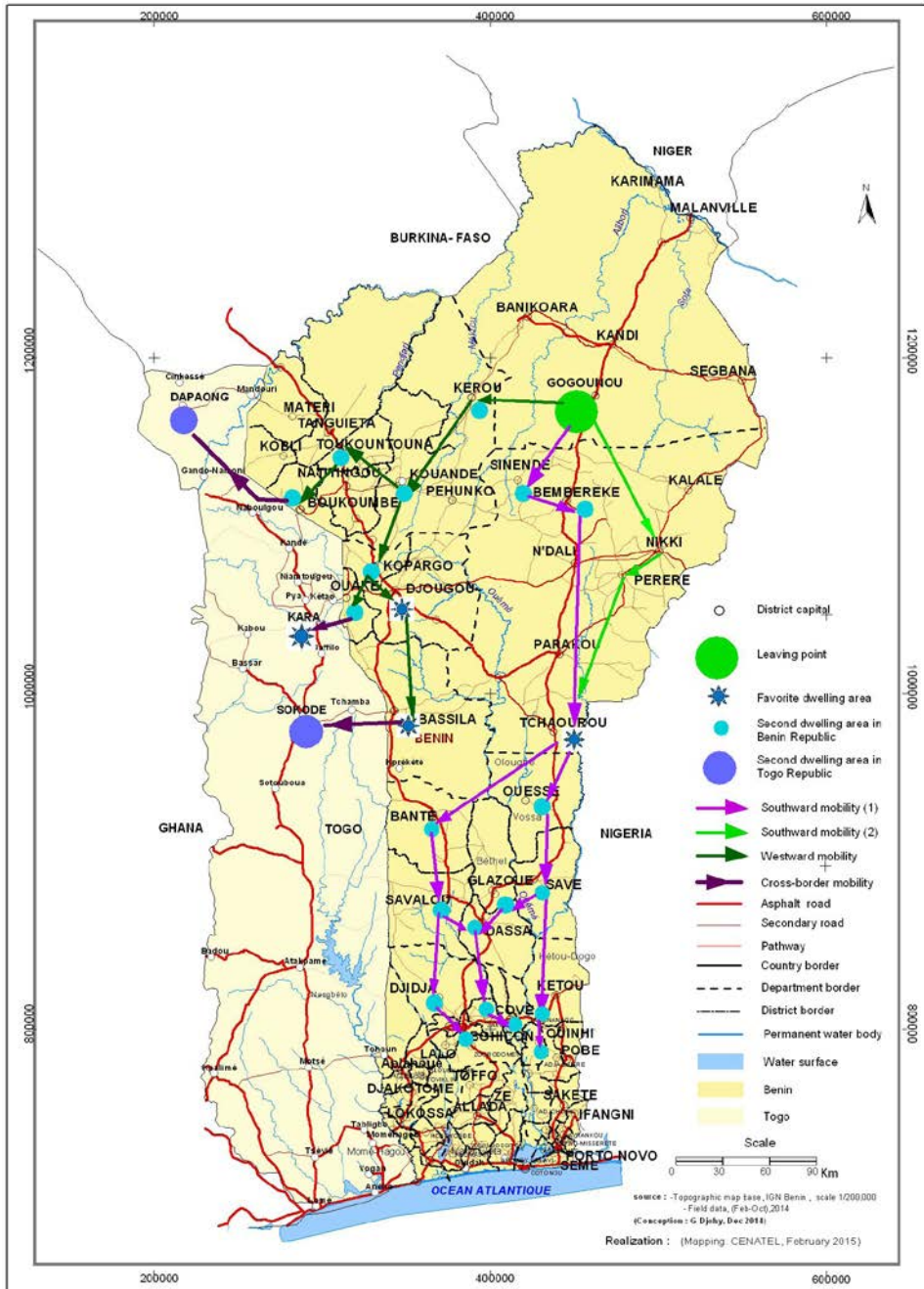


Figure 7.1: Fulani outmigration routes from Gogounou District

The southern group: These are herders who move southwardly. They gradually move from Gogounou towards some districts of the province of Borgou (Bembéréké–Sinendé–N'Dali–Tchaourou). Some of them move further to the northern region of Collines Province (Ouèssè–Bantè–Glazoué). Others cross the south of Collines Province (Savè–Savalou–Dassa) to reach the province of Zou and the districts of Djidja, Bohicon and Zákpotá, but recently even more towards the plateau of Agonlin composed of the districts of Covè, Zagnanado and Ouinhi. The district of Tchaourou however remains the most important destination of the herders in this group.

The western group: The direction of this group is westward. The movements are oriented towards the districts located in Donga Province (Djougou–Copargo–Bassila–Ouaké), and Atacora Province (Kérou–Kouandé–Toucountouna–Boukoumbé). Some Fulani pastoralists in this group sometimes move further to define the third group described below. The Djougou and Bassila areas remain the favorite of the herds whose herders do not intend to leave the country.

The cross-border group: This group includes those who are engaged in non-return movements. The preferred destination is the Republic of Togo, which can lead afterwards to the Republic of Ghana. Their routes are varied. Some members of the two previous groups fall into this category when they decide definitively to leave Benin to run their pastoral activity beyond the national borders. The main exit areas are Boukoumbé, Ouaké and Bassila. From these three districts, they easily gain access to three major regions of the Republic of Togo: the savannah region (with Dapaong as capital), the Kara Region (with Kara as capital) and the Central region (with Sokode as capital). The region of Kara is the favorite area for the herders from Gogounou, but some transit through Dapaong Region to reach the northern part of the Republic of Ghana. Sometimes, there are attempts of outmigration to Nigeria, but the fear of Boko Haram¹⁶⁵ and the related insecurity were often mentioned by Fulani herders as factors discouraging them from taking this risky adventure.

Due to the various constraints already mentioned in Chapter 5, I was not able to follow the movements of herds and herders in each group on their mobility routes. It may be of great interest to follow (for future studies) some pastoralists of these three categories, to understand more fully their adaptive strategies. The rest of this chapter will be essentially devoted to the pastoralists who are still on site in Gogounou, and with whom I have had the chance to undertake participant observations and interviews.

¹⁶⁵ Boko Haram is a terrorist group operating in northern Nigeria and whose activities are well known among Fulani herders who reported being informed by their peers. Mobile phone is a privileged means by which risk areas are shared between pastoralists.

Scope of livestock and Fulani emigration from Gogounou

The livestock population in Gogounou has officially recorded an upward trend between 2000 and 2013 (Figure 7.2). The average number of animals in Gogounou during this period is reported to be 112,953 head of cattle, 32,855 sheep and 23,687 goats (FAOSTAT, 2014). These statistical data, available from the FAO database and various reports from the livestock department of Benin, contrast sharply with the reality on the ground. The growth rates often used to generate such data – with 1999 as a reference year (MAEP, 2013: 8; Mama Sambo, 2013: 10f.) – are no longer consistent with the local trends. The massive move of Fulani pastoralists with their animals (*perol* and *egiol* combined) challenges these official figures. It is just as difficult to find reliable statistics on both national and local herds, as it is to access accurate numbers of pastoralists and animals that have actually migrated out.

There are also no sound data in the official documents of the pastoralist associations. It is difficult to show how the emigration has evolved over years. However, various figures are issued on different occasions such as political meetings, pastoralist general assemblies, livestock television broadcasts, meetings with international donors, etc. These figures are often not consistent from one session to the next. Thus, they should be considered with caution, since they result from the communication strategy of Fulani associations, which is to draw gain attention from decision-makers

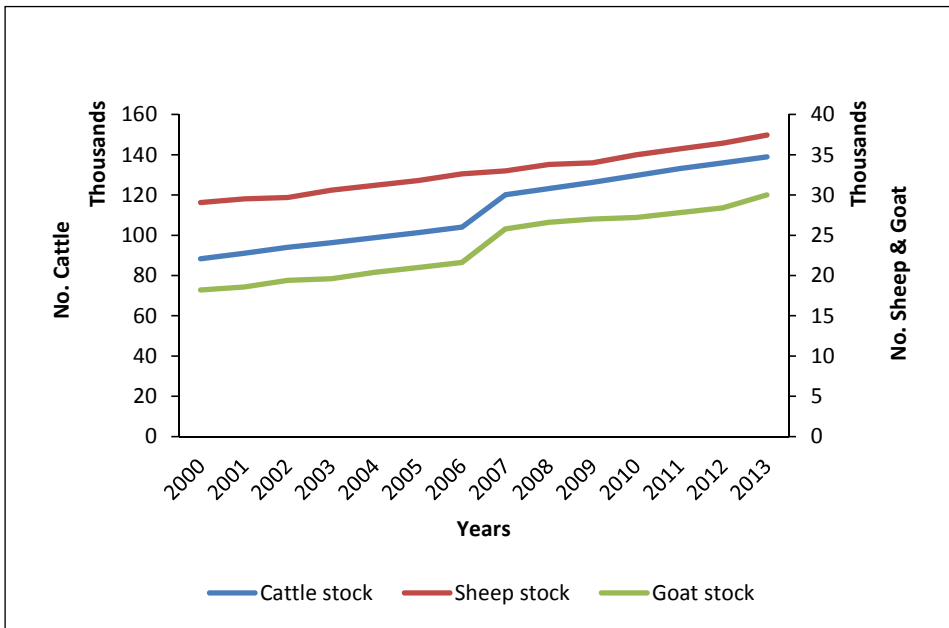


Figure 7.2: Gogounou estimated livestock population in 2000–2013¹⁶⁶

¹⁶⁶ Source: From FAO database (FAOSTAT, 2014).

and external partners. The same data are often manipulated in different ways according to the source of information. It is very common to hear different figures on the same issue being presented at different meetings. This seems to be done on purpose, and I give a few examples below.

A census conducted by ANOPER in 2011 revealed a stock of 64,815 head of cattle and 54,156 small ruminants that migrated out of Benin since the emigration began (Database, livestock census in Gogounou, ANOPER, 2014). During the veterinary campaign in 2013, about 45,866 head of cattle were presented for vaccination against pasteurellosis and 47,310 head against contagious bovine pleuropneumonia in Gogounou. The local livestock has noticeably declined, as 77,970 head of cattle were counted in Gogounou during the national livestock census of 1999. And this livestock population is still declining each year (Boukari Bata, 2013: 32f.). According to the head officer of the agricultural extension service in Gogounou, the cattle stock ran from more than 80,000 head to less than 50,000 head in five years (Speech of RDR Gogounou, Interview 31/05/14). The UDOPER B/A reported that 228 herds, comprising 11,085 head of cattle and 2,578 small ruminants (Boukari Bata, 2012: 11), left Gogounou in 2012. Another census by ANOPER reported that about fifty households of Fulani herders had permanently left Gogounou in 2013. The animal population is not mentioned in this last report, but it is estimated that several hundred cattle and small ruminant had also migrated. A more recent study by PAFILAV reported the disappearance of 223 Fulani camps in Gogounou, decreasing the cattle population from 85,000 head to 40,000 (PAFILAV, 2014: 135). During a meeting that I attended with a delegation of Swiss Development Cooperation, ANOPER leaders mentioned that 88,016 Fulani pastoralists had left Benin to Togo and Ghana, with a total herd of more than 66,000 head (Speech of Dramane Guétido, Coordinator of ANOPER, 19/05/14). These figures are assumed to be the result of a national census, but there is no official document that confirms them.

In a memorandum submitted to the President of the Republic in 2013 by ANOPER Benin, provisional survey data based only on a few municipalities of northern Benin, including Malanville, Karimama, Gogounou, Kalalé, Sinendé and Tchaourou, were used to portray how dramatic the emigration of Fulani pastoralists has been. It was reported, based on interim results of February 2013, that more than 72,000 pastoralist households had emigrated to Nigeria, Togo and Ghana; with 88,191 head of cattle and more than 200,000 small ruminants (ANOPER, 2013a: 7). According to other figures presented at the media-covered roundtable of ANOPER on 4 April 2013, more than a million head of cattle had left Benin (Arouna, 2013). In sum, there is no accurate number of Fulani emigrants from Benin in general and from Gogounou in particular. The “engineering of figures” is an important strategy of advocacy and lobbying heavily used by Fulani leaders, which I will provide more details about in Chapter 8. This is not to deny the ongoing reality. It is visible on the ground that the Fulani settlements are losing their stocks and their inhabitants, thereby reducing local animal production. This collapse of the livestock production is already

remarkable in other parts of northern Benin as recently reported by Sounon *et al.* (2013: 297) regarding the Donga Basin.

7.2 *Egirol* mobility and *seenuyon wuro* in Gogounou: Logics and strategies

The logics of the *egirol* move

As previously demonstrated, the *egirol* move is a kind of mobility that is different from both transhumance *batiiru*, including *dummodi* (sing. *dummol*) in the rainy season, *ceedodi* (sing. *ceedol*) in the dry season and absolute emigration (*perol*). *Egirol* is characterised by a sense of return, once the conditions have improved in Gogounou. This results in two social units, spatially distant, but interdependent in their livelihood practices. That is called *seenuyon wuro*¹⁶⁷, i.e. fragmented or broken household. The *egube* (sing. *egowo*) is the household unit moving with the herd in search of good conditions for the livestock, while *horiibe wuro* (sing. *horiido wuro*) or *haccabe wuro* (sing. *haccado wuro*), depending on the case, is the sedentary household unit often emptied of its able-bodied youth, faced with the challenge of surviving far away from the livestock. This household-splitting decision is often made during a small family counseling session when the new destinations are decided and various prayers are said for the wellness of the herd and the accompanying household unit. Some herders use their religious leaders (Alfa or imams) for guidance and prayers before making the final decision to migrate. This social and spatial fragmentation helps secure the livestock through a partial nomadism, while avoiding a total loss of access to the small portions of land not yet expropriated by the local landlords back home. This shows a dynamic of control over land, also observed among other pastoralist communities of Western Africa (Sutter, 1987: 197; Boutrais, 1994b: 187; Waters-Bayer and Bayer, 1994a: 214f.).

In addition to the land security-seeking norms, which govern this practice, other more cultural and ideological factors play an important role in the way the *egirol* move is planned among pastoralists in Gogounou. Some Fulani pastoralists often complain about leaving the graves of their kin, who are generally buried on their farms. My informants often expressed a case of moral suffering if they lose this social bond or fail in their ethical responsibility of taking care of their parents after their deaths. The Barabaig pastoralists of Tanzania also preserved this kind of cultural value and believed that the expropriation of the land on which they had buried their ancestors causes a very painful cultural alienation. Accordingly, they were able to challenge both public authorities and international contracting forces before the Tanzanian

¹⁶⁷ This term usually refers to the breaking down into disparate units of the same household or the same extended family in order to have better accessibility to resources. It is also used to refer to the Fulani households which were divided due to dissent or various forms of internal conflicts.

higher courts, and through international campaigns for successful recognition of their customary land rights (cf. Lane, 1994; 1996; Fratkin, 1997: 245). Therefore, being in Gogounou without a herd on site is a form of action of the *horiibelhaccabe wuro* for the recognition of their localness and their land rights. This fight is so important because they do not want to take the risk of totally emigrating – to lose their affiliation and become even more foreign than they were in Gogounou:

Keeping livestock has become impossible in Gogounou. There is no future for our animals here. They have all gone. Some of my children and my young brothers are following the herd. I am here by obligation. My parents are buried here. We can no more completely leave Gogounou. We will no longer allow ourselves to be new aliens somewhere else, because we will never be considered as natives, to access land. If where we are for over fifty years, we are still landless strangers, what will happen where we are really foreigners? People will squeeze us out at anytime they want and we could not come back here because the Bariba farmers would have already occupied the place. It is better to stay here, even if the space is reduced. (El Hadj Beissa, Ouessene village, 23/04/14)

El Hadj Beissa was born in Gogounou, where he has lived for over fifty years. His father lived in Gogounou and was buried there after his death. Even if their land situation is still critical, Beissa thinks it is better for him to stay to keep control of the small piece of land that he has and to pass it on to his children. However, he is aware that it is always good to explore opportunities and continue enjoying the fodder and water resources still available elsewhere. The strategies developed by the herders who split up their households into two or sometimes more units, are based on reconciling crop farming with livestock-keeping and a strong use of various technologies that help to preserve and secure social ties. While the displaced household unit depends primarily on milk production and livestock, the settled unit meets the daily needs through crop production and other more insecure sources. In some cases, though rare these days, one can meet a few numbers of cows supplying milk to the *horiibe wuro* or *haccabe wuro*. This possibility is increasingly restricted because of the great difficulties they face locally in taking care of those animals.

Adaptive strategies of split Fulani households

Since the Fulani household is composed of two or sometimes several units scattered throughout the country or across borders, the strategies implemented are often complementary, targeting the livelihood security of each unit as well as the preservation of social ties. The more mobile unit does not return to Gogounou and depends mainly on the sale of livestock and animal products (especially milk), while the sedentary unit relies mostly on cultivation and other alternative income sources.

The livelihood practices of horiibe/haccabe wuro

The settled household units are those that I have observed and interviewed the most during my fieldwork, since I could not follow the more mobile units. Most of these types of Fulani households seldom have cattle herds on site, as previously shown. They no longer have any open pastoral life, and can even be mistaken for farmers. Small-scale farming on an average of 0.25ha includes sorghum, millet and maize as the *de facto* main sources of income for these households. While the first two crops are for consumption, the last one is often sold for cash. The income from small livestock (sheep, goats, poultry) kept by both men and women (if they still have livestock) is used mainly for health care, food and other expenditures. Some Fulani women, individually or collectively, provide significant waged labor for harvesting cotton and maize in farmers' fields. These practices are growing, as Bariba farmers need a more external workforce to perform various tasks (especially sowing and harvesting) in their large and extended crop fields. Further, there may be significant changes in food habits, since milk is no longer as available as it was in the past. I was surprised to learn that many Fulani herders or members of their households consume millet porridge without milk, and had even been served this on occasion during my visits. In other households, cow's milk is replaced with a yellow powder from the grain called *Parkia biglobosa* (*Narehi* in Fulfulde language), which is one of the most common milk replacement products in the study area. I was often mockingly invited by my interlocutors to drink the *kossam nareri jam* or "yellow milk", in order to better understand the suffering of the Fulani and to appreciate it.

As it is mostly the elderly people in the household who are left behind in Gogounou, they are the ones who often hold the power over the decisions on livestock, especially if the common herd is not yet shared among the offspring or individual cattle owners. When resources are depleted and the household is faced with key challenges (lack of food, payment for health care, purchase of agricultural implements and inputs, etc.), the mobile household unit is often called upon to come to the rescue. Phone calls are made and instructions are remotely given for the sale of an animal. The cash is transferred back home in Gogounou by a representative using a motorbike or taxi. As the modern technologies offering cash transfer (such as MPESA in Kenya) do not yet exist in Gogounou, this process can take from one to several days, depending on the location of the mobile unit. This limits the ability of herders to send and receive money, and subjects them sometimes to very critical situations such as debt, hunger, and accident. Some messengers are sometimes robbed on the way by gangsters, or worse, killed by their assailants. Cases of this kind have been regularly reported in villages like Dougoulaye, Garikoro and Diadia. This justifies the highly expressed willingness of those pastoralists to adopt fast money transfer technologies, for instance, through mobile phones, in order to relieve their pains and protect their people.

The livelihood practices of the egube household unit

The more mobile part of the Fulani household generally consists of children, young single men and women, newlyweds and married adults. They are often brothers and/or children of the household head. Early wedding ceremonies can be undertaken for teens, if necessary, in order to have enough people to take care of the herds further afield. This practice was reported in most regions, but especially in Gbeissa, Pikoua, Bikoua and Garikoro. When the cattle owners no longer have able-bodied young men who can go with the livestock, hired herders are sometimes recruited. When the terms of the herding agreement are fulfilled and that the herd is productive and healthy, the herder is remunerated with a head of cattle a year. However, a growing mistrust has greatly reduced the use of hired herders in the district. Many pastoralists have seen their situation deteriorate by hiring Fulani herders who have mismanaged their animals or have disappeared altogether with the herd. Other pastoralists have also been victims of armed robberies, losing all or part of their entrusted herds. While this is not an absolute guarantee against certain forms of insecurity, most herders prefer to leave their herd under the control of a member of their own household:

Our animals are not here. They are all in Djougou and Togo. Our brothers and children are taking care of them. There are also people who entrust their animals to herdsmen. They are paid a head of cattle per year. [...] When we do not have enough people to follow the animals, we try to manage it. For instance, we can look for wives for our children or our brothers who are around 16 or 17 years old. They will go with other herdsmen. But young men cannot go alone to Togo. Formerly, the Fulani did not get married at those ages; it is too early. But what can we do? All this is due to the problem of grass. (Focus group discussion, Pikoua camp, 30/04/14)

The migrant household unit lives mainly on milk produced by the cows, especially when the conditions at the new destination are favorable. But in cases where milk production remains uncertain due to insecure access to resources, some herd animals may be sold. Depending on who has the property rights over animals and who makes the decisions, destocking is often managed remotely by the sedentary unit in Gogounou through mobile phones. A livestock sale decision is made when necessary to deal with urgent household financial needs (for food, health care) and veterinary care for sick animals. When cash is needed to pay fines in case the herd has caused damage to the cropland of farmers, or when support is needed in a conflict situation, the information is sent back home through the same mobile phone channel. If the health status of an animal requires a rapid slaughtering to reduce the loss, the family back home is also systematically informed, if possible, through phone calls.

When there are no impediments to the telephone connection between the members of the fragmented household, their movements and difficulties are regularly reported for advice and decision-making. Sometimes members of the mobile unit visit

their parents in Gogounou and return to their new camps or places of residence with foodstuffs. This limits the sales of animals to survive in a context where they do not have enough access to land for farming in their new settlements. Mobile telephony is the technology most used in this kind of complementary interaction between dislocated units of the same social entity:

We are aware of their situation through mobile phone. We visit them from time to time, but they also come with their bike to see us at the camp. We take taxis to go down to the edge of the tar road closer to where they are, and we call them and they come to pick us up. We call each other regularly by phone. If the call is not successful, it is surely a network problem. In such cases, we can wait and retry later. If they have the network, they can call us. (Garba Alou, Dadaarè camp, 12/03/14)

This demonstrates, once again, the transformative power of the mobile phone as already observed among Fulani pastoralists in various parts of East and West Africa (Sangare, 2010; Kossoumna Liba'a, 2012; Stockton, 2012; Keita, 2015). Stockton (2012: 5f.) has observed that, in Kenya and Somalia in particular, mobile phones effectively contribute to building social cohesion between members of the same households whose adventures have scattered them across countries and borders in search of a better life.

Beyond the mobile phone that plays an important role in preserving the links between Fulani household units, transport technologies also have an important function in the management of the relocated herds as it appears above. Periodic visits are sometimes organized on both sides. The followers of the herd may return to the camp by motorbike or taxi to see the people left behind. Similarly, representatives can be chosen in the settled household unit to visit and to inquire about the situation of those who are on the move with the animals. This is the case of Amadou, a Fulani herder in Diadia village, who goes twice a year to Togo to check on his herd that two of his children have been guarding over the past two years. Within Tilla Fulani camp, two representatives are chosen to make the trip once a year to visit about nine herds. These herds have already been in Togo for more than two and a half years. Each herd owner provides 5,000 CFA francs for the mission. When the cattle owners do not have enough money, the envoys are mandated to sell an animal to cover the costs. The herd from which the animal is sold is chosen by lot. This kind of draw brings together all camp members who have their herds in Togo and wish to have true information about their people. This strategy helps to reduce collectively the costs required to keep animals in Togo and to live in Benin:

It is only the day before yesterday that we collected 20,000 CFA francs to send someone to see how our animals are migrating. The whole camp delegates him to go and see the herds installed in Togo. Sometimes if the money to pay for his travel is not available, it is mandated to sell an animal from the herd of

someone in order to cover the expenses. He will take out an amount covering the travel costs and bring the rest back to the cattle owner. If there is no one who is available to go see them, we have to call by phone and explain the situation at home. In these cases, they can sell an animal and bring us money at home. Someone can take a motorbike to bring the money to us at home. (Focus group discussion, Tilla village, 13/03/14)

Receiving information by phone and visiting the herd are two complementary strategies. No herder relies only on phone calls. Similarly, no one waits only for the visit to the mobile unit to inquire about the herd. For the herders, the mobile phone helps to have some idea about the status of the herd; but it is not always reassuring. Therefore, it is important to see firsthand what is happening on the spot. These two factors help keep social ties while preserving the right of ownership over the livestock. This brings out how trustworthy relationships are built between social entities in the context of the development of information and communication technologies in African countries. Trust remains an important issue in all social and business interactions involving the use of mobile phones. The direct personal contacts remain, however, very important in Africa, where many people do not rely too much on these information and communication technologies that “always lie” (Molony, 2006; 2009) or “allow/encourage people to lie” (Brinkman *et al.* 2009: 78; De Bruijn *et al.* 2009: 19). This is why transportation technologies (Chinese motorcycles, car taxis) greatly contribute to bridge any lack of trust between scattered pastoral units that follow a remote livestock management strategy. The loss of connection between both settled and mobile units for a long period of time is locally interpreted and felt as a communication tragedy, with negative implications on property rights and social identity. This is the case of Guidado, a Fulani herder in Wessarou camp who has had no news for two years from his two children on the move with the common herd. Since they left Gogounou for Togo, nobody has found them. He assumes that he is no longer a herder and is engaged in crop farming to survive. This situation is also taken as a loss of pastoral identity shamefully accepted by my interlocutor, who complained a lot about his new life as a farmer.

When the herd is bigger, it is sometimes split up into two or three smaller herds. This is a strategy to use the resources available in different regions. This is the case of Djouldé in Alafiarou camp, who has had one of his herds in Bassila District and the second one in Togo (cf. Figure 7.1) for more than a year. He always uses phone calls and regular visits to manage them. To demonstrate the power of mobile phones in the management of the livestock, Belko, a Fulani herder in Pariki camp, whose herd is kept in Ouaké District, has tried to call Kouri, one of his migrant household members who has been following the herd in Donga Province, very close to northern Togo. During a conversation on a mobile phone put on loudspeaker, I was called upon for help to deliver Fulani herders from their “catastrophic” land access situation:

El Hadj Belko: [He is calling with his own mobile phone]

Kouri: Allo! Allo!

El Hadj Belko: Assalamu alaykum [Greeting]

Kouri: Wa alaykum assalam [Reply]

El Hadj Belko: Some strangers came to visit us to inquire about the problems we face in livestock keeping. They are right now with me.

Kouri: Hou! Hou! [He started laughing]

El Hadj Belko: Tell them the problems you are facing over there. They are listening to you.

Kouri: [He laughs again and started talking]

It is always the same problems. Farmers strike us all the time. Today Fulbe have become a game to the farmers who run after them all the time. It is very hard to find where you can peacefully graze without being chased out. There are crops everywhere. There are no animal corridors. It is really difficult here. If you can help us, it would be good.

El Hadj Belko: They have heard. I will call you later in the evening. [He cuts the call]

(Phone call on loudspeaker by El Hadj Belko, Pariki camp, 12/03/14)

The cell phone, while being a remote livestock managing technology, is also of principal importance in the way Fulani herders seek solutions to the problems that undermine their mobility. Through it, various outside actors are mobilized and particular versions of resource challenges are presented to them in order to engage their help. This also resembles a situation I experienced in Parakou during my exploratory visit. On 29 July 2013, I was interviewing Yacoubou Boni of APIDEV-NGO, when a Fulani herder from Kalalé District called him by phone, complaining about a farmer he accused of occupying one of the animal routes recently mapped out by his NGO in collaboration with Fulani leaders and all local land use stakeholders. Having reassured the herder of his commitment to fight for the problem to be resolved, Yacoubou explained to me on the side afterwards that the mobile phone heavily contributes to addressing the injustices regularly committed against Fulani pastoralists. The Fulani now have telephone contacts of useful resource persons who can help address their daily challenges. This is also the strategy of the Fuutankobe pastoralists in northern Senegal, who can phone elites to take care of their concerns (Juil, 2005a: 126f.).

7.3 The *daribe gite* pastoralists in Gogounou: Logic and strategies

Land right protection, belonging and differential strangerhood

Known as *daribe gite*, the Fulani in this category are called “awakened people”. The main external factor that distinguishes them is their further integration with the local communities – accepting new ways of life formerly uncommon among Fulani pastoralists. They are often stereotyped among their peers as copying the lifestyle of Bariba farmers and even other people all ranked as *baabe* (sing. *kaado*). Therefore, they are also considered as having lost the real Fulani identity, becoming more accustomed to urban life. Bush life and the nostalgic contact with cattle no longer hold first place in their lives. Those Fulani pastoralists who stayed in Gogounou, despite the many aforementioned land issues, believe that the situation is the same everywhere and there is no better condition for livestock in an ever-changing world. The days of abundant resources are gone, and pastoralists see the need to change their lives, widen their social networks, adopt new technologies and embrace new ways of making money to improve their welfare. A saying that comes up often when I talk to the pastoralists in this category is “*gayon anado e hoy buyri mo anaka*” which means that a known enemy is easier to face than an unknown enemy whose ways are unpredictable. The speech of El Hadj Djodi shows the main logic of *daribe gite* pastoralists:

The problem is not in Gogounou only. It is the same thing everywhere. I will not leave here. This is where we will die. My children used to move with the herds, but there is nothing different in other regions. Where I am born and I have been for over fifty years, I am still alien. The Bariba farmers always want to take over our land at every turn. They always claim that here is their land. I do not think that I can get land where I will be completely a newcomer. (El Hadj Djodi, Pariki village, 12/03/14)

Djodi’s main point is that the difficulties of access to pastoral resources are not specific to Gogounou District. In all agricultural areas of Benin and its neighboring countries, the situation is the same. If some regions have not yet been fully occupied, it is simply because locally practiced modern agriculture has not yet reached those areas. But once these areas have extensive access to new agricultural technologies,¹⁶⁸ sooner or later, livestock production will suffer in the same way. It is simply a matter of time. Therefore, it is better not to lose the small amount of land one currently has, even if it is not sufficient, than to have little, if any, access to land outside of Gogounou. I also met this kind of logic in Fana-Peulh village, where Fulani pastoralists actually identify themselves with their local settings – sharing a feeling of belonging:

¹⁶⁸ He was referring mainly to tractors and herbicides used in farming.

Where you are born is the place that belongs to you, and where you belong to. Even if we go somewhere else, we will be identified as recently settled foreigners and we will have no right of access to the land. And, in this case, if we come back, our old site will already be occupied and we will not have anywhere to stay. From here to Togo, we stayed in a different area to explore the possibilities to live there, but at the end we returned to Gogounou because there is no possibility for easy access to resources. The situation is the same everywhere. We do not want to leave here. (Focus group discussion, Fana-Peulh village, 13/03/14)

From the group discussion reported above, Fulani pastoralists of Fana-Peulh village demonstrate a sense of belonging that supports their choice to remain in Gogounou. Their ancestors came to Gogounou long ago. Their parents were also buried in Gogounou. Therefore, they consider that they belong to Gogounou, as Gogounou also belongs to them. Leaving Gogounou one day also means losing this “citizenship” or, more specifically, this “localness” and therefore becoming a foreigner. And this new “strangerhood” might be worse than the one they currently experience. This is what Orodji has also tried to clarify during an interview at Gbessa Fulani camp:

[...] Being an old stranger here is better than being a new stranger elsewhere. This pump and the school over there are the proof that we will never leave here again. Leaving is no more our goal. We will die and be buried here. When you go elsewhere you will encounter more problems than here. (Orodji Saïdou, Gbessa camp, 25/06/14)

Orodji prefers being an “old stranger” to being a “new stranger”.¹⁶⁹ He considers that leaving Gogounou permanently might be seen as losing his citizenship and his true local identity. It is like having no rights and being subjected to all forms of contempt. Staying in Gogounou gives him the possibility to claim his citizenship, even if it is difficult. This is important for gaining access to different infrastructure (borehole and school) that will definitely play a decisive role in the future of their community.

From all these narrative accounts, it appears that the threats that undermine pastoralism are understood as not specific to Gogounou. Those who have this understanding of the situation, choose to completely settle down there. Their option of settlement is guided by the logic of “birth place”. Even if they are still marginalized and do not have access to land and pastoral resources, they defend that an “old strangerhood” is preferable to a “new strangerhood”. Therefore, it is better for them

¹⁶⁹ Guichard (2000: 119) talked about a status of “*étranger de l’intérieur*” (inside foreigner) that the Bariba granted to the Fulani in order to stifle any attempts to become equals, and to maintain their domination over them. When Fulani herders in Gogounou talk about a status of “old stranger” vs. “new stranger”, one can see therein a resignation. They prefer to cope with the dominion of Bariba, with whom they have co-inhabited for decades, rather than putting themselves under the yoke of new and unknown masters by moving abroad into totally new contexts.



Photo 7.4: A borehole in a Fulani camp in Gogounou

to create their own conditions for living, and keep livestock as much as possible. Having a borehole surely facilitates access to water (cf. Photo 7.4), as much as a school improves access to education. All of these factors are expected to have an impact on future livelihood trajectories, as I will show through their different strategies.

Range of adaptive strategies among *daribe gite* Fulani pastoralists

The *daribe gite* households are permanently settled in Gogounou. Livestock ownership remains a reality for many of them, although animal farming is no longer the sole source of income. However, there are some who do not own livestock, and owe their pastoral identity to their activism within Fulani associations and their arrangements with several alternative forms of subsistence, which may or may not be related to livestock rearing. One of the main characteristics of those who still have cattle is that the transhumance movements are no longer carried out as far as before, and are often oriented towards forest reserves for which they pay to graze. The herd goes for the great transhumance *ceedodi* (sing. *ceedol*) after harvest and after feeding on crop residues, but returns at the resumption of the rainy season. The animals are directed afterwards to the small transhumance *dummodi* (sing. *dummol*), after crops have been sown, in order to stay away from cultivated areas. Several innovations have increasingly been adopted by this group of herders.

Crop residues, ox carts and manure contracts

Crop residues can be collected by the herders from their own fields. They can also be gleaned elsewhere from the farmers' crop areas and transported to the camp to be stored. The residues are made of cereal straw (millet, sorghum, maize), and dry leaves of leguminous plants (groundnut, bean and cowpea). The fodder reserves play an increasingly important role in herd management:

Nowadays, it is very difficult to access grasslands to feed the animals. Therefore, it is very important to gather and conserve crop residues. This helps a bit to feed animals for a while. (Focus group discussion, Fana-Peulh village, 21/03/14)

These settled pastoralists are also open to try hay and straw conservation technologies to cover part of the feeding needs of their herds. Fulani associations promote these innovations. A group of 276 pastoralists and agro-pastoralists was formed in 2013 by UDOPER B/A, with support from Swiss and Dutch development agencies, to work on forage cultivation and conservation, and shed design. The beneficiaries of this training were from Borgou and Alibori Provinces. At least 24 herders in the group were from Gogounou (Boukari Bata, 2013: 39). Ox carts are used to gather and transport straw (Photo 7.5). Most settled pastoralists have great enthusiasm to own ox carts that increasingly play an important role in gaining access to harvest residues. Straw is collected on the farms of herders or farmer's fields within a mean radius of 15 km, and rarely beyond 25 km. This dynamic was also observed in the Senegalese Ferlo, where the donkey cart was a major labor-saving technology in managing transhumance by Fuutankobe herders. Those pastoralists use donkey carts to transport poultry, luggage, water, newborn lambs, sick animals and industrial feed concentrates in a context of great mobility (Juil, 2005a: 117). The emergence of this technology is still new among Fulani pastoralists in Gogounou, and the coming years might offer more innovative forms by way of using bullock carts.

Manure contracts allow some pastoralists to access crop residues from the fields of farmers, while providing the latter with cow dung that improves soil fertility with positive effects on crop productivity. This kind of contract is an ancient practice, but would have disappeared in some areas due to the crisis of confidence between actors. However, Fulani pastoralists who still have a good relationship with some Bariba farmers continue to take advantage of such manure contracts. Fulani herders offer in exchange different gifts in kind such as chickens, guinea fowl, poultry eggs or cow milk, if possible. In other areas, Fulani women and youths offer labor power by helping farmers harvest their crops. I have personally witnessed such manure contracts during my fieldwork in some regions including Boro, Lougou and Wara. But the relationships between actors seem more tense in regions like Gounarou, Fanan-Peulh and Zougou-Pantrossi, where most farmers burn their fields after harvest. This practice has developed since farmers perceive that some herbicides they



Photo 7.5:
UDOPER B/A
coordinator with
a young Fulani,
transporting rice
straw with a bull-
oek cart¹⁷⁰

use have fertilizing functions and therefore they no longer think they need manure from the Fulani livestock. This gravely affects the neighborly relationships between herders and farmers, leading to clashes but, in some cases, Fulani leaders can settle the disputes through agreements from both sides:

There was a farmer who had cultivated ten hectares of maize, but having finished harvesting, he prevented the herders from grazing their animals there. He set the residues on fire and it all burnt to ashes. This same farmer later asked the Fulani to keep their animals in his field, but the herders refused. He went to buy salt, which he distributed to the Fulani, but they still refused to tether their animals in his field. Someone cannot burn his crop residues and offer us salt in order to enjoy the dung of our animals. When we were informed about the situation, we Fulani leaders of Fana told him to make the commitment first to leave from now onwards his crop residues after harvest to us the Fulani – herders do not need his salt. It is on this basis that the Fulani could now tether their animals in his field. (Focus group discussion, Fana-Peulh village, 21/03/14)

The practice of selling crop residues has also developed. Farmers with sufficient residues from their farms select and store the necessary part to cover the needs of their own draft animals or small stock, and then auction off the remaining residues left on the fields. Under these conditions, access is given to the herders who offer the highest bids. One hectare of maize straw costs on average 5,000 CFA francs, but this amount can double when conditions are harsher. Fulani pastoralists who pay for crop residues

¹⁷⁰ Source: Boukari Bata (2013: 40) by courtesy of the author.



Photo 7.6: A straw stack in Bagou village

graze their herds directly on the field. They can also collect the residues, which are then kept in the camp to maintain the dairy cows and other selected animals during the dry season. Some pastoralists who enter into such straw purchase contracts with many farmers use ox carts to transport the straw to their camp for conservation and usage. The straw stack (Photo 7.6) is locally known as *danki fuddo* (fodder shelf) or *danki nyadu na'i* (cattle feed shelf). Those who are literate or well versed in the pastoralist association apparatus use the term “mirador”, borrowed from the livestock specialists who use this term when training them.

The manure contract can sometimes be collectively negotiated. I have observed this practice specifically in Lougou village where herds of over 20 Fulani pastoralists across Wara region come every year to stay in a wide field belonging to a Bariba farmer, in order to have easier access to the nearby “Alibori-Supérieur” forest and to provide manure. This seasonal settlement, called *kaborde*¹⁷¹, that replaced the great

¹⁷¹ The concept of *kaborde* (sing. *haborde*) is used to designate one or more herds as appropriate for the temporary meeting site of Fulani herds from the same region, usually installed near the local forest reserves. It is from this place that the herders, who have fulfilled the conditions imposed by the forestry laws, have access to the forests where they legally graze throughout the dry season. This is a very strategic place for Fulani pastoralists since they are banned from camping within the forest. However, as I will show later, several herders illegally install their *kaborde* deeper within the forest. And to outwit the vigilance of those who could understand the meaning of the word, a coded language was developed among Fulani pastoralists in which they use the word *takkore* (sing. *takkido*) to call their *kaborde* that is in the forest. The word *takkore* literally refers to something/somebody who/which is in the vicinity of something (water reservoir, forest reserve, or anything else) or in the neighborhood of somebody. But *kaborde* and *takkore* are sometimes used interchangeably to deliver a coded message concerning the Fulani herders who have illegally gotten in or have settled in the classified forests; or anything contrary to the forestry laws. The herds camping near the forest are called *kaborde takkore fore*.

annual transhumance to other areas, has no contractual commitment for the concerned farmer. Rather, it allows pastoralists to overcome the dryness while grazing in the forest for which they have paid some annual user fees. However, this farmer supports his guests by offering them a few bags of salt for their animals, to preserve friendship and have their willingness to come back to his land the next year. This is to prevent them from being diverted by other farmers who can afford to be more generous. Negotiations with the farmer and the resolution of problems in the *kaborde* are made by a senior pastoralist who is the *garso*¹⁷² and remains in contact with his junior pastoralists through a collectively chosen camp leader. Mobile telephony is the main technology that allows connections between the different actors involved in this kind of mobilization and collective forest grazing arrangement:

We accepted to come and tether our animals here on this land. This field belongs to a Bariba farmer who asked us to come here every year to stay in his field. The manure from our animals helps him to improve his agricultural yield. As foresters prohibited us from settling in the forest, we stay here and it is closer to the forest. We go inside to graze animals and in the evening we come back here. That is *kaborde*. When the rainy season begins, we used to have a party to say goodbye to each other. The *garso* of Wara region is our leader who negotiates and arranges everything for us here. We keep in touch with him using mobile phones. When a problem arises, he is automatically informed, and comes to help us. (Focus group discussion, Lougou village, 06/05/14)

This kind of organization also allows pastoralists who have not emigrated from Gogounou, to respond more efficiently to the needs of their herds. I have also met similar organizations of modest sizes in Diadia area (Seba, Illagi and Fuka sites) always around the classified forest of “Alibori-Supérieur”; and in Zougou-Pantrossi area (Berle, Dougoulaye and Zougou-Pantrossi sites) around the classified forest of “Trois-Rivières”.

Willingness to pay and graze in classified forests

There is increasing consent among Fulani herders who have not emigrated to pay a user charge to graze their animals in the classified forests of Gogounou District. As I have mentioned in the previous section, almost all transhumance movements are organized around or inside these forest reserves. The pastoralists take advantage of the provisions of the participatory management plans of these forests (MEPN, 2010a; 2010b), which have planned uses for different local socio-professional groups that can access land and plant resources under defined conditions. The five conditions to

¹⁷² The *garso* (plur. *garsoobe*) is the head of transhumance mobility among Fulani pastoralists in a given region.

Table 7.1: Terms to graze livestock in the classified forests of Gogounou

Steps	Check-in activities
Presentation	The herder must present himself to the members of the village committee of forest management to obtain a grazing permit.
Registration	The herder must be registered on arrival or at the entrance of the forest with the local forest managing structure.
Census	The herder must let his herd be identified (herd size).
Payment	The herder must pay the grazing fees.
Verification	<ul style="list-style-type: none"> – The herder should have vaccinated his animals against common diseases and should rigorously update the vaccination certificates. – The herder must be at least eighteen years old. – The herder must hold his grazing permit. – The herder must hold his receipt of payment.
Caution	<ul style="list-style-type: none"> – The herder must participate in the maintenance of pastoral infrastructure within the forest. – The herder must avoid cutting some species (<i>Khaya senegalensis</i>, <i>Azizelia Africana</i> and <i>Pterocarpus erinaceus</i>).

Source: Adapted from MEPN, 2010a: 57ff. and MEPN, 2010b: 64f.

be fulfilled for grazing livestock in the forests are summarized below (Table 7.1). The grazing fees amount yearly to 200 CFA francs per head of cattle and 100 CFA francs per head of small stock. However, the implementation of these rules often leaves room for clientage relationships that pastoralists must feed or confront.

The access strategies of pastoralists to the forests are not homogenous; they are multifaceted. Individual access is often accompanied by various negotiations, the results of which depend on the social network and the bargaining power of each herder. Collective arrangements are sometimes concluded with foresters and local forest managing committee members. This is the case, for example, with the Fulani herders in Wara region. Their leaders usually arrange a yearly payment of 20,000 CFA francs per herd regardless of the number of animals. This enables them to graze in “Alibori-Supérieur” forest. Sometimes, many Fulani pastoralists can combine their herds to take advantage of these fixed payments:

It is in the forest that we graze our animals. It is here that there is still some fodder during drought periods. We pay 20,000 CFA francs per herd annually. This is an amount negotiated by our leaders. If it was not the case, we have

REPUBLICQUE DU BENIN
 MINISTERE DE L'ENVIRONNEMENT
 ET DE LA PROTECTION DE LA NATURE
**DIRECTION GENERALE DES FORETS
 ET DES RESSOURCES NATURELLES**

BPF 12000F

REÇU No. [redacted]

Forêt Classée de : *trois rivières*

Unité d'Aménagement de : *ZOUGOU-PANTRESSI*

Village de : *ZOUGOU P.* Name of herder [redacted]

Activité : *ELEVEUR*

Quantité : *60 têtes*

Montant : *12000F*
Douze mille francs
 (Somme en lettres)

Collecteur.
 Signature, Nom et Prénoms
 [redacted] Name and signature of money collector

ZOUGOU P., le [redacted] Date of issue *11/11*

Photo 7.7: Receipt for sixty head of cattle in Berle Fulani camp

to pay 200 CFA francs per head of cattle per year. This arrangement does not depend on the size of the herd. Every cattle owner must pay this amount of money before getting into the forest. But when the herd of someone is smaller, we get together to pay the amount. The foresters also are not as severe as before. They were very hard on us because of the tree fodder that was abundant in the forest. But the woodcutters have finished them [tree fodder] with the tree-cutting machine. Also all the forest is full of crop fields due to the use of herbicides. As there are no more attractive resources in the forest for pastoralists, the foresters also became so kind, and negotiating with them is easier than before. (Focus group discussion, Lougou village, 06/05/14)

Some herders, who formally access the forests, reduce sometimes the size of their herds in order to register smaller herds. Once the process is completed and the grazing permit obtained, they add afterwards the rest of the herd and graze the larger herd in the forest. This is the case of a pastoralist in Berle camp, who has an invoice for sixty head of cattle, which covers his entire herd of more than one hundred (Photo 7.7). With mobile phone calls to their counterparts or household members, the pastoralists get regularly informed of the foresters' patrols. This helps them change position by getting deeper into the forest or quickly getting out altogether when they are not

entirely in accordance with the forestry law. The illegal invasions of pastoralists into the forests are also profitable *logoligi*¹⁷³ for forest officers and their local assistants.

Grass cultivation and fodder-tree planting

The forage crops introduced by pastoralist associations are increasingly being adopted by Fulani herders who do not plan to leave Gogounou. They are encouraged to utilize 0.25 hectare of their owned land to grow fodder crops. Different training and awareness-raising sessions are organized for the associations' members. Seedlings are also provided free of charge to them.

The main grass and legume species promoted are: *Panicum maximum C1*, *Andropogon gayanus*, *Leucaena leucocephala*, *Aeschynomene histrix*, *Mucuna pruriens* and *Sorghum* forage. The two most promoted fodder trees are *Azelia africana* and *Khaya senegalensis*. There is a growing adoption of forage crops in order to maintain at least some dairy cows to supply milk to the household during the dry season. According to the agricultural extension service of Gogounou, about 25 Fulani pastoralists cultivate about ten hectares of *Panicum maximum C1* and four hectares of *Azelia africana* throughout the district. There are also few plots of *Andropogon gayanus*, *Mucuna pruriens* and others, which are not officially registered. The UDOPER B/A reported that 57 hectares of fodder fields were installed in 2013 by 117 agro-pastoralists in Borgou and Alibori Provinces (Boukari Bata, 2013: 20).

Despite the willingness of pastoralists to grow forage species, several constraints limit their adoption. The land constraint however remains the main factor as revealed by the pastoralists:

We made 0.5 ha last year. But this year we have reduced it to 0.25 ha because we do not have enough land for food millet. This forage can feed three head of cattle from November to February. But from March we must use some fodder trees. It also becomes necessary to move for transhumance. (Alou, Pariki village, 12/03/14)

We are ready to grow the herbs that are being distributed by UDOPER. But we have no land. If we take the small plots we have to cultivate herbs for cattle, where can we grow food crops to feed ourselves and our families? If the animals eat, we must also eat. (Focus group discussion, Fana-Peulh village, 21/03/14)

¹⁷³ This is a coded language used by the forest people (forest officers, trackers/guides) to refer to "business". This can be understood as a "mafia", or opportunity to extort a lot of money from Fulani offenders. These are profit-making opportunities where various interpretations are made of forest laws. A tracker of "Trois-Rivières" forest told me during an interview in Zougou-Pantrossi that the monitoring of forests is interesting and exciting if there is so much *logoligi*. When there is no *logoligi*, his work is quite unattractive. In order to make forest monitoring a worthwhile business, forest workers used traditional methods called *Yoomani* involving magical powders and formulas, which caused Fulani herders to enter illegally into the local forest.



Photo 7.8: Seedlings of *Panicum maximum* C1 supplied by UDOPER B/A

The growing adoption of forage species is seen as competing with food crops on the small plots to which Fulani herders generally have access. The seasonality of fodder sorghum and fodder bean is seen as burdensome by the herders. Further, the technical management of *Aeschynomene histrix* is perceived by the pastoralists as very complex. Therefore, *Panicum maximum* C1 (Photo 7.8) is the most popular forage adopted by pastoralists due its easier cultivation and its adaptation to local ecological conditions (Boukari Bata, 2011: 10).

Introduction of new species into livestock feed

Many plant species formerly useless for animals are being gradually introduced into their daily diet. Some species that are more readily available on the poorer rangelands are also routinely chosen by the animals themselves. But others were tested by herders who successfully trained their herds over a period of time to feed on these plants. One of my informants in Borodarou village explained how he made such an experiment with his cattle:

As there was plenty of grass, the animals chose which of the feed types to consume. As grass and plants are lacking now, they have no choice. They are ready for anything. Sometimes I am surprised myself to see my animals eating

some grasses that I had never seen them eat before. Nowadays, the animals eat everything they find. [...] But we ourselves have also trained them to have some leaves, especially from the tree – such as mango leaves, shea leaves, and so on. My cattle even eat neem tree leaves and seeds; it was not so in the past. (Belki Abou, Borodarou, 07/04/14)

Belki showed that the scarcity of resources led the animals instinctively to consume some species that they were not used to. The herders have just taken advantage of this to offer to them other fodder trees which they could not directly access themselves. The new herbs are willingly consumed by the animals themselves, while the newly-introduced fodder trees are from the initiatives of some pastoralists. Not all of the new species have had positive effects, even if the herds continue to feed on them. This is the case of *lubujan* (*Hyptis suaveolens*), which is an invasive species that has recently spread across the rangelands in Alibori Province. Its use by animals is suspected to be the cause of some negative impacts such as the discoloration of their coats. In addition, the milk produced is viscous, lacks its true white color and becomes unfit for conservation and trading. A short list of new and old forage species used by pastoralists in Gogounou is provided in Appendix 2 of this document.

Adoption of industrial concentrates and mineral supplements

The use of different industrial feed concentrates, vitamins and minerals for better maintenance of herds in Gogounou District is an initiative promoted mainly by pastoralist associations. With support from development agencies, a veterinary pharmacy and an input store were built in Gogounou. The pastoralists are seasonally supplied with different agro-industrial byproducts and veterinary inputs. For example, in 2011, 275 40-kg bags of cottonseed cake with a total value of 1.309 million CFA francs were supplied in Gogounou, but, by the end of the year, only 60 bags were bought by the herders for 0.359 million CFA francs (Boukari Bata, 2011: 8). Despite the still limited demand from pastoralists for such products, awareness campaigns are being undertaken to increase their interest; and this is bringing some very impressive results. For example, in 2013, eight agro-pastoralists from Gogounou made a request to UDOPER B/A for 24 bags of cottonseed cake and 390 multi-nutritional mineral blocks to feed about 26 head of cattle (Boukari Bata, 2013: 43f.).

The production of minerals is the most preferred option of Fulani associations for maintaining the cattle herds on site. Fulani females were trained in using local materials to manufacture animal mineral supplements, especially the lick-blocks made of bones, salt and cement. Twenty-eight Fulani females were trained in 2011 in Gogounou for this purpose. One hundred lick-blocks of five kilograms each were produced. These were sold to pastoralists at 2,000 CFA francs per unit, a price far better than the imported ones that cost 2,350 CFA francs per 2-kg block (Boukari Bata, 2011: 13). Regular sensitization programs were also undertaken to convince herders to use such mineral products in their livestock production systems. However,

these products were not fully adopted due to the reluctance of herders, strengthened by stories of some dangers faced by earlier users. In fact, some animals received some injuries on their tongues after using the locally produced lick-blocks. Some of these animals have had their tongues cut off due to the abnormally high concentration of cement used in the design. The victims of this problem started to campaign against the products from UDOPER B/A, doubting their quality. Awareness campaigns were quickly undertaken to rebuild the confidence of pastoralists, but so far without success. More recently, Fulani women were trained to manufacture multi-nutritional blocks (with urea, salt, bran, bone, straw, etc.). These products are being integrated into the extension plan to convince herders to use them.

Mobile telephony among settled Fulani pastoralists in Gogounou

The mobile phone plays an important role in the management of the herd. It is used for handling issues related to pasture, veterinary care and market access. In trans-humance, pastoralists use the cell phones to inform the camp of their movements and their difficulties. They often call their veterinarians for animal care. The herders often call their butchers to sell sick or dead animals. They also use mobile phones to learn about livestock prices in different local and regional markets. Some also have contacts with cattle dealers to whom they sell animals before the market day in case of necessity. When there is no suitable network coverage, specific network reception spots (Molony, 2009: 100), such as tall trees, termite-hills and areas of high



Photo 7.9: Contact-saving strategy by some Fulani pastoralists in Gogounou

altitudes¹⁷⁴ are identified and accessed in order to receive better coverage and make occasional calls. It is not uncommon to also see some herders who have several SIM cards from different GSM network operators. They regularly change them when they find themselves in areas where there is no network coverage from one of the operators or the other. Some of the benefits of mobile phones were shared by my interviewees during a group discussion in Garikoro camp:

Nowadays, mobile phones have given us a rest because, in the past, we were forced to move before talking to our children who are also on the move with our animals. Now, everything has changed. With the arrival of mobile phones, we can stay home and be aware of what is happening with the animals in the bush. [...] Even if at some point in the deep bush they do not have the network, as soon as they find the network, they call us. [...] With the motorbikes, everything has become easier. Even if our children are in transhumance far away, we can visit them easily. We even use our motorbikes to move the equipment and materials that we use during the transhumance. (Focus group discussion, Garikoro village, 20/03/14)

When looking closely at technology appropriation, various lessons emerge from my ethnography of telephone usage by Fulani pastoralists in Gogounou. The first aspect concerns the registration of contacts. The main strategy used locally to save the contacts is based on using a homogeneous combination of figures or letters (Photo 7.9). With these combinations, the herder has the ability to record 10x26 series of figures and 10x9 series of letters, making a total of 350 phone contacts. They also have the ability to assign specific figures, symbols or letters to different members of their social network. The close relatives may be A, B for distant relatives, C for friends, D for butchers, E for veterinarians, F for Fulani association leaders, G for cattle traders, etc. This strategy allows Fulani herders to classify the most important useful contacts for themselves and their animals. They could also classify the farmers and the foresters according to the friendly or hostile relations between them. The phone numbers of the “good” farmers with whom they have the opportunity to establish manure contracts can be designated as number 1, while the “bad” farmers, who are considered as enemies, can be number 2. Each number or letter in the cell is indicative of the relationship that binds the herder and his herd with the owners of those contacts. Thus, the mobile phone makes out of Fulani pastoralists real social planners.

The phone learning process underway in Gogounou also provides new trajectories on how endogenous communities appropriate various communication technologies. The enthusiasm of Fulani pastoralists for using mobile phones is supported in some regions by the efforts of some young educated Fulani who offer learning services. Certain devices, which are relatively easy to use, such as Nokia C1 (Photo

¹⁷⁴ This actively sought physical network reception is what some authors call opportunistic network (Molony, 2009: 100; Kibora, 2009: 119).



Photo 7.10:
Nokia C1 mobile phone

7.10) and the like, are used for capacity building for illiterate Fulani people. The learning process often takes two weeks to three months to know the basic functions necessary for making and receiving calls. This all depends on the degree of assimilation of the learners. The Nokia C1 is divided into two different parts: the first section called *Buto wodi alfani* in Fulfulde language means all the function keys; and the second section *Buto konto rogel* includes all the alphanumeric keys. The young educated Fulani like Sanda and Arouna in Fana-Peulh village offer adult training courses, with a special training curriculum designed to meet the lower technological profile of Fulani pastoralists (Table 7.3).

The division of the keypad of the Nokia C1 phone, according to the functions of its buttons, aims to help illiterate people to rapidly and easily learn the basic elements for manipulating the technology. Young educated Fulani can devote five minutes to two hours per day for this work, which also brings them huge benefits. All locations are good for them to offer this service without requiring special conditions (cf. Photo 7.11). Dependency relationships may also arise between the trainers, who benefit in cash and kind (money, chicken, eggs, milk, *wagashi* cheese, and invitations to various ceremonies) from their trainees. People who have learnt how to use the mobile phone periodically offer to their instructors, small gifts to preserve social ties in order to call on their competence at any time for learning new aspects or refreshing their memory in the cases where they forget. I was eyewitness to how a pastoralist from Dougoulaye village offered a chicken to Sanda Aboubakar, having been satisfied with the way the young Fulani taught him to handle his mobile phone that now gives him huge advantages. Sanda enjoys the great appreciation shown by the beneficiaries of his mobile phone teaching services. He takes advantage of this to increase his popularity within the electorate, as he was planning to run in the next local and

Table 7.3: Training curriculum for illiterate pastoralists on mobile phone use

Keypad		Functions	
Button	Position	Identification	Signification
<i>Buto dowroa</i>	The upper left button.	<i>Gatowa e kutowo</i>	This is the button that can record and delete something on the screen. It must be tapped with care in order not to accidentally delete important things or save unnecessary things.
<i>Buto becea</i>	The upper right button (<i>taught as the similar button on right side and opposite to the first one</i>)	<i>Buto becea e wawaco witi noi tagaado e to woo no, ma or wama co dedi batu tagaado</i>	This is the button that allows reaching unknown functions. When pressed a second time, it brings back to the starting point. It is also a button to turn the device on loudspeaker when calls are in progress.
<i>Buto bogoel</i>	The green button	<i>Buto bogoel can nu wolita nodol numoraji</i>	It allows calling the contacts.
<i>Buto bodel</i>	The red button	<i>Can nu warata e umiina hite potabu</i>	It will turn off or turn on the phone.
<i>Buto leroel</i>	The button which is down	<i>Can nu holata numoraji</i>	It allows verifying the numbers of contact persons.
<i>Buto dowuroel</i>	The button is above	<i>Can nu yarata numoraji dowu ma bo can nu hulata tosu</i>	It allows caller to go directly to the contact numbers, to check the numbers before and those after. It also helps in lighting the torch.
<i>Buto nanowel</i>	The left button	–	It is taught to the advanced learners.
<i>Buto yamowel</i>	The right button	–	It is taught to the advanced learners.
<i>Buto caka e buto manga</i>	The central button or the largest button	–	Direction button to go up, down, left or right.

municipal elections in his region (Zougou-Pantrossi). Like Sanda, Arouna also gains huge benefits from teaching mobile phone usage to adult Fulani pastoralists within Fana-Peulh. The youth, in his fourth year of secondary school, earns from 100 up to 1,500 CFA francs per day in teaching mobile phone use to illiterate people. This money helps him a great deal in covering some school and personal expenses. He has even recently paid for a heifer that is kept in his father's herd. Thus, the mobile phone increases the socio-political commitment and the business acumen of young Fulani. Their parents also enjoy its usefulness through easier access to resources and the market.

The enthusiasm of pastoralists to proficiently use mobile phones is also seen as having a positive impact on the literacy rate in different regions of Gogounou. The trend is even stronger within those villages where the youth are committed to training Fulani adults. The herders who wish to have more knowledge about phone technology massively enroll in local literacy programs where they are given the opportunity to learn both French and Fulfulde languages. Many Fulani pastoralists of Fana-Peulh village registered for literacy courses in order to increase their knowledge of handling mobile phones. They even collectively sought out and struggled for a local literacy center that was successfully granted by a local NGO promoting Fulfulde and French literacy, with the support of Fulani association leaders. This positive influence of mobile phone appropriation on literacy rates was also observed among some pastoralists of Mali, who have developed a particular enthusiasm for writing in French and Arabic languages (Keita, 2015: 95f.).¹⁷⁵

Some Fulfulde songs, which were inaccessible to herders in the past, are now available at lower prices. The pastoralists often buy digital MP3 or MP4 versions from 150 to 1,000 CFA francs, and they play these when grazing in the bush or during other everyday routines. Music not only break the monotony and, therefore, loneliness of herding, but also helps youth to stay inspired by Fulani traditions, the authenticity of which is confirmed by the various songs and music styles they listen to. Thus, mobile phones are seen as contributing to the promotion of Fulani cultural values and to the reconnecting of acculturated Fulani to their traditions, while relieving young Fulani herders from the bulky radio sets that they used to carry around in the past. Cell phones also have other important uses in the daily life of Fulani pastoralists in Gogounou. Their clocks, alarms and timers are variously used during grazing, watering and marketing times, etc. Their calculators are also involved in accounting or making small calculations by the more educated people, which are typically those involved in French literacy programs. Another quite fascinating use of mobile phones is the way in which some herders with multi-media phones take pictures or short videos of sick animals with their different symptoms in order to re-

¹⁷⁵ The link between mobile phone culture and forms of literacy (alphabet learning, text messaging, nicknaming practice, codification and abbreviation) was also established by Brinkman *et al.* (2009: 84) in their study in Khartoum (Sudan). Kibora (2009: 120) also reported that the presence of literate adults in the villages of Burkina Faso has promoted the use of Short Message Services (SMS).



Photo 7.11: Arouna training two Fulani pastoralists in Fana-Peulh village

ceive some tips from their peers during the livestock market days, or from their vets, for diagnosis and care. The full potential of multimedia phone appropriation among Fulani pastoralists has not yet been revealed.¹⁷⁶

The adoption of mobile phones by pastoralists has also developed the entrepreneurship of Fulani youth. Abou, formerly a Fulfulde literacy teacher in Sori Region, has taken advantage of the local demand of mobile phone services to develop his own small-scale business. His kiosk is strategically located in front of the livestock market of Sori village, which is the largest livestock market in Gogounou District. This enables him to do good business every week through the various services he offers to Fulani pastoralists. The main service provided by the young Fulani entrepreneur is the charging of batteries with a small power generator. Phone accessories and small repairs are also available to the customers (cf. Photo 7.12). The profits from this business are often directed towards supporting his family members, building up a cattle herd and making various small-scale investments.

This is also the case of Amadou, a young Fulani pastoralist living in Diadia village, who has originally trained in veterinary services. He offers to Fulani herders

¹⁷⁶ I fully agree with Keita (2015: 95) who postulated against the diffusionist anthropological model that underestimates the creativity of social actors and argued that the “technological culture cannot be limited to a functional model, but requires a functioning, compatible with constraints being regional, political, economic, geographic, cultural, etc.” (*ibid*: 96).



Photo 7.12: Mobile phone kiosk of Abou, a young Fulani in Sori village

various services – recharging of batteries, sale of SIM-cards and prepaid-cards of various GSM operators, and the promotion of a video club – which provides him with significant income, strengthening his pastoral livelihood. This economy of resourcefulness induced by the advent of information and communication technologies and which requires no prior training, is also visible in many other villages and camps in Gogounou where it gives young Fulani the opportunity to make money and improve their living conditions in a totally uncertain pastoral environment. Fulani pastoralists in their adaptation strategies take advantage of the “smart informal economy” falling under the imagination and the creative genius of social actors who design small jobs or invent various trades (Touré, 1985: 290; Chéneau-Loquay, 2004: 355; De Bruijn *et al.* 2009: 18; Keita, 2015: 96f.).

Transport technologies and livestock management

The transport technologies increasingly play an important role in the pastoral economy in Gogounou. A variety of vehicles with two or three wheels (Photo 7.13 and Photo 7.14) are used by herders to access resources located deep within local forests, or in various regions where they try to prospect grazing opportunities. They also

facilitate market access and strengthen in several ways the economy of Fulani households.

In Ilaagi, a site located deeper within “Alibori-Supérieur” forest, about 25 km from Diadia village, several pastoral households seasonally install makeshift shelters (Photo 7.15), where they spend the dry season peacefully grazing their animals before returning to their affiliated camps at the beginning of the rainy season. Part of the household is relocated to the forest where there is access to resources. Even though these resources are no longer as abundant as before, it is still better than outside the forest. During this stay in the deeper parts of the forest, where access to resources improves, substantial animal growth benefits are recorded as well as significant improvements in milk production. The processing equipment transported into the forest by Fulani males with motorbikes (Photo 7.13) allow women to convert the abundant milk into *wagashi* cheese, which is regularly taken to Diadia market to be sold at a more expensive price and to take advantage of the flourishing demand



Photo 7.13: A Fulani pastoralist carrying back milk-processing materials from “Alibori-Supérieur” forest¹⁷⁷

¹⁷⁷ The Fulani pastoralists are very well known for these kinds of Chinese motorbikes and are particularly fond of them because of their length, which facilitates the transport of many and heavy loads. In northern Benin there is even a stereotype that equates anyone with this model of motorbike to a Fulani.



Photo 7.14: Tricycles awaiting loading at the livestock market of Petit-Paris in Gogounou



Photo 7.15: Seasonal shelter of transhumant pastoralists within “Alibori-Supérieur” forest

during the dry season. At the end of the dry season, Fulani herders are happy with their herd being totally overweight, as are the women, who also make huge profits that contribute to the wellbeing of their households. During my visit to Ilaagi, where I observed both cattle grazing and cheese processing within the forest, pastoralists claimed that four months in the forest are better than two years outside. This justifies, once again, why paying for grazing permits in the classified forest was agreed on by many Fulani pastoralists: once they get in, they can take advantage of their grazing permits by exceeding the boundaries established by the forest laws.

Similar practices were also observed in Dougoulaye village, where pastoralists travel deeper into the “Trois-Rivières” forest, to spend their transhumance time and to develop their pastoral economy. The Fulani have also recently collaborated with *Boko* farmers of Dougoulaye village to build, at their own expense, a large wooden bridge to facilitate the transport of animals and various commodities by motorbike to various local markets in Gogounou. Since this village is isolated by a large river, which causes seasonal drowning of people and goods, and prevents market access, the motorbikes, manufactured in China and abundantly acquired by Fulani pastoralists, have become essential in this forest-dependent pastoral economy. In addition, without being owners, Fulani pastoralists often seek tricycle services for delivering animals to the marketplaces (Photo 7.14), and for the transport of water and fodder to their camps. The same means are also used for transhumance movements within a 50-km radius, especially when there is a need to move sick or injured animals, cooking items, milk-processing equipment, household members, etc.

Willingness to use and pay for modern livestock health care

The pastoralism in Gogounou District has been characterized by a greater use of veterinary care during the recent decade. Apart from the mandatory annual vaccination campaigns proposed by the Ministry of Livestock for certain diseases (Pasteurellosis, Contagious Bovine Pleuropneumonia, etc.), Fulani herders benefit daily from the services offered by various veterinary specialists, paravets and barefoot vets (*piqueurs sauvages*). Since the livestock health sector is liberalized, it is mainly the private actors who control the basic services to the pastoralists. The local private operators outnumber those working in the local public livestock production office. The failure of control in the veterinary sector subjects the pastoralists to serious problems related to the quality of the vet inputs and service delivery. However, Fulani herders require now more veterinary care than in the past, especially those with whom they have trustworthy relationships. The latter are regularly called upon on mobile phones to take care of sick animals. When the herd is far away, some instructions may be given by the vet through mobile phone calls to help the herder to care for the sick animal himself. Some diagnoses are also made based on pictures or videos provided by the pastoralists when conditions do not favor immediate on-site care by the specialist. These kinds of cases have often been reported by the Municipal Agent for the Con-

trol of Animal Products (ACCPA¹⁷⁸), who is responsible for livestock health care in Gogounou District. This easier access to veterinary care is perceived by herders as having positive effects on their livestock production:

Nowadays, there are veterinary products available everywhere. There are also veterinarians everywhere. This reduces the mortality in our herds. If your animal has a problem, just take your phone and call the vet and he will come and provide care. We are now accustomed to veterinarians, and they are our best friends. We also use animal health products more than in the past. In the past it was not like that. But all these help us to save our animals. (Sammon, Gounarou, 08/04/14)

The pastoralists are also involved in various learning programs on basic animal care. These courses are offered to them by Fulani associations with technical and financial support from various development partners. This allows them to perform more easily parasite treatments and to undertake other primary health care. In most Fulani settlements, only the unknown and complicated animal diseases require veterinary services. However, after the vet has been once to administer a particular treatment, that same treatment is sometimes systematically repeated by other pastoralists when their animals exhibit similar symptoms. This is the reason why self-medication for animals is also well developed within Fulani camps in Gogounou.

The proliferation of barefoot vets and the development of informal flows of veterinary products are very important factors that help some herders to take regular care of their animals. This is not without consequences, and here I bring attention to the dubious quality of drugs and remedies available on the local market, as well as, the limited capacity of the pseudo-vets in providing targeted and effective treatments. Therefore, pastoralist associations have become well engaged in fighting for better access to quality veterinary products. With donors' support, a veterinary pharmacy, created by UCOPER-Gogounou, supplied veterinary drugs in 2011 for a total of 3.005 million CFA francs. These products, often considered to have fair and attractive prices, are gradually gaining interest from herders, even though the black market remains the first resort for many of them. Despite all of the named and unnamed constraints in the veterinary sector, improvement in the level of access to veterinary care has been widely recognized by local pastoralists as having positively influenced their activities and general wellbeing.

Cultivation practices among daribe gite Fulani pastoralists

Small-scale farming is inseparable from the life of the permanently settled Fulani herders in Gogounou. This crop farming integrated with livestock keeping continues to be guided by the concern of using animal manure. While their farmer neighbors

¹⁷⁸ Agent Communal pour le Contrôle des Produits d'origine Animale.

have less and less need of manure because of multifunction herbicides, and are less willing to engage in contracts involving crop residues, Fulani herders continue to give prominence to livestock manure in their own farming practices. Cattle manure is, for example, perceived as more effective than chemical fertilizers. Subsistence farming practices that involve millet, sorghum and sometimes maize is enough to cover the food needs of households that have access to only a little land:

No matter the number of animals one has, Fulani herders still cannot live here in Gogounou without cultivation. [...] Animal wastes are good fertilizers. A hectare of land well-fertilized with animal manure is better than several hectares treated with chemical fertilizers. Where the Fulani finds 0.5 ha to tether his animals, its yield is sufficient to satisfy the needs of his whole family for the entire year. It is because of all this wealth that the *haabe* [farmers] are jealous of us. (Focus group discussion, Lougou village, 06/05/14)

The manure is perceived by the Fulani pastoralists in Gogounou as an important wealth – enabling successful crop farming to meet the household needs. As an integral part of their rich capital, they think it attracts the covetousness of their farmer neighbors. This kind of perception is not new among pastoral societies. Fulani herders have always seen farmers as bad people, poor and envious (Diallo, 2000: 89; Schareika, 2004: 177; Juul, 2005b: 119; Korbéogo, 2013: 138f.). Many of my Fulani interlocutors often communicated the abuse of herbicides by farmers so as to cultivate large areas in revenge, to get extremely rich, and to ultimately impoverish the Fulani pastoralists. Herbicides are portrayed as supporting a kind of “ethnic catch-up”, allowing the ethnic group that considers itself in a weak position on certain aspects of its cohabitation with other ethnic groups, to take advantage of these chemicals to strengthen its power.¹⁷⁹

Alongside this subsistence farming presented above, a market-oriented agriculture involving cash crops such as cotton and especially maize has also developed. This is the case for some Fulani pastoralists who have access to land and can sometimes cultivate up to two hectares of these crops. It is a good way to earn cash in order to meet their diverse household needs. Therefore, Fulani pastoralists are also engaged in the use of herbicides, as I observed in both farms and local markets (Photo 7.16). However, they regularly claim that their way of using those products is more environmentally friendly and better safeguards the livestock compared to the practices of their jealous Bariba neighbors. This trend contradicts findings of some authors who observed a few decades ago that Fulani pastoralists in northern Benin practiced

¹⁷⁹ The dynamics of ethnic catching-up is linked to both opposing ethnic groups in Gogounou. Here, Fulani pastoralists consider they are richer than Bariba farmers, and that is why the latter use herbicides against their herds. But to improve their access to land for which they are in a weak power position, pastoralists also use the same chemical weedkillers as tools of resistance to strengthen their presence on land.



Photo 7.16: A Fulani pastoralist negotiating herbicide prices in Gogounou market

only subsistence agriculture, not cotton production and therefore were not market-oriented (Schepp, 1989: 32ff.; Guichard, 2000: 95).

The Fulani households in Gogounou also keep small ruminants (goats and especially sheep) and poultry (chicken, guinea fowl, etc.). These activities that were recognized as being for females in the past are currently widely controlled by men in many households. They play a supporting role in generating cash income to cope with the everyday household needs (food, health care, child school fees, female fashion accessories, etc.). These animals are also sold to swiftly purchase implements and various chemicals (fertilizers, insecticides, herbicides) for the crop enterprise, as the Fulani develop an interest in cash farming, despite their land constraints.

Although the productive use of manure has been key for Fulani crop cultivation practices, the herders have become increasingly committed to chemical-based agriculture and would have obtained more substantial benefits from it by now, if land access were not a limiting factor. They have failed to extend their farming area like the Bariba farmers, since they have to divide their small plots between food, forage and cash crops. I have not been able to assess thoroughly the difference between the crop farming practices of Fulani herders and Bariba farmers, but it seems overall that the former intensify their small-scale farming in comparison to the latter who take advantage of their power over land ownership to continuously extend their crop

fields. What is obvious is that Fulani pastoralists seldom use tractor and other modern farming implements, or call on waged labor to help undertake farming activities. Rather, they mostly depend on the active members within the household. Most of the Fulani who own tractors or use tractor services are the intellectuals – generally leaders of pastoralist associations who take advantage of their political influence to buy or borrow more land. This is, for example, the case of Sidi Djobo in Pariki camp, and Alfa Tidjani Aboubakar in both Fana-Peulh and Binga camps. A few other Fulani pastoralists who use agricultural machinery services to farm large areas are those who have increased their land access by making secret arrangements with emigrant herders. Matchoud, who has about two hectares of maize in Bagou village, is a case in point. One could assume therefore that the intensification of farming is an effective coping strategy among Fulani herders in Gogounou District.

Diversification and social change among daribe gite Fulani pastoralists

Apart from growing crops and the rearing of small stock, both of which play an important role in Fulani households in Gogounou, several other activities are complementary sources of income for them. Many Fulani herders have decided to gradually leave the “bush” life to find a place in the modern society. Unlike the 1980s and 1990s, when the life of Fulani in northern Benin was still highly traditional, the transformations nowadays are deep and quite visible. As it appears in pictures 7.2 and 7.3 above, the Fulani now live in rectangular houses, which are metal-roofed, painted and sometimes equipped with metal gates and modern pieces of wooden furniture. Building standards and spatial ordering principles as required by Fulani tradition and socio-cultural values (Bierschenk, 1999: 197ff.) are often no longer respected. The main reason often cited by the Fulani herders is that there is no more grass, as the bush is disappearing, and as such the use of corrugated iron roofs has even become cheaper than the use of straw to cover their houses. The houses (*suudu*), the farms (*wuro*) and the hamlets (*gure*) are no more like before. Everything has changed and has become “modern”, as the Fulani themselves put it. The economic organization and the household strategies are sufficiently open to modernity, as one can also find schools in the Fulani camps. Using two case studies, I will focus on some of the socio-economic and even political strategies used by Fulani pastoralists to become sustainable in a context of uncertainty.

First case study: Sidi Fana, a Fulani herder with three lifestyles

Sidi is a Fulani pastoralist living in Zougou-Pantrossi Region. He was formerly a milk collector for the mini-dairy of Gogounou (SOCOLAIG). Although he had no formal written contract with this company, this milk-collection activity from 2006 to 2010 brought many changes in his life. He was twice given motorbikes and was able to earn each month more than 20,000 CFA francs to offset his household financial challenges. Sidi has four wives residing in three different areas (Figure 7.3). The

first dwelling is a bush camp where his first two Fulani wives are living. These women are occupied mainly with a herd of about 20 cattle. The second dwelling in Fana-Peulh village capital is where Sidi's third wife from the Gando ethnic group lives. Finally, Sidi has a third dwelling place in Gogounou city center, where he has rented a house for his fourth wife, who is from the Bariba ethnic group. This modern herder places a strong emphasis on education. All of his children are schooled in the village capital, except the eldest boy who takes care of the herd. The main aim of Sidi is to ensure a better future for his children, such that they will no longer have to depend on livestock keeping, which is becoming increasingly difficult in Gogounou. The children who reach secondary school level are accommodated by their stepmother in town in order to complete their course. Sidi regularly argues that the best strategy available to the Fulani to ensure a future in Gogounou is to mix, as much as possible, with other local ethnic groups (Gando, Bariba and even others) and to look for alternative livelihoods. I give hereafter some details about Sidi Fana's life in his three different residences.

Sidi in the camp: The first two wives of Sidi are Fulani and live in a pastoral bush camp (Figure 7.3–Sidi dwelling place 1). Their main activities are managing the milk (milk trading, *wagashi* processing and sale) and collecting shea nuts to be processed and/or sold as food. They are also involved in food crop farming activities on 0.25ha of land. Here, some relics of the traditional farm organization in Fulani society still exist. One could find round houses, the place of a former shea tree, the position of seniors' apartments in relation to those of youth, the place to tether the animals, etc (cf. Bierschenk, 1999: 198). It is in this residence of Sidi's that Fulani traditional building standards are still being met. The house was built by his late father and his uncle, who is the oldest person still living in the camp. Sidi perceives this camp as a family home. This is also the only place where he feels like a true Fulani, although many innovations have been introduced. Some rooms are rectangular, sheet-roofed, cemented, painted and do not seem to match with the lifestyle known to Fulani herders. Sidi is often in his Fulani home for making decisions about his herd (animal feeding, veterinary care, transhumance in "Trois-Rivières" forest). He is also often occupied with family responsibilities and challenges related to his very old uncle and his two wives.

Sidi in the village: The third wife of Sidi comes from the Gando ethnic group and lives in the second residence in the village capital (Figure 7.3–Sidi dwelling place 2). This house was built on the roadside and is where Sidi receives his visitors. I was myself hosted in this house many times during my research stay. The Fulani original construction standards are not met here. The two buildings are rectangular, roofed with corrugated iron, color-washed and fitted with metal gates. The living room is equipped with wooden armchairs showing certain modernity. The whole yard around the house is fenced. Sidi, with the support of a local NGO, has installed a biogas plant that provides energy for lighting and cooking. About four fruit trees (mango, lemon and guava) are planted in the courtyard. A part of the courtyard is reserved for small-scale gardening. This allows Sidi's third wife to plant vegetables like

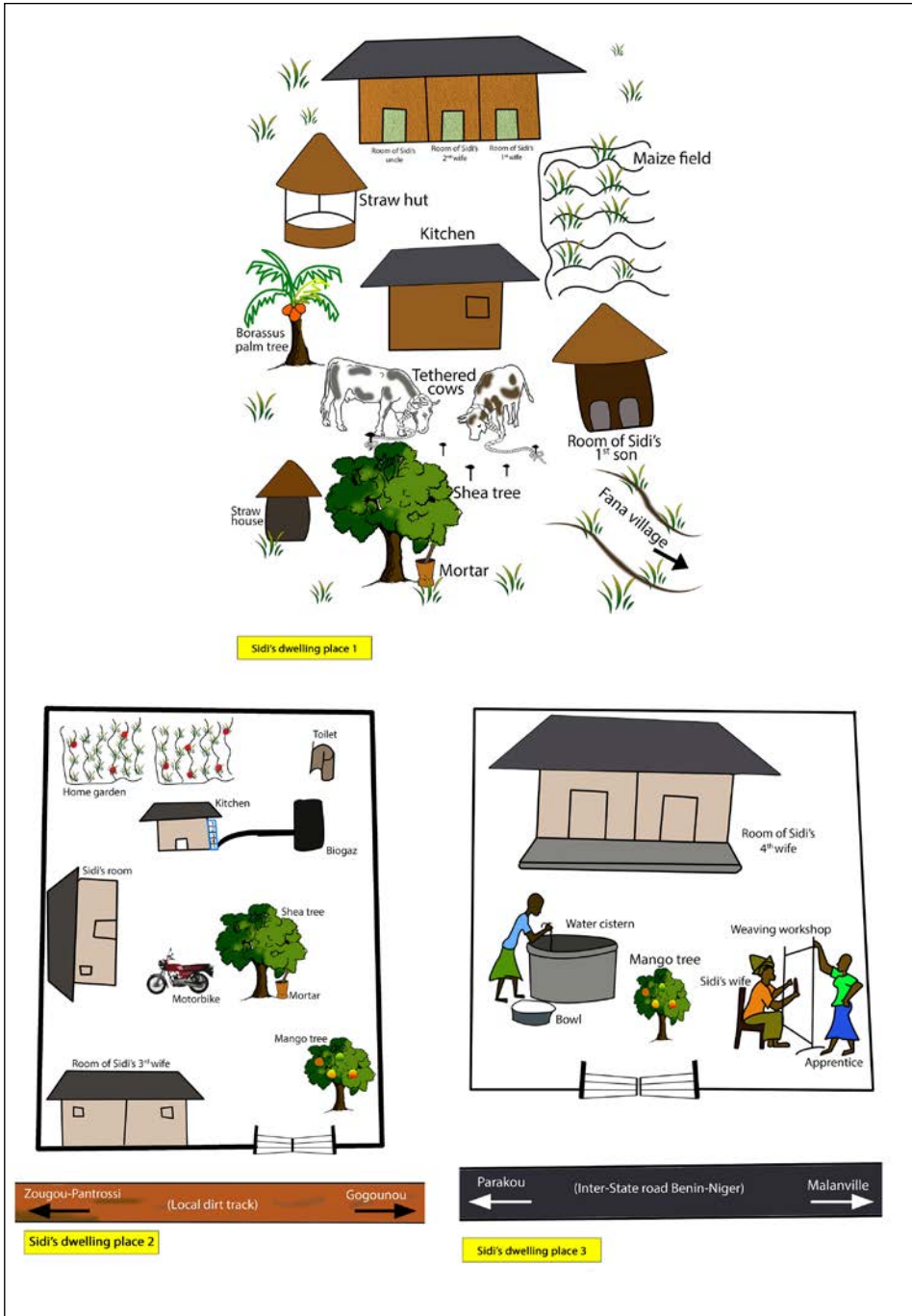


Figure 7.3: Dwelling types of Sidi Fana

okra, pepper, tomato and so on for her own use, or sometimes for small sales. This wife is a food vendor along the main dirt track connecting Gogounou to Zougou-Pantrossi and is not so much involved in herding. She is sometimes able to access milk when her husband returns from the bush camp, where the milking is usually done. However, there is no regulated milk sharing system that assures her access to milk. Apart from her petty trade, she is more involved in the annual cash-crop life of Sidi, who cultivates cotton and maize on about one hectare of land to which he has access on the other side of the village (in the opposite direction from his family bush camp). This small-scale cropping allows him to earn cash at the end of the farming season. The cotton is directly sold through the government formal system whereas maize is stored until a high price can be attained on the market. The storage of maize strongly determines the life of Sidi in Gogounou's city center, described in the next paragraph.

Sidi in the town: The fourth wife of Sidi, Bariba, lives in the heart of Gogounou city in a house rented by her husband (Figure 7.3—Sidi dwelling place 3). She is a weaver by profession, with several apprentices. She is also actively engaged in maize trading with Sidi. She has no part in Sidi's life in camp and knows very few things about the management of the herd. The maize stored in the Fana village capital is often transferred to the third house in the city. It is from there that it is sent to the market to be sold at a better price. Sidi and this wife sometimes buy cheap maize locally, which they transport to big cities like Parakou and Malanville to resell at higher prices. This business is an important part of the urban life of Sidi. However, it is not the sole urban occupation of this modern herder. He is also involved in different initiatives of Fulani associations and was even enrolled as a milk collector (as previously mentioned) for three years before the closure of SOCOLAIG in 2010. He still holds this position and will probably continue when the factory is relaunched, as envisaged for the very near future.

Synthesis: The dwelling types and livelihood strategies of Sidi, as described above, are threefold. Firstly, his four wives and multiple residences help to strengthen his social ties. His exogamy is particularly revealing. The *hypogamic and hypergamic marriage* to a Gando woman and a Bariba woman, respectively, allow him to improve his social network by easily getting along with influential contacts.¹⁸⁰ This is a great achievement in a context of extremely limited matrimonial alliances between Fulani and other local ethnic groups (Lombard, 1960; Lombard, 1965: 36f.; Boesen, 1999; Guichard, 2000: 94; Van Santen, 2000: 139; Van Driel, 2002; 81; Adégbidi, 2003:

¹⁸⁰ Although these perceptions have evolved over time, a Fulani is always seen as having higher social status than a former slave, Gando. Similarly, a Fulani is considered socially lower than a Bariba. This is what justifies the "hypogamous" and "hypergamous" nature of Sidi's intermarriages with a Gando and Bariba woman, respectively. The ideological and cultural structures of the Fulani have always favored endogamy as a marriage strategy. Hypogamy was, for example, fundamentally prohibited between Fulani in Fuuta Jaloo and their former slaves *Runndebe*, in order to preserve social cohesion and perpetuate "Fulanity" through heredity (Botte, 1994: 122). Details on "Fulanity" are found in Chapter 8.

36f.). The inter-ethnic marriage phenomenon seems new in Gogounou and deserves attention.

Several authors have shown the role of marriage covenants in bringing together and uniting formerly antagonistic or disparate social entities. Inter-marriage has always played an important role in the ethno-cultural transformation of Fulani, whenever their history makes them evolve from simple livestock farmers to becoming major economic and political players (cf. Burnham, 1991; Burnham and Last, 1994; Dupire, 1970; 1994; Hodgson, 2001; Homewood *et al.* 2009; De Jode, 2010; Hodgson, 2011). In the interest of safeguarding long-term rights to land use, some immigrant Fulani pastoralists in the sub-humid Abet area of Nigeria had married the daughters of indigenous farmers (Waters-Bayer and Bayer, 1994a: 224). Similarly, by giving their women to *Weheebe* farmers, the *Jalloube* herders in central Mali were able to forge open and friendly ties through the cousins of their offspring. This relationship was mutually beneficial to both ethnic groups, enabling the former to strengthen their political power and the latter to take care of the stock they collected from the raids successfully perpetrated against the Tuareg and Mossi (De Bruijn and Van Dijk, 1994: 89). The existence of *Fula Muru* (Fulani who later became Bwa) and *Bobo Fula* (Fulani born from relationships between Fulani men and Bwa women) in Gondo-Sourou (Burkina Faso), conforms to the same logic of identity transformation (Diallo, 1999: 377). The “hausaiization”¹⁸¹ was also one of the successful strategies used by Fulani to overcome the efforts of the Hausa States (Niger-Nigeria) in establishing their political domination. It was also the breeding ground for religious and political manipulations used by Usman dan Fodio¹⁸² to feed the *Jihad* between 1804 and 1808 (Smith, 1966: 408ff.; Dupire, 1994: 276ff.). Within the post-war Sokoto Caliphate, the same Sheikh Usman dan Fodio led by a unification rationale had also encouraged the intermingling among Fulani from various social backgrounds. This contributed to their adaptation to an unusual city life (Burnham and Last, 1994: 327).

This way of integration has sometimes resulted in an ethnic conversion in which the Fulani are quick to adopt the ethnic identity of their wives. Accordingly, a Sidibe pastoralist who became a fisherman on the shores of Korienzé Lake in Mali adopted the ethnic identity of his Bozo spouse (Gallais, 1962: 107; Dupire, 1994: 270). This is the reason why Gallais (1962: *loc.cit.*) argued that the original link between one ethnic group to its production techniques can cause the individual to willingly deny his origin if particular circumstances obliged him to change his livelihood. Inter-mar-

¹⁸¹ The Fulani became deeply integrated in Hausa communities, speaking the Hausa language and marrying Hausa women (Boutrais, 1994a: 141 & 144; Dupire, 1994: 276). This enabled them to establish a kind of aristocracy controlling Hausa government positions and initiating a *Jihad* against the Hausa States (Dupire, 1994: *loc. cit.*). Some Fulani were also *mossized* in Burkina Faso, others *sonrayzed* in the valley of Niger River (Boutrais, 1994a: 140f.); others again got *arabized*, *songhaized* or *dogonized* in Mali (De Bruijn and Van Dijk, 1988 cited by Schlee, 2000: 9).

¹⁸² In the English scientific literature, one finds both Uthman dan Fodio and Usman dan Fodio referring to the same person. I have chosen to use Usman in this document.

riage is therefore for pastoralists an important social way of coping with resource scarcity and conflicting environments.

This was a strategy used by different pastoralist groups in both East and West Africa. The exogamy in Cameroonian Adamawa has enabled the incorporation of a new social group of Fulani, although considered “non-genuine”, in the political apparatus at both local and national levels (Dupire, 1970; Burnham, 1991: 87). Likewise, new generations of children from mixed marriages between Maasai pastoralists and Kikuyu, Kamba and Chagga women in Kajiado District of Kenya identify themselves with the ethnic group of their mothers. This change in ethnic self-identification offers them more flexibility in a context of livelihood diversification induced by multifaceted risks (Campbell, 1999: 388). I have not personally encountered such profound transformation in Gogounou. However, the cases of Sidi and of many other local pastoralists not covered in this study show that the future of Fulani pastoralists in northern Benin is hinged on their social integration with other ethnic groups, with intermarriage being a key way.

The social *aggiornamento* among the Fulani in Benin could also be more deeply of an identity order. This is because “identity oscillation”, although seen as “acculturation”, seems an effective strategy for coping with political, socio-economic and environmental trends. This works especially well whenever *being* Fulani becomes challenging and therefore unproductive (Boutrais, 1994a: 140).¹⁸³ Times have changed since the time of Stenning, who reported in the 1950s a euphemism of Wodaabe pastoralists who disregarded the marriages with non-Fulani that they considered as “eating the fruit of the bitter black plum-tree” (Stenning, 1959: 57). Today, inter-ethnic marriages have become for Fulani pastoralists in Gogounou like “eating the fruit of the sweet plum-tree”. It enables them to enlarge their social networks and address threats. It therefore appears that Fulani social values do not resist shocks – they disintegrate, evolve and adapt to the changes in their lives and surroundings. I do agree with Schlee (2000: 7f.) that the Fulani ethnicity, which actually changes in different contexts, must be redefined at the new boundaries between them and the other ethnic groups.

Secondly, Sidi combines agriculture, livestock, trade and other small businesses to have more diversified sources of income. His priority is no longer focused on herding alone. He is changing his life and fits more into the category of the modern Fulani despite the fact that he was not educated and is seen as an *ignarus*. However, his literacy has enabled him to express himself fairly well in French, and he was able to communicate sometimes with me without an interpreter. All these skills increase his business opportunities.

Thirdly, his children’s education plays an important role in Sidi’s plan. He no longer believes in a better future for pastoralism. This is why the school is seen as the only way to ensure a better future for his offspring. These changes noted in Sidi’s

¹⁸³ This identity reclassification, according to Boutrais (1994a: 140) is also what Dupire (1994: 269 & 278) calls the principle of “moindre effort culturel” or “moindre écart culturel”.

life are also attributable to Fulani associations, which have made significant efforts in raising awareness for transformation among Fulani herders. In conciliating the economic assets with the social ones in order to adapt to hardship, education among African pastoralists has become a sound investment for enhancing their capabilities (Devereux, 2006: 17; Homewood *et al.* 2009; Hodgson, 2011: 198). This is why the trend of schooling, as Sidi's example of educating his children illustrates, is followed by many pastoralists permanently settled, despite the poor infrastructure and lack of teachers.

Second case study: Sanda Wesseke, a Fulani herder with two lifestyles

Sanda is a Fulani pastoralist from Wesseke Fulani hamlet. He works with the Local Association of Livestock Market Management in Gogounou (ALGMB-Gogounou¹⁸⁴), who has worked for five years as a *sedeebe*¹⁸⁵ for securing livestock transactions and collecting taxes during market days. This work, through which he earns about 25,000 CFA francs per month, provides important support for his household. He has three Fulani wives: the first two are living in the bush camp, and the third one in the town (Figure 7.4). Sanda aspires to be better integrated into town life, while continuing with his struggle to secure land for his animals. He does not intend to give up livestock keeping, and is therefore open to every modern way possible to develop this activity. He would like to obtain official papers to own his camp area and the surrounding arable land, but this depends on whether or not the Bariba farmers will allow him to do so. Sanda has also sent all but one of his children to school; only his eldest son takes care of the herd. This strategy is to ensure the children a town life with safe employment opportunities that will prevent them from facing the land problems that are suffocating pastoralism. He is among the herders who grow forage to feed their animals. He also believes in the complete settlement of herds and the modernization of local animal farming systems. He always expresses a strong enthusiasm for animal breeding technologies that are less demanding in terms of land. Below, some details are provided on the way Sanda Wesseke manages his life in both the bush and town.

Sanda in the camp: Sanda's first two wives are Fulani and live in the bush camp. Their business is to trade and process cow's milk, collected from the family herd. Recently, the hamlet was administratively recognized as a village, part of the urban region of Gogounou. The area, where Sanda has been living for more than fifty years, is not acknowledged as his property by Bariba farmers, who always claim ownership. However, Sanda is engaged in various legal processes to eventually own this land. He has asked for an official recognition certificate or a deed of gift for his land from the Municipal Authority. He is even willing to take a land title, if possible. But he

¹⁸⁴ Association Locale de Gestion du Marché à Bétail de Gogounou.

¹⁸⁵ The *sedeebe* are witnesses and approvers of transactions in the self-managed livestock market of Gogounou. More details are provided about these agents in Chapter 8.

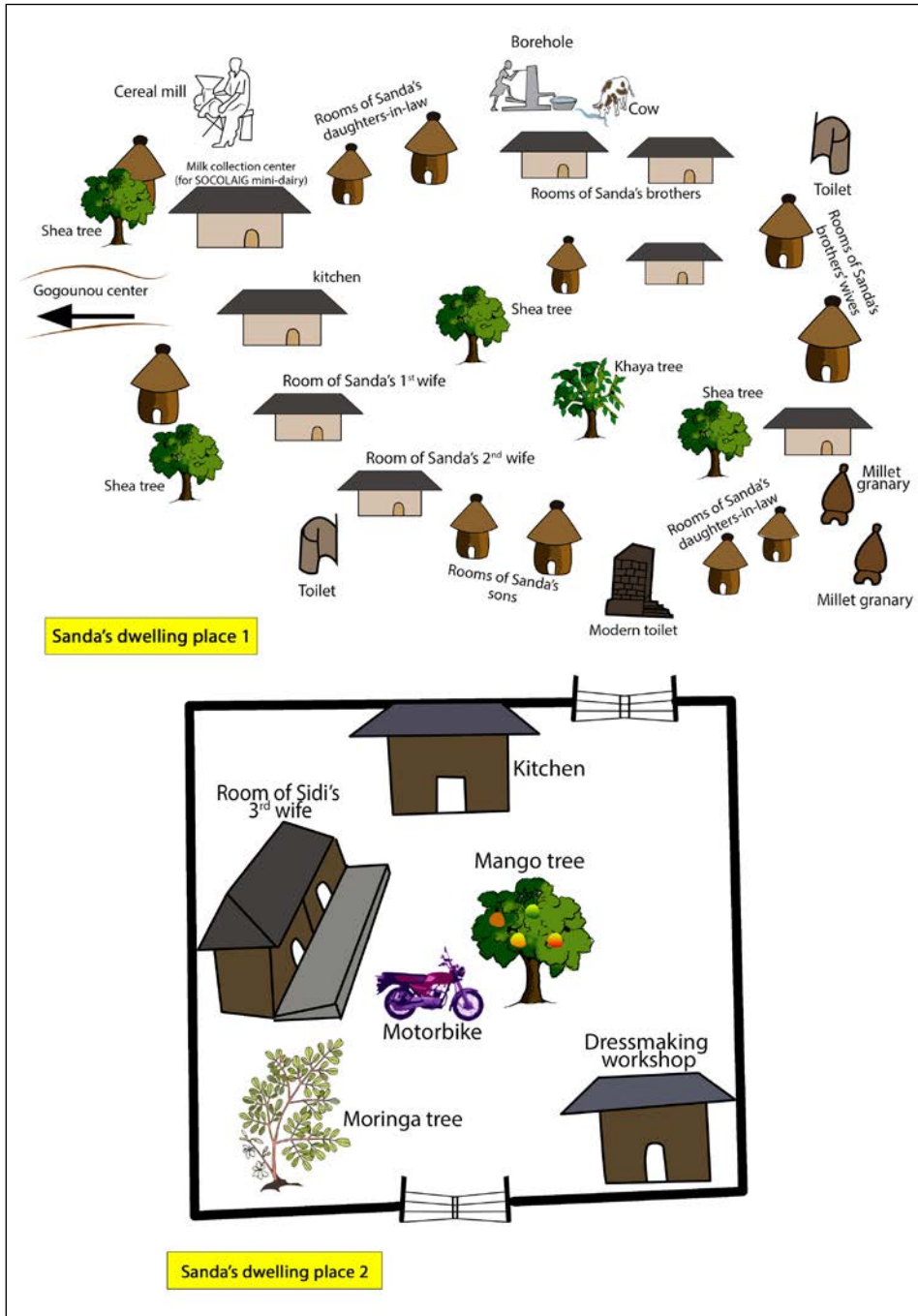


Figure 7.4: Dwelling types of Sanda Wesseke

has still not received a positive response, since the local government, dominated by the Bariba, does not consent to recognizing Fulani ownership of any local land plot. Sanda started building different types of infrastructure in order to increase his chance of winning the lawsuit and owning the land. All of the houses in his bush residence are rectangular, metal-roofed and fitted with metal gates (Figure 7.4–Sanda dwelling place 1). Sanda has built a small private well for water supply on his farm. He also managed to benefit from the borehole offered by a development agency to supply water to the entire Wesseke village. He was able to have this borehole drilled on his farm thanks to his inclusion in the work of the pastoralist associations that greatly influence decision-making regarding pastoral development at the local level. This is the same strategy that he used to have built a primary school, also promoted by the local pastoralist associations, close to his farm. This school has recently been recognized by the Benin Government. Seven of his children are enrolled in this Fulani community school. He is very involved in promoting this school and often motivates his peers to enroll their children. He also benefited from the support of a local NGO, which enabled him to install a biogas unit for energy supply. More recently, Sanda has installed on his farm a toilet with durable building materials (Photo 7.17). He is always seeking external assistance to access livestock farming technologies that demand less land, also from me.

Sanda in the town: Sanda's third wife is also from the Fulani ethnic group. She lives in Gogounou city center in a house that Sanda built on a plot that he bought some years ago and for which he holds all the legal documents (Figure 7.4–Sanda dwelling site 2). Sanda's wife is a seamstress and also sells porridge across the city center. These two activities allow her to contribute substantially to the household expenses. Sanda is in town almost every day (sometimes several times a day) to see his household members, and also in response to various invitations from his employer in connection with the livestock market. He has also attended different trainings organized by Fulani associations that allowed him to learn about animal care, forage cultivation and other modern ways of managing livestock. Five of his children are in school in town – two are in primary school and three in secondary school.

Synthesis: The strategy of Sanda is also of three kinds, despite the fact that he only has two residences. However, it differs from that of Sidi's in many ways. Firstly, he has a desire to modernize livestock farming. Sanda no longer follows the logic of pastoral mobility, but continues to give priority to livestock farming. He thinks that, given the issues about land, the Fulani must completely settle down and rely on more modern ways of keeping animals. He is involved in food cropping only on a low level and prefers to dedicate a portion of the land to growing forage. He also continues to fight for legal documents that will allow him to own land, since modern farming cannot be performed without a minimum of land.

Secondly, Sanda attaches paramount importance to the education of children. For him, this is the key to the future of Fulani, who must also be participants in the socio-political and economic life in urban area. This is why his house in town is built



Photo 7.17: A toilet under construction on land of which Sanda does not have “ownership”

on a legally acquired plot. He assumes that the future of Fulani is in town and not in the bush. His view agrees perfectly with that of Sidi's on this point.

Thirdly, Sanda combines various alternative livelihoods to sustain his income. He does not rely only on the herd to meet his daily expenditures. He is increasingly involved in small jobs and businesses that ensure greater financial security. Adoption of technologies and the diversification of income sources are the main strategies used by Sanda to be sustainable as a part-time pastoralist in Gogounou. Some of these, as well as, other strategies (e.g. education, livestock markets and Fulani associations) used by Sanda and other Fulani pastoralists are introduced/expanded on below.

Children's education among daribe gite Fulani pastoralists

Education plays an increasingly important role in the pastoral community of Gogounou, and even in the whole country. The trend well depicted by Guichard (1990; 2000: 96f.) about the limited education of Beninese Fulani in the formal centers is now very much a thing of the past. The education rate of the Fulani, even if there are no official figures to prove it, has greatly improved in recent years. This can be attributed to Fulani associations, which have been very active in raising awareness among the pastoralists. Several primary schools were created in many camps with the willingness of Fulani herders who usually recruit and pay the teachers during the first years. These schools are generally recognized by the Government about two to three

years after having been set up (Onibon, 2004). The association of Fulani students in the bigger cities like Parakou and Cotonou, under the mentorship of Fulani association leaders and different politicians, also undertake seasonal awareness campaigns. Their delegates roam from camp to camp explaining to parents the benefits of education, in order to motivate them to send their children to school. Each household is encouraged to enroll at least two children. The presence of formally educated children in a Fulani camp is seen as the safest way to maintain access to land:

Education is good. It [the lack of education] is very regretful for Fulani. If we were educated, we would not be facing all of these challenges. Things would not be happening the way they are now in this area. No one could take hold of our land. If we were schooled, we would be even more intelligent than those Bariba. The Fulani have learnt to adapt to difficult situations with their animals. But now we have understood; and things are already changing. (Mamadou, Bikou village, 07/05/14)

As expressed by Mamadou in his reported speech above, there is a sense of regret among many Fulani pastoralists in Gogounou about their illiteracy.¹⁸⁶ In most camps, there is an enthusiasm for the education of children and change is actually visible. The Fulani associations support all the education initiatives and reward the deserving pupils. School supplies and other gifts are awarded all the time to the most talented schoolchildren. The young Fulani students and graduates who are part-time teachers in various primary and secondary schools of Gogounou, travelling here and there on their Chinese motorbikes, and living a kind of “Western life”, are also a great source of inspiration to their younger brothers and sisters. I will present now the willingness of Fulani pastoralists to provide school education to their children, through a case study.

Case study of the Fulani community school of Wesseke

The Primary School of Wesseke was created in 2008 by Fulani herders with support from the pastoralist association, UCOPER-Gogounou. The fifty households that make up the camp of Wesseke built the first classrooms and a toilet. Two community teachers were recruited and paid by the parents of the student themselves. Every Fulani herder was encouraged to enroll two children, but this was not respected by all. Some did not enroll their children at all, while others have schooled one, two or even many. Sanda, who is the main promoter of this school, has enrolled seven children to set an example as the president of the parent-teacher association.

¹⁸⁶ The Fulani often express this regret by the concept: “*Tomi, annuo dum wadataa*” which means “If [only] we knew”.

In order to cover the salaries of the teachers, each parent pays 5,400 CFA francs per school child¹⁸⁷ annually. Each teacher receives a salary of 33,000 CFA francs monthly. Three years after its inception, the school has been recognized by the Government, which even sent a director. However, the salaries of the two former community teachers remained the responsibility of the Fulani herders. The total number of pupils was 77 at the beginning, but this decreased to 57 in 2014. The main reason was the massive emigration of herders from the camp to Togo and other regions in southern Benin. This has led to the disenrolment of about 20 pupils. Sanda, who pays 37,800 CFA francs yearly in school fees for his seven children, sometimes has to come up with a lot of money to support the expenses of the school. This additional burden is difficult to bear and hinders the education of some of his other children. Many Fulani perceive education as the ultimate solution to their problems, but the high cost it requires is seen as a limiting factor.

Schooling is also perceived by the Fulani as a way to secure land. The Fulani also showed that, when there is a school-educated child in a camp, the probability of losing the land is significantly reduced. The most cited example during my fieldwork was about a young student from Binga Fulani camp who prevented his parents from losing their land. When some Bariba farmers claimed ownership and wanted to take control of the land in question, this undergraduate Fulani student took the issue directly to court. They won the lawsuit and are still living on their land. Since the Fulani are judges, teachers and other professionals in the public administration, pastoralists in Gogounou are more recognized now than in the past, although their troubles are far from over. School education is also seen as a way for the Fulani to “catch up”, both socially and politically, to the people of other ethnic groups, especially the Bariba and Gando who often claim to be ahead of them:

We struggled to build a school for our children to attend. It is thanks to the educated young Fulani that we can interact with you now. Therefore, it is these ones who are educated who will protect us. With education we can solve all the problems, because the Bariba are too far ahead of us. That is why they tease us and abuse us. (Focus group discussion, Garikoro, 20/03/14)

After explaining the enthusiasm and conditions of pastoralist education in Gogounou, and within the framework of the coping strategies, I would like to give below some details on the place of livestock marketing for the Fulani pastoralists.

¹⁸⁷ This amount is not for tuition fees, since the school is decreed by the Government to be free of charge for primary school children across the country. The major expense for the Fulani herders is the subscription required within their camp in order to supplement costs, which result from a deficit of teachers and infrastructure.

Livestock marketing in Gogounou

Livestock marketing is an important means of destocking and enables Fulani herders to better manage their herds in a context of difficult access to pastoral resources. Selling animals allows many herders to meet the urgent needs of their households. Animals are sold mainly in local livestock markets: Gogounou and Petit-Paris. Some resellers (dealers) could be reached through mobile phone calls to come and buy animals in the camps in the case of emergencies. Many Fulani herders are also engaged in cattle resale, providing them with substantial income. They collect animals from Fulani camps and resell them to large traders in the livestock markets. When an animal is very sick and cannot wait up to the market day, it is slaughtered at the camp. With a mobile phone call, the butcher is then called to come in and buy the carcass from the farm. In anticipation of such situations, Fulani pastoralists have the mobile phone contacts of one or several butchers, saved on their own phones or written on a wall on their farms. Through some programs sponsored by the pastoralist associations (ANOPER and its regional branches), Fulani pastoralists can access market information on local and community radio stations, in order to make good decisions. Phone applications that access markets are not yet operational in Gogounou. I will provide more details on these aspects in Chapter 8 on the achievements of pastoralist associations.

Resorting to Fulani associations for managing conflicts

Most settled Fulani herders who do not want to leave Gogounou generally rely on Fulani association leaders to assist them in managing their conflicts. When there is a good relationship between actors, the conflicts are peacefully managed. But when there is no clarity about the true instigator of the overt offence (generally crop damage), the conflict is more difficult to settle. When the attempt to settle a conflict peacefully fails, the Fulani leaders are called upon to reconcile the disputing parties. This is done through a bottom-up approach to be presented in Chapter 8. Despite the hierarchical structuring involved, most Fulani pastoralists prefer to carry their problems on to the highest Fulani association leader in Gogounou city center directly. They believe he is the most appropriate person to solve their issues. When the conflict resolution fails with the Fulani leaders, police officers are called upon to help, and they take over the legal process:

If we know the offended farmer and if it is really our animals that caused the damage, we can settle the problem in a friendly manner by giving something. But if there is no evidence that our animals have committed the damage, we do not accept to compensate the farmer. In this case, we can no longer settle the case in a friendly way. Sometimes, it is someone else's herd that caused the damage, and innocent people are falsely accused. Farmers often want to take a lot of money for minor damage. When they seek to harass us, we are

obliged to call the president Demmo or we go straight to his residence. When we are with the president, our problems always find solutions. If the farmers do not agree on the decision of the president, he can call the police. But we always have the support of the president in such situations. If he were not in Gogounou, all the Fulani herders would have moved away. (Focus group discussion, Garikoro, 20/03/14)

Recently, a lawyer has been recruited by ANOPER through financial support from an international development agency. He is systematically involved in the resolution of all the major conflicts involving Fulani pastoralists across the country. The conflict management approach by pastoralist associations appears to be recognized by local pastoralists in Gogounou as having a positive influence on their pastoral activities.

7.4 Conclusion

Throughout this chapter, I have shown that crisis does not mean the disappearance of pastoralism. Fulani pastoralists continue to deal with threats by developing a variety of strategies as favored by various technologies available in their contemporary world. Those who see the situation as hopeless leave Gogounou altogether. The spatial outmigration is for them a measure for safeguarding and supporting their Fulani pastoral identity. Those who fear never to find proper living conditions somewhere else have chosen to stay, while continuing to take advantage of the resources available elsewhere. The outmigration of part of the household is for this latter group a complementary strategy. The third group is made up of those who have chosen to remain permanently in Gogounou without seeking to emigrate at all, either totally or partially. These are herders who are more open to modernity in terms of social and technological mobility. They use several strategies based on social integration, child education and various alternative livelihoods. The pastoralist associations have played an important role in the transformation pathways among these settled Fulani pastoralists. However, different constraints also limit the effectiveness of the associative struggle, as I will demonstrate in the next chapter (Chapter 8).

8 Being Fulani, becoming professional

Identity politics and development brokerage within pastoralist communities in northern Benin

Beyond the strategies implemented at the household level to cope with the dwindling of natural resources, my investigations tried also to understand how Fulani associations, which have developed in recent decades, defend the rights of pastoralists to access land and pastoral resources. As amply demonstrated in Chapter 7, there is a mass outmigration of pastoralists from Gogounou and many other regions of Benin, seeking refuge in other West African countries.

Why is it that the largest pastoralist associations are based in Gogounou, yet their local constituents are facing such strong exclusion to the point of massively migrating out? Why are the highest Fulani leaders personally present in Gogounou, yet Togo and Ghana have become the safest destinations for their people? Are we in the presence of “gatekeepers” who use their communities as commodities traded with an international industry of civil society (Igoe, 2003), or, are we in the presence of “new compradors” who derive their resources and positions from the international bourgeoisie (Hearn, 2007); or are we in the face of activists who were not necessarily guided by *a priori* interests, but who “position and reposition themselves in the face of changing opportunities, challenges and experiences” (Hodgson, 2011)?

My ethnographic study within pastoralist associations in northern Benin was a way to better understand how pastoral “civil society organizations” represent and

struggle on behalf of local pastoralists, and the impacts of their struggles and actions on their local constituents. Here, I argue that many Fulani elites, who specialize in the identity struggle to defend the rights of pastoralists, have become professional development brokers without being able to solve the main issues of the pastoralists. They are capable, however, of involving a large range of international donors to initiate changes in pastoralism, which the elites also benefit from economically and socio-politically.

To better understand how actors defend the interest of pastoralists, in particular those whose only option is to leave their own country where the struggle is taking place, I have resorted to the concepts of “development brokerage” (Blundo, 1995; Bierschenk *et al.* 2000), “translation” (Callon, 1981; 1986) and “positionings/repositionings” (Hodgson 2011), which guided me throughout my analysis of the ways in which Fulani associations, with links to international donors, struggle to defend the rights of their constituencies and ensure sustainability for their pastoral livelihood.

8.1 Political background of Fulani in northern Benin

Fulani during the pre-colonial period

The Fulani of Benin were not established in states or political organizations, as were their counterparts in other countries of West Africa, notably in Nigeria and Cameroon (Stenning, 1957; Burnham, 1991: 77; Boutrais, 1994a: 140; Van Santen, 2000: 141f.; Kossoumna Liba'a, 2012: 58f.). They lived without authority under the hegemony of other ethnic groups, which were already established before them. The best-known community to which the history of Fulani is bound is the Batoumbu/Bariba ethnic group. The latter came from Bussa in Nigeria in the fourteenth century and were already established in the region of Nikki¹⁸⁸. They were divided into two classes respectively composed of Wasangari princes and Bariba common farmers (Quarles van Ufford, 1999: 85; Guichard, 2000: 107; Djedjebi, 2009: 32f.). Earlier, Lombard (1957) reported on the integration of Fulani pastoralists with Bariba who had a very strong military power. The author goes as far as qualifying the Fulani community as a “caste” in view of their ethno-social organization within the Bariba society. But it was understood later on that Fulani were quite different from Bariba and only a power relation existed. Their Islamic faith and their cattle wealth did not guarantee them any place in the prestigious society of Wasangari. They could not access noble functions and also should not associate with the princely race through marriage bonds (Lombard, 1960; 1965: 36f.). The Fulani, like most other ethnic

¹⁸⁸ Nikki is located in the current Benin's northeastern province of Borgou. It is close to the Nigerian Kwara State, on its eastern border.

groups in the pre-colonial Borgou¹⁸⁹, had no freedom. Their lives as well as their economy were not as independent in such a statutory and professional society living from a “war economy” (Bierschenk, 1996). The frequent warfare they suffered from Wasangari warriors forced them to place their farms under the protection of the latter.¹⁹⁰ They regularly pay tribute to their protectors or offer a few beasts during major holidays and festivals. The raids undertaken by the enemies of their masters were just as damaging for them, as a portion of their livestock could also disappear (Lombard, 1965: 232; Brégand, 1998: 133).¹⁹¹ This situation was so critical, since they had no leaders and, instead, had to depend on a few mouthpieces nominated and subordinated to Wasangari who owned the political power. Their language and religion shared with only a few other individuals (slaves and caravanserais merchants) and their practice of endogamy were barriers to their social integration. This is the reason why Lombard (1965: 37) described them as “particularist” and “traditionalist”. The French penetration in the early nineteenth century upset rivalries and restructured the socio-political relations between social groups. The Fulani were one of the main beneficiaries of this change as I present in the next lines.

Fulani during colonial era

The colonial domination from 1895 marked a new era in the social and political life of the Fulani in Borgou. The “*divide ut imperes*” policy implemented by the colonial power granted some autonomy through the cancellation of the power relationship, which bound Fulani and other groups, mainly Wasangari. The Fulani, who previously had neither leaders nor political autonomy, were integrated into the indigenous command directly attached to the colonial power. Each district circle was led by a commander, who was supported by local leaders, and consisted of three levels of power: senior chiefs, canton chiefs and village chiefs.¹⁹² In the two administrative districts of the French Borgou – Borgou with Parakou as capital and Middle Niger

¹⁸⁹ The former province of Borgou includes the current provinces (departments) of Borgou and Alibori. This resulted from an administrative division based on the Law No. 97-028 of 15 January 1999 (Government of Benin, 1999). For details about the territorial division in the decentralization era, see Syll (2005) and Geopolis (2012).

¹⁹⁰ The Fulani pastoralists were not the sole victims of this power asymmetry. Denise Brégand who was concerned with Wangara traders in the Borgou Province showed that the latter practically bought their safety from Wasangari (Brégand 1998: 57). However, the barter of horses and slaves, which deeply developed between both, resulted in two ruling classes, although of different nature (*ibid.*: 129ff.).

¹⁹¹ The cattle from raids against the Fulani were more valuable than the hunted wild meats. They have a symbolic role in the official celebrations of the Bariba kingdom in Borgou. Moreover, the raids had not only an economic goal, because the princes did not accumulate wealth, they were also forms of power display, enabling the Wasangari to gain some legitimacy to contest later for the throne (Débourou, 2013: 56ff.).

¹⁹² For a detailed description of the various levels of chieftaincy during colonial period, see Lombard (1967: 138ff.).

with Kandi as capital – Fulani cantons were created in parallel with that of other ethnic groups.

This institutionalization of a Fulani chieftaincy has completely changed the relationship of Fulani with the colonial administration and the other ethnic groups (Bierschenk, 1996: 105ff.). The seniors of Fulani farms and other influential people were mandated to choose among themselves a “canton chief”, confirmed later by the district commander.¹⁹³ These Fulani leaders became very powerful through their contact with the colonial administration and their peers in other ethnic groups. They were integrated with and married into other communities, notably Bariba (*ibid.*: 108f.). This period had the advantage of ensuring Fulani a better social status. However, it also imposed a stronger involvement in agriculture by freeing their slaves, the Gando, who constituted their main labor force. An agro-pastoral economy was therefore, built (*ibid.*).

Another change brought about by colonial rule in Benin was over land. The groups which were previously under the domination of the ruling classes moved away from areas where the authority of their former masters was still prevailing. For example, the former slave groups often founded freedom villages. While others, seeking new land, left the villages to settle in neighboring farming hamlets (Lombard, 1967: 75f.). Thus, the colonial power enabled Fulani herders to settle away from Bariba villages and make their transhumance in remote areas (Lombard, 1965: 39ff.). This geographic remoteness limited land disputes emanating from crop damage (De Haan *et al.* 1990).

This was somehow beneficial for Fulani, who developed their pastoral activities during this period, despite the fact that some stereotypes were created as a result. They were considered a puny race, frailly constituted and therefore physically unfit,¹⁹⁴ since they were the only people who did not participate in the forced labor imposed by the colonial administration, by exchanging a few head of livestock against their labor forces, and by only taking care of small craft works. The Beninese Fulani were stereotyped as nomadic shepherds and homeless (and therefore landless) people during this colonial period (Bierschenk, 1996: 103ff.).

Two events in the past have also influenced the relationship between Fulani and Bariba. First, a Fulani herder, who was the guard of seventy horses belonging to Bio-Gera¹⁹⁵, took part in the plot of the colonial administration that led to the ex-

¹⁹³ This principle of choice was not uniform in all the regions. Other Fulani leaders were directly selected by the district administrators and imposed on Fulani populations. Some choices of Fulani leaders were also subject to the approval of Bariba leaders (cf. Bierschenk, 1996: 106).

¹⁹⁴ The Fulani themselves are fond of this stereotype whenever it is to their advantage. They often invoke this physical weakness by bringing their old slaves (*Maccube*) to build their houses and clear their crop fields. They also develop alibis around this same physical inability to take advantage of their Bariba friends that they ask to build their houses when they do not have the means to compensate the *Maccube* for this service (cf. Guichard, 2000: 115).

¹⁹⁵ Bio-Gera is a powerful Wasangari, a genuine *missus dominicus* who was supposed to have saved the Bariba community from the colonial rule and restore its dignity and its supremacy over other ethnic

termination of those animals. Second, another Fulani named Yoro was also blamed for having betrayed Bio-Gera by revealing his hiding place during a revolt that he had organized against the colonial administration. The death and decapitation of this Bariba hero that followed led to a kind of enmity between the two groups. Thus, the Fulani are treated as “deceitful”, “prying”, “birds of ill omen”, carrying out devilish acts (cf. Débourou, 2013: 65ff.).

8.2 Being Fulani: Postcolonial politics and identity politics among Fulani pastoralists

After the independence of Benin in 1960, several factors negatively affected the situation of Fulani herders. Human and livestock population growth led to an increasing demand for land. The introduction of draft animals, coupled with the promotion of cotton production, enabled an increase in agricultural productivity of the land. The monetization of the rural economy also weakened the common complementary and reciprocal practices within local communities. All of these factors upset the relationships between Fulani and their neighbors (De Haan *et al.* 1990; De Haan, 1995: 134; Bierschenk and Le Meur, 1997: 14ff.). Other elements that negatively affected the life of the Fulani during the postcolonial period are depicted by Bierschenk (1995). First, the revolutionary political regime of the 1970s, inspired by the Marxist-Leninist model, abolished the traditional chieftaincies, considered as feudal. Second, the prevalence of plural and unclear systems of land tenure in northern Benin reduced the Fulani’s chances of accessing land because of their political disadvantage. This led to an upsurge of conflicts between farmers and Fulani herders. The low representation of Fulani in the modern decision-making apparatus made them more prone to suffer from the widespread corruption found among the state officials. Therefore, they are the main victims of the “politics of the belly”¹⁹⁶ (Guichard, 1990: 19) developed by local officials who regularly fleeced them. Their low level of formal education played greatly against them and they were dedicated to all forms of clientage. This continued until the 1980s, when they mobilized to reverse the trend. The Fulani, who were previously incapable of taking collective action and making public claims because of their “self-marginalization”,¹⁹⁷ which has roots in their *senteene*¹⁹⁸, were massively mobilized in December 1987 for their first ethnic seminar. Before giving more details on this historic meeting, I will present the national context in which the so-called civil society organizations have emerged in Benin.

groups in the Borgou Region, as was the case before the colonial times (cf. Débourou, 2013: 65).

¹⁹⁶ Cf. Bayart (1993) for details about the “politics of the belly” in African states.

¹⁹⁷ For marginalization and self-marginalization of Fulani in northern Benin, see Bierschenk (1995: 462).

¹⁹⁸ The *senteene* is a component of the *Pulaaku*, “the way of Fulani” (cf. Boesen, 1999).

The former Dahomey, which later became the Republic of Benin, had a political elite made up of educated people bearing a good reputation across West Africa. This led Mounier (2007: 93ff.) to call Benin “The Latin Quarter of French West Africa”¹⁹⁹. The author added that Benin produced the most “intelligent Africans” (*ibid*: 96). But, this intellectualism did not prevent the country from deep instabilities in the post-independence period. This is why the Benin Republic was termed “The Sick Child of Africa”²⁰⁰ (Bierschenk, 2009: 348; Banegas, 2015). All forms of political, social and economic crises were present in Benin from 1961 to 1972 (Akindès, 1995: 264).²⁰¹ The worsening of the economic and financial situation of the country and its multifaceted impacts led the Government – under pressure from Bretton Woods’ institutions (World Bank and International Monetary Fund) – to initiate the Structural Adjustment Program (SAP) (Dagba, 1993: 57; Sinzogan, 2000: 3). All facets of this program were executed in total from 1989 to 1997 with different reforms that led to a total withdrawal of the State from many sectors, including agriculture (Johansen, 2002: 50ff.).²⁰² This “emptiness of political space”²⁰³ paved the way for the emergence of intermediary organizations of pluralistic forms and discourses, often under the aegis of officers or former officials who took advantage of the “worthwhile brokerage” between the grassroots communities and the State apparatus (Bako-Arifari, 1995; Le Meur, 1998: 212ff.; Le Meur, 2000; Bierschenk, 2009). The mobilization of the Fulani was also part of this sociopolitical landscape (cf. Guichard, 1990: 17; 1992: 521; 2000: 97f.; Bierschenk, 1992: 512; Bierschenk, 1995: 464). Now that I have explained how it came to the diversity of civil society organizations in Benin, I would like to go back to the establishment of the first cultural association of the Fulani.

I would have shared highlights from this mobilization of the Fulani, but accurate accounts already exist by Guichard (1990), Bierschenk (1995) and other members of the ethnology team at the Free University of Berlin, who were firsthand witnesses. However, I will try to reiterate some of the stronger slogans distilled during the ceremony to bring up the associative background of the Fulani in Benin.

Bierschenk (1995) reported that, on white streamers hung in the great hall where the Fulfulde seminar took place, one could read: *Laawol fulfulde yaha yeeso* (The tradition of Fulani is moving forward), *Pullo, tinna, tokku laawol fulfulde, gam jiita dimaaku maa* (Pullo²⁰⁴, compel yourself to follow the tradition of Fulani to regain

¹⁹⁹ “Le Quartier Latin de l’Afrique Occidentale Française”.

²⁰⁰ “Enfant malade de l’Afrique”.

²⁰¹ Débourou (2013: 92) puts more emphasis and speaks of a criminal and immoral economy.

²⁰² The three structural adjustment programs implemented in Benin are well described by Johansen (2002: 50ff.).

²⁰³ I borrowed this concept from Martine Guichard, who spoke in French of “vacuité de l’espace politique” (Guichard, 1990: 17) or “vacuité du champ politique” (Guichard, 2000: 97).

²⁰⁴ *Pullo* is the singular form of *Fulbe*. But the English version “*Fulani*” is preferred in this document and is used to refer to either single persons or a group of these pastoralists.

your honor).²⁰⁵ These slogans were shouted regularly throughout the event and were reinforced by many others. Fulani intellectuals, organizers of the event as well as other participants could sometimes be heard shouting in unity, “*En kappi?*” (What did we get?); finishing equally in strength with, “*yaha yeeso*” (going forward).

The purpose of this seminar – as presented by its organizers and recalled by Bierschenk (1995) – was to know the problems of the Fulani and join forces to address them. That is why another slogan, *potal men, womi semme men* (unity is strength), though borrowed from the revolutionary political regime of that time, was an important catchphrase (Guichard, 1990: 31). By mixing the traditional assets with the modern ones, Fulani intellectuals “positioned” themselves as legitimate referees to bridge their ethnic group with the “others”. Although fairly ritualized, this event had the merit of building a modern Fulani ethnic identity while providing political visibility to its “makers” (Bierschenk, 1995: 480).

Guichard (1990), rather, perceived the gathering of Kandi as an exploitation of the collective consciousness by Fulani intellectuals who created, through the cultural association Laawol Fulfulde, a new structure of domination over “bush Fulani”. She regarded the awareness campaign preceding the seminar and the seminar’s theatrical form as part of an aggressive strategy of ethnic revalorization. The ambivalent and polarized messages given here and there were aimed at overthrowing the existing patronage structures for the benefit of the “brokers”. They gave *Fulanity*²⁰⁶ a new meaning and introduced new values likely to transform the “traditionalist” bush Fulani (*ibid.*: 41ff.). It was also an opportunity for educated Fulani to send strong messages to various actors (other Fulani intellectual non-supporters, representatives of central power and guests from competing ethnic groups).

Bierschenk (1992), while supporting the theoretical and empirical basis of Guichard, denied the process of identity construction that took place among the Fulani to be seen as a dichotomization of the social group. Fulani officials – while belonging to the state machinery – nevertheless have always interacted socially with their people, the “bush ones”. They often have family ties (patrilineal, matrilineal or marital) with the bush Fulani. Therefore, the differences between them are not enough to claim socio-cultural distancing. Thus, the perceived aggressors vs. victims argument – denied later by Guichard (1992) in her reply to Bierschenk – was powerfully criticized by Bierschenk (1992: 511f.).

²⁰⁵ These slogans extracted from Bierschenk (1995: 465f.) were translated by myself from French to English. Guichard (1990: 29ff.) proposed other French translations that could be in English respectively “The Fulani culture is going forward” and “Pullo, hurry yourself, follow the tradition of Fulani to conquer your dignity”.

²⁰⁶ *Fulanity* is “being a Fulani” or “Fulani culture”. *Pulaaku* or (sometimes *Fulfulde*) is the strongest word used in the ethnographic literature to refer to the Fulani way or all rules of conduct that make someone a true Fulani (Kirk-Greene, 1988: 41f.; Guichard, 1990; Boesen, 1999). Any time I use the concepts *Fulanity*, *Fulbe-ness* or *Fulaniness* in this document, I mean simply “being a Fulani”, with regards to the traditionally mobile livestock-keeping practices.

My goal in noting this controversy is not to decide who is right and who is not. I intend, rather, to present for instructive purposes the diverging views of ethnologists who attended this first greater mobilization of the Fulani in Benin. Furthermore, this enables an understanding of the role Fulani intellectuals played and continue to play – as I will detail later on – in the associative life of pastoralists in northern Benin. Beyond all, a reality has remained: the ethnic movement of the 1980s marked the beginning of a new era characterized by a particular associative dynamic among Fulani pastoralists in northern Benin. Now that the political trend and impetus for mobilization have been elucidated, it is also important to understand how the associative landscape has been enriched among and by the pastoralists over the last fifteen years. In this regard, I will provide in the next paragraphs a short overview of the main associations working for the wellbeing of the Fulani.

8.3 Frustration, differences and dissidence: Repositionings in identity politics

Three decades after the ethnic event of 1987 in Kandi, the associative landscape among the Fulani has developed considerably. Several Fulani associations emerged to protect the interests of Fulani herdsmen and to fight to ensure better socio-political conditions for them. The Laawol Fulfulde, which was originally a joint association of all Fulfulde native speakers, experienced internal dissidence between the *white Fulani* and their former slaves *Gando* or *Maccube* (sing. *Maccudo*) commonly referred to as *black Fulani*. The latter accused the former of despising and marginalizing them during their united struggle against Bariba domination. The emancipation of Gando from the common socio-cultural structure and their repositionings in the ongoing identity politics gave birth to several associations, including Yidi Wadi, Jam Naati, En Jetti Allah, E Semmee Allah, Ko Yida Wadi, Allah Wadata, To Allah Yidi (Hahonou, 2011; 2013; list completed through my own field inquiry). They joined forces with Potal Men NGO, another pastoralist organization in Atacora and Donga Provinces, to form the Faaba Men²⁰⁷ a consortium created in February 2007.

Another unobtrusive division was more ideological and related to the way in which Fulani locals identify themselves. The Fulani of Dendi regions (Kandi, Malanville and Karimama) identify themselves as Dendi-Fulani, while those in the Bariba regions (Gogounou, Banikoara Ségbana, Kalalé, etc.) regard themselves as Bariba-Fulani.²⁰⁸ They usually evoke differences based on historical discontents, geographic and environmental patterns, and livestock breeds. The Dendi-Fulani considered

²⁰⁷ Faaba Men means “our blossoming” or “our development”. The consortium was originally created by Yidi Wadi, Jam Naati, E Semmee Allah, En Jetti Allah, and was joined by the other associations cited.

²⁰⁸ The way that the Fulani identify themselves through the names of local ethnic groups was also observed in Burkina Faso (cf. Hagberg, 2011: 150).

themselves as a traditional power established since the colonial period and used the paramount Fulani chief of Kandi, *Ruga*, as an example of this power. The Bariba-Fulani regularly mocked these authorities, portraying them as useless for pastoral development. On the one hand, one has a former political power, considered unnecessary and outdated; and, on the other hand, a new generation of power, which considers itself more professional, modern and oriented towards the development of the Fulani and their pastoral activity. Without going further into the division within the Fulani and the various discourses that support it, I will turn now to describing the most visible associations in the pastoral landscape of northeast Benin.

The associations which most visibly operate and implement various activities related to Fulani pastoralists are of two main groups: ASPEB and ANOPER. ASPEB (Association for the Safeguard and Promotion of Livestock in Benin) is a Fulani region-wide association located in Malanville District. The leaders cooperate with Sehu Suudu Baba, another Fulani grassroots association in Karimama District. Both associations have almost the same vision and a similar *modus operandi* and claim to belong to each other. Suudu Baba in Karimama is identified as a local representative of ASPEB, which is bigger. ASPEB, which identifies itself as a non-governmental organization (NGO), has a local influence practically limited to the districts of Malanville and Karimama (Schöneegg *et al.* 2006: 38f.). In Kandi District, it has a local representation, which is non-operational and almost non-existent.

The second group of Fulani associations is made up of ANOPER (National Association of Professional Organizations of Ruminant Herders) and its components. ANOPER is the largest Fulani association created in Benin since 2007 and has a national influence. Headquartered in Gogounou District, ANOPER is the fusion of community organizations called UCOPER (Communal Union of Professional Organizations of Ruminant Herders), which also form, at the provincial level, an umbrella association called UDOPER (Departmental Union of Professional Organizations of Ruminant Herders). The first UCOPER was created in Gogounou District in 2002. The first UDOPER, which is found in Borgou and Alibori (B/A) Provinces, was established in 2004 and also headquartered in Gogounou. The ANOPER system consists of local groups of Fulani men and women in grassroots associations respectively called GPER (Professional Group of Ruminant Herders) and GPFER (Professional Group of Female Herders of Ruminants).

One of the most significant changes has been the passage from the Fulani ethnic association Laawol Fulfulde to the new generation of Fulani NGOs and “PER” associations. The latter might be called “professional groups” on the ground, “professional organizations” at district and provincial levels, and “professional association” at the national level. However, the key messages do not change. They are all involved in defending the rights of the Fulani and improving their living conditions, fighting for their future, etc. This emergence of pastoral civil society organizations is interpreted differently by several actors. For example, the establishment of UDOPER was seen as an effort by the Fulani to claim additional resources to fully assure their social integration; this association would become a tool for the crystallization of Fulani

awareness around livestock farming, which ensures their welfare (Djenontin, 2010: 40). ANOPER would become essential in promoting animal industries and enabling participation in decision-making for the “professionalization” of the livestock sector and the identification of “business” opportunities (MAEP, 2013: 26f.). It is also among the professional associations that have received considerable support from various governmental projects and programs that attempted to boost the livestock sector (MAEP, 2011: 30). ANOPER and its components interact with the livestock department as part of a national consultation body that enables the Fulani to take part in exchanges of views and decision-making on various issues: animal health, farm hygiene, livestock marketing, funding access, etc. (MAEP, 2009: 22; 2010: 23). Initially a means of social struggle for Fulani herders, pastoralist associations have become renowned intermediaries for the development of the pastoral sector. They cooperate with the Government and the international development agencies in implementing pastoral development policies. As I have shown here, the forms of Fulani association have evolved over the years, and their positions and functions have also changed. Now it is important to understand how these associations came into being and how they became part of the regional landscape of civil society organizations to defend the rights of their local constituents.

8.4 Fighting trade brokers, improving livestock trade: Socio-technological process of showcase building

As previously shown, the internal conflicts that arose within the joint cultural association of the Fulani and their former slaves did not lead to discontents only among the latter. Several small groups of Fulani intellectuals were also frustrated by the governance approach that seemed to prioritize the Fulani pastoralists of some regions over others. The categorical shift from “cultural association” to “professional organization” appeared to have happened in this context to make a clean break with the past model of struggle. This could be seen as the umbilical cord linking the two forms of institutions (cf. also Ciavolella, 2013). This enrichment of the associative landscape has favored the emergence of new leaders, who I will call “brokers”, who have developed their own initiatives of struggle in order to better position themselves between the “inside” and the “outside”. The change from the state-run development approaches (*top-down*) to the community-based ones (*bottom-up*) favored this dynamic by making increasingly available external funds through a host of international donors jostling with each other in the Global South (cf. Igoe, 2003; 2006; Hodgson, 2011: 75).

The evolution of Fulani professional associations in Benin is also part of this dynamic of mobilizing “development rent”, which is oriented towards defending the rights of pastoralists and implementing actions for the “professionalization” and the “modernization” of their livelihoods.

The history of pastoralist professional associations in Benin began in the 1980s when Alfa Tidjani Aboubakar²⁰⁹, a Fulani leader, also known under the pseudonym Demmo Cheenon, rebelled against the traditional livestock marketing system. In fact, in the so-called Traditional Livestock Markets (MBT²¹⁰), the seller has no direct contact with the buyer. The commercial broker called the *dillali*²¹¹ is at the center of negotiations, without any of the other parties being really aware of the actual price at which their commodity is eventually sold or purchased (cf. Quarles van Ufford, 1999; Djedjebi, 2009). This system benefits the *dillali*, who is able to determine the price of most animals from the Fulani camps, making the attendance of livestock marketplaces almost useless for the Fulani herders (UDOPER B/A, 2007). This situation continued until 1976, when Demmo initiated a reform for more “transparency” in the way of marketing livestock to make it more beneficial to the pastoralists. The strategy of Demmo, without being exactly the same, yet recalls that of Parkipuny’s, as reported by Hodgson (2011: 27), a visionary Maasai leader who, with his peers, were able to “reframe the long-standing claims to land rights and cultural self-determination in the language of indigenous rights”.

Demmo is a Fulani, born around 1950 in Kèrou District (northwest Benin). He was enrolled at school in 1957 “by accident”, as he would often say. In fact, his uncle, who was living in the same household, was the first one to be enrolled at school after facing pressure from the colonial administration, which, at that time, required that at least one child from each household attend school. But, one day, his father, who was angry with Demmo, arranged with the District Officer to send Demmo to school instead of his uncle, who was then taken out of school to look after the family herd. This “punitive” schooling of Demmo allowed him to benefit from formal education up to the last class before entering college. An incident at school led to his expulsion

²⁰⁹ Demmo is considered by some to be of Guinean origin and a member of the *Tijâniyya* Muslim brotherhood (Ciavoletta, 2013: 16). The *Tijâniyya* is an African brotherhood of Maghrebian origin, which spun during the nineteenth and the twentieth century in North Africa first and then East and West Africa, and is active in the religious and political life of certain territories in Saharan Africa (Triand and Robinson, 2000; El Adnani, 2007). It is regarded as the dominant Sufi order in West Africa (Schritt, 2015: 50).

²¹⁰ Marché à Bétail Traditionnel.

²¹¹ It is a word of Hausa origin. Other variants are also available in the literature: *dilani*, *dilaali*, *dilai* or *dilaal* etc. (SOS-Faim, 2006; Maroowo, 2007: 3; Hestin, 2012: 90; L’Haridon, 2012; Ciavoletta, 2013; Houedassou, 2013; Droy and Bidou, 2015; The Economist, 2015: 5). But in the scientific literature on Benin, *dillali* is used more frequently (Quarles van Ufford, 1999; Djedjebi, 2009), which is why I chose to use *dillali* in this document. In the literature on Nigeria, which strongly influences livestock marketing practices in Benin, the concept of *dillali* was also used with *dillalai* as the plural form, whereas *dillanci* is used to refer to the system or the practice of trading livestock through those brokers (Adamu, 2000; Adamu *et al.* 2005; The Economist, 2015: 16). Devereux (2006: 54) has used *dilal* or *dilala* when referring to those brokers found in livestock marketplaces across the Horn of Africa and who operate very much on a clan basis.

with two other friends²¹², forcing him to leave Benin in 1969 to reach Niamey in Niger, where he attended college for two years. In 1971, he then traveled to Burkina Faso where, with the support of an expatriate missionary, he became literate in the Fulfulde language in Gorom Gorom and then in Dori regions. He returned to Benin, precisely to Gogounou, two years later (in 1973), where he began to work as a literacy teacher and trainer. He spent much of his time in the neighborhoods of Catholic missionaries, to the point of becoming their driver; visiting many regions in Benin and across West Africa. Alongside these activities that enabled him to be well known regionally, Demmo began, as he often says when telling his life story, “by looking around”. He was interested in the marketing of livestock, which allowed him to visit and even operate in most of the livestock markets across Benin, and also to travel in the sub-region, criss-crossing West African countries such as Niger, Nigeria, Burkina Faso and others. He ended up capturing the livestock marketing landscape, and framed what was happening in the livestock trading system in the language of “injustice”, “unfairness” and “teasing”, as used by the Fulani pastoralists. He argued:

I got disappointed a bit, seeing how our brothers and our parents were swindled. The animals are raised by the herders, but when they are brought to the market, the brokers earn the most. [...] These middlemen are called *dillali*. They are like the “maquignons” in France, but here they are stronger. [...] I explained all this to my brothers and they were also really outraged, as I was. We thought about how to reorganize ourselves to help our parents enjoy a bit more the fruits of their labor. That is where I told these youths that we need to create another kind of market where we will ban the trade brokers. (Demmo in AFDI video, 17/03/11)

The profile of Demmo, briefly introduced above, highlights “education” (formal schooling, literacy, driver apprenticeship and on-the-job training in livestock marketing etc.) and “travel” (travel to other regions of Benin and beyond country borders; being close to white people) as the main factors that launched the career of the Fulani leader as a development broker. Education and travel connected the future broker with new contexts that the village could not provide, while also providing know-how and the right tools to know how to live, talk and work in these different contexts. The experiences he had across a broad range of cultures were later reinvested in brokerage (Bierschenk *et al.* 2000: 25). Therefore, Demmo was able to reframe the long-standing problems of socio-political marginalization and access to pastoral resources into an economic issue. He developed a very derogatory picture of livestock trade brokers and engaged in awareness-raising with his so-called “broth-

²¹² One of the two friends of Demmo became the first president of Laawol Fulfulde. Demmo was the boss of Laawol Fulfulde in Gogounou District. He often said he assumed his responsibilities in the cultural association upon the death of his friend.

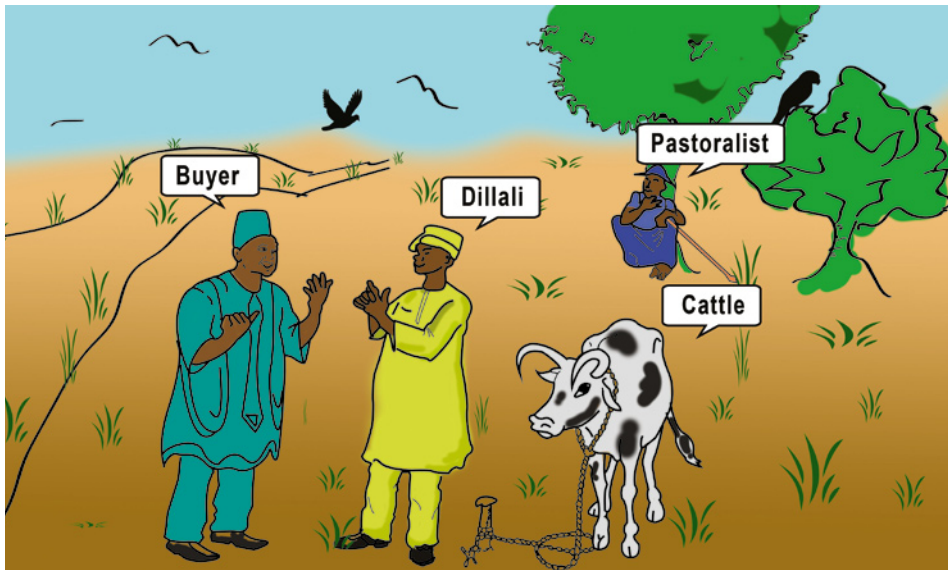


Figure 8.1: A *dillali* brokering a cattle deal between a pastoralist and a buyer²¹³

ers” and “parents”. This negatively framed identity of the livestock trade broker was widely shared by the Fulani pastoralists, as they regularly exemplified their various definitions in which the *dillali* appeared as: “thief of livestock sellers and buyers”, “lazy person running after easy gain”, “irresponsible agent abdicating all responsibilities in the face of risks”, “troublemaker supporting waste of time and hindering Fulani from achieving life purpose”, “anti-development person”, etc. (Quotes from field notes, February-October, 2014).

The livestock trade broker was portrayed as the major profiteer of transactions within the cattle markets, to the detriment of those who should earn profits from their efforts. The Fulani herder has worked hard for several years to raise an animal. The buyer has also worked hard and perhaps long to earn money to buy that animal. But the livestock broker, who mediates the transaction, stands to gain the most. Having made little, if any, effort, the broker is the winner on market day. In addition, the broker offers no guarantee in the case of risk, for example, if one of the actors involved in the transaction is in trouble. He is blamed for pursuing only easy gain. This portrait of livestock brokers, skillfully designed by the Fulani elite, is widely shared among Gogounou Fulani herders, who often assume that these commercial intermediaries are “enemies” of the Fulani. As stated by Houedassou (2013: 154), the *dillali*-based brokerage system (caricatured in Figure 8.1) lacks transparency and professionalism in managing livestock markets for improving incomes for Fulani pastoralists.

²¹³ Illustration by the author based on Houedassou (2013: 155).

It then became important for all to rally to the cause of abolishing this traditional institution to ensure “transparent” transactions that are more beneficial to all Fulani. This negative depiction of the middleman turns him into a public danger for the whole Fulani community. Inversely, Demmo succeeded in masquerading himself as a legitimate agent of change. This reflects the ingenuity of Fulani intellectuals in framing Fulani problems in order to gain legitimacy from their communities and to act on their behalf (cf. also Hodgson, 2011). Accordingly, the Self-managed Livestock Market (MBA²¹⁴), an innovation developed by Demmo, was introduced as the cattle-trading model that would save the Fulani herders and improve their livelihoods.

An MBA, often locally opposed to the Traditional Livestock Market (MBT), is a marketplace where negotiations and transactions take place directly between the buyer and the seller without the intervention of any intermediary. Demmo took this one step further by trying to completely remove the *dillali* from the livestock market of Gogounou. The inception of his innovation, which did not take into account the interests of intermediaries, was quickly confronted by the opposition through intense defiance and verbal confrontation of these, who used their economic power and connections in Government to have Demmo imprisoned for troublemaking. Consequently, Demmo was transferred to the civil prison in Parakou District about 180 km south of Gogounou, but was released about three weeks later after the collective mobilization of Fulani pastoralists against his imprisonment.

Coalesced into an oppositional force, the Fulani community of Gogounou organized a protest movement including three types of action: i) the Fulani herders refused to bring their animals and other tradable goods to the livestock market; ii) they sought another place for the livestock market where they would be less influenced by trade brokers; and iii) they invaded the civil prison of Parakou to demand the release of their “spokesperson” (BAA, 2012: 19). Reciprocal distrust and power plays between social forces, as is the case here, are seen as manifestations of technological controversies that pave the way for negotiations for new choices to be made in a more inclusive framework (Callon, 1981). By framing and politicizing the grievances and discontent (cf. Piven and Cloward, 1979; Gamson *et al.* 1982; Snow *et al.* 1986) against the *dillali*, Demmo was able to generate mass defiance among his people, who came “to believe that change is possible and that their own participation will make a difference in the outcome” (Buechler, 2011: 143).

By “problematizing” (Callon, 1986) the need for technological and institutional change, the Fulani leader was able, through “smear campaigns” against the *dillali* and through various promises, to mobilize the local Fulani pastoralists, while making himself essential in this new network in which a livestock marketing innovation should come into being and develop. However, since the positions of the conflicting parties were uncompromising, there was not much room for negotiations. The release of Demmo did not prevent a continuation of conflict between the proponents and opponents of the MBA up to 1998: the former using their capacity of mobiliz-

²¹⁴ Marché à Bétail Autogéré.

ing pastoralists to prevent the conveying of livestock to the market, and the latter relying upon their economic and relational power to have “public order disturbance” officially claimed and condemned.

Instead of continuing with this struggle, which seemed to be against the State, and which portended no real success for Demmo’s innovation, the Fulani leader changed his tack and quickly repositioned himself as conciliator of everyone’s interests through a democratic process. On 4 March 1998, he instigated the creation of the Local Association for the Management of the Livestock Market of Gogounou (ALGMB²¹⁵) and became its president, a position that he held until October 2014, when I was completing my fieldwork. The ALGMB became the democratic committee leading the governance of the MBA and included the representatives of all stakeholders in the livestock market: cattle traders, butchers and other livestock buyers, Fulani cattle sellers and trade brokers. The latter (*dillali*), instead of maintaining their former status and continuing their practices decried by the MBT, also agreed to be reconverted into transaction witnesses (*sedeebe*). This repositioning of the Fulani leader allowed him to take the lead in the first democratic association of the livestock market, and it also allowed the former trade brokers not to lose completely their place in the livestock market. This “enrolment” (Callon and Law, 1982; Callon, 1986) of the livestock trade brokers was the main reason for the success of the MBA movement in Gogounou.

The trade witness (*sedeebe*) is now responsible for observing and certifying the transactions between the two parties involved in the sale or the purchase of livestock. He is not allowed to intervene or to influence the respective positions of both actors. Instead of earning money by selling his expertise to both buyers and sellers in the market, he is offered compensation, an “interessement” in the sense of Callon (1986), proportional to the number of transactions he has actually recorded during each market day.

The relatively successful control of middlemen within the cattle market of Gogounou enabled Demmo, joined by other Fulani elites, to highly publicize their innovation beyond the borders of Gogounou. The MBA is presented to various external donors as the most “transparent” and “democratic” way of trading livestock, and also a major contribution for local development. In fact, through the taxes collected in the market, development actions were often locally taken. Primary schools were promoted in Fulani camps, teachers were recruited and paid, adult literacy was promoted within the Fulani community and various charitable actions were also performed (cf. Onibon, 2004: 39ff.; BAA, 2012: 20ff.).

Under the leadership of Demmo, the MBA model was successfully promoted beyond Gogounou borders and led, in April 2001, to the creation of the Luumondji Mareefuji Sago Network (RLMS²¹⁶), a network of nine livestock markets that adopt-

²¹⁵ Association Locale de Gestion du Marché à Bétail de Gogounou.

²¹⁶ Réseau Luumondji Mareefuji Sago: the term means “livestock markets according to the own agreement of pastoralists”.

ed the same innovations in livestock trading (Orou Guetido, 2012). What is clearly reflected in the trajectory of MBA's development is the success of the "translation" process (Callon, 1986), which made Gogounou change its MBT into a new type of livestock market (MBA); one regarded as a fairer alternative for Fulani pastoralists. Demmo then became the "obligatory passage point" (OPP)²¹⁷. The key allies (Fulani pastoralists, trade brokers etc.) were keenly interested and properly enrolled; their mobilization proved to be successful. Demmo and his fellows provided an excellent "showcase" or "dressed window" (Bierschenk and Olivier de Sardan, 1997: 448; Bierschenk *et al.* 2000: 27; Coll, 2000: 117) of a "successful" endogenous market innovation that attracted international donors and led to a successful career in development brokerage. As I will detail later on, guided tours (of the market and about its achievements) were often organized for representatives of international donors passing through the region to highlight the innovative and organizational capacity of the Fulani in Gogounou. This had to do with the competence of the broker and his ability to create a reality that fit the agenda of international donors (Bierschenk *et al.* 2000: 27; Neubert, 2000: 255f.; Igoe, 2003; 2006).

8.5 Grassroots organizing: Repositioning and extroversion strategies

The success of the MBA livestock markets in Gogounou and other parts of the country increased the reputation of Demmo, both locally and regionally. While fiercely promoting the MBA, the president of the ALGMB-Gogounou participated in the Constituent General Assembly of the Inter-African Union of Herders' Professional Organizations (UIOPE²¹⁸) held on 27 November, 1999 in Nouakchott (Mauritania), where he represented the Fulani pastoralists of Benin. The presence of Demmo in Nouakchott coincided with the ambitions of this sub-regional platform, which was seeking a contact person in each country to promote and develop Fulani grassroots organizations (cf. Onibon, 2004: 22; Ciavolella, 2013). Demmo began to travel²¹⁹ abroad, which had the advantage of making him aware of the sub-regional impetus behind the creation of grassroots civil society organizations among pastoralist communities. His effort in organizing the "grassroots" gave birth in the year 2000 to the creation of the first male and female grassroots Fulani associations, respectively called, GPER²²⁰ (Professional Group of Ruminant Herders) and GPFER²²¹ (Profes-

²¹⁷ Details are provided on OPP concept in Chapter 3.

²¹⁸ Union Interafricaine des Organisations Professionnelles d'Eleveurs.

²¹⁹ Since then, he has traveled extensively in several African and European countries. He often referred to his many passports with filled pages. This is in line with Blundo (1995: 83), who assumes that development brokerage provides an opportunity for brokers to continue to travel, to make new connections and expand their profiles as experts in self-promotion.

²²⁰ Groupement Professionnel des Eleveurs de Ruminants.

²²¹ Groupement Professionnel des Femmes Eleveuses de Ruminants.

sional Group of Female Herders of Ruminants). The gendered perspective has been very important to the international development agencies and has therefore been well considered.

Although collective mobilization had begun in the 1980s with the organization of the Fulani ethnic seminar of Kandi in 1987 and various dynamics around the ethnic association Laawol Fulfulde, the transnational connections of Demmo with the sub-regional grassroots associative movements, prompted the creation of grassroots organizations among pastoralists in northern Benin. Demmo, who was no longer fully in line with Laawol Fulfulde²²² and who had already a successful “showcase”, took advantage of these connections to reposition himself in grassroots community development.

Subsequently, the local professional groups, including almost all Fulani camps on the same village land, were regionally constituted in the Regional Union of Professional Groups of Ruminant Herders (UAGPER²²³). Their main activity was initially awareness-raising and the organization of compulsory vaccinations for animals within each region. It is important to notice that membership of Fulani groups was normally optional, since it was subject to several payments: a membership fee of 5,000 CFA francs, 500 CFA francs for membership card delivery and 25 CFA francs per animal per vaccination session (Onibon, 2004: 22; Maroowo, 2007: 7). However, vaccination was compulsory for all herders, since it was included in the State prophylactic plan to prevent and control livestock diseases such as pasteurellosis, contagious bovine pleuropneumonia, anthrax and Newcastle disease (MAEP, 2013: 21). Fulani leaders took advantage of the compulsory animal vaccinations to mobilize necessary funding resources for their associations with, supposedly, optional membership. This fundraising policy seemed to consider *de facto* all Fulani pastoralists as members of the created associations, since the struggle was more oriented to Fulani identity.

Since 2001, all of the UAGPERs of Gogounou District were grouped into a Communal Union of Professional Organizations of Ruminant Herders (UCOPER²²⁴) covering the whole district. Demmo became the president of UCOPER-Gogounou, which was, at that time, the largest professional association of Fulani pastoralists. A few months later, this Fulani association model spread across northern Benin, and, in 2002, to six districts in the provinces of Borgou and Alibori (B/A). From there a departmental umbrella Fulani association called UDOPER²²⁵ (Departmental Union of the Professional Organizations of Ruminant Herders) was created. However, its organization was formalized only in 2004, after holding its first General Meeting on 7–9 April of that year. The first UDOPER, of which Demmo became the president, consisted of 650 GPERs and 227 GPFERs, distributed in all regions of the

²²² Demmo was active supporter and even local leader of the Fulfulde committee (cf. also Ciavolella, 2013).

²²³ Union d'Arrondissement des Groupements Professionnels des Eleveurs de Ruminants.

²²⁴ Union Communale des Organisations Professionnelles des Eleveurs de Ruminants.

²²⁵ Union Départementale des Organisations Professionnelles des Eleveurs de Ruminants.

six municipalities (Onibon, 2004: 23f.). The UDOPER B/A became an exemplary grassroots organization and the focal point for several national and international programs oriented towards pastoralism and its grassroots players. This opened the way for Demmo, the Fulani broker in development, to implement his “strategies of extroversion”²²⁶, common to African elites, as strongly supported by the postcolonial “politics of the belly” (Bayart, 1993; 2000).

Demmo and his colleagues managed to access their first funding from some international donors. He often confessed during our interviews and major events by pastoralist associations to the support of certain international donors whose names he called and declared: “they are the first who propelled me forward”²²⁷. For instance, a three-year action plan was designed and implemented by UDOPER B/A from 2004 to 2007. The various activities in this plan, funded by the European Commission, focused on institutional empowerment, fodder cultivation, animal health improvement, animal product marketing and information access among other issues (L’Haridon, 2012: 16; ANOPER, 2013b).

The UDOPER B/A became over time an association with a good reputation and visibility beyond Borgou and Alibori, which were initially the geographical boundaries of its interventions. The Fulani leaders were involved in government consultations and became part of some key decision-making bodies regarding the pastoral world. The UDOPER B/A defends the interests of herders within these frameworks and provides its members with various socio-professional services oriented towards training, literacy, veterinary care and conflict management (Hestin, 2012: 32). The association was ranked among the favored partners of the Technical Centre for Agricultural and Rural Cooperation (CTA), which is a joint international institution of the African, Caribbean and Pacific (ACP) Group of States and the European Union (Monde, 2008: 11; Ciavolella, 2013).

The national scope of the representation of Fulani leaders, already noticeable through the various actions of UDOPER B/A, was finally formalized in February 2007, with the creation of the National Association of the Professional Organizations of Ruminant Herders (ANOPER²²⁸) by 24 UCOPERS from six provinces of Benin (Maroowo, 2007: 4). During the first General Meeting, held in Gogounou on 15–17 February 2007, Demmo was named president of the association; a position he held up to October 2014. The ANOPER currently mobilizes 48 UCOPERS, 506 GPERs and 120 GPFERs, with about 35 thousand members covering 75% of the territory of Benin (AFDI, 2015: 2f.). Thus, the Fulani association with local influence, and limited only to Gogounou District, became a national civil society body also open to non-Fulani, provided that they were livestock (cattle and small stock)

²²⁶ The author uses “extraversion” as synonymous with “extroversion”.

²²⁷ “Ce sont eux qui m’ont lancé”: This must be understood in the sense of “scaling-up” the flow of aid by international donors (cf. Igoe, 2003; 2006), making external funds more available to the Fulani leader and the associations that he created, in order to be more effective in the struggle for their communities.

²²⁸ Association Nationale des Organisations Professionnelles des Eleveurs de Ruminants.

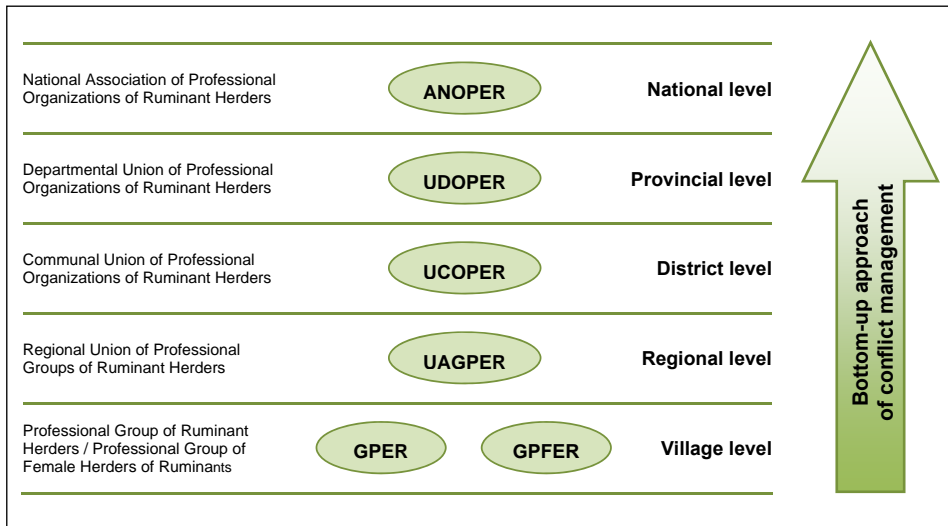


Figure 8.2: Organizational chart of pastoralist associations in Benin

farmers. The pyramid shape of ANOPER is represented in Figure 8.2. The Fulani associations have largely benefited from the structuring and the funding resources of the self-managed livestock markets, although nowadays the markets also enjoy the scope of the representation and advocacy of the association (*ibid*). The grassroots organizations of Fulani pastoralists are put forward as being the ultimate means for securing pastoralist livelihoods, as it is expected to favor better control of livestock production and marketing (Alfa Tidjani, 2010: 53).

8.6 Becoming professional: The dialectics of a controversial legitimacy

As in the case of the Tanzanian NGOs reported by Hodgson (2011: 108), the Professionnel Eleveurs de Ruminants (PER) associations that have emerged in the cultural landscape of Fulani to defend the interests and rights of pastoralists initially encountered controversies. Disagreement between Fulani elites about representation was intense. The main issue was to know which, between Laawol Fulfulde and PER organizations, holds the legitimacy to represent the Fulani. Who was the leader to speak and act on behalf of the Fulani? Schöneegg *et al.* (2006), who worked on the issue of managing conflicts related to cross-border transhumance in Niger, Burkina Faso and Benin, reported the following:

Pastoral associations [in Benin] are few [...] and compete for leadership. Yet they are not on the same playing field in terms of intervention. Laawol Fulfulde is a national structure set up by the old Fulani elite. It focuses on literacy

and the preservation of the Fulfulde language in Benin. It also claims to be the sole legitimate representative of the Fulani herders in Benin. This role is challenged by other younger associations, particularly by UDOPER, which is formed around the management of livestock markets. It is supported by [*some international donors*]. (Schöneegg *et al.* 2006: 39; emphasis added)²²⁹

Since the 1980s, the Laawol Fulfulde or Fulfulde Committee, which was part of the identity struggle of Fulani intellectuals (cf. Guichard, 1990; 2000; Bierschenk, 1992; 1995) and known as a cultural association, especially through its active involvement in literacy and adult and children education, claimed legitimacy as the leading organization in the fight for the welfare of Fulani pastoralists. My conversations with the *Ruga* in Kandi during my research also provided evidence that confirm this position of the Fulani chieftaincy, which claims that the pastoralist organizations in Gogounou usurped power. Meanwhile, UDOPER – which was rather specialized in autonomous livestock marketing – had already invested in these sectors in which Laawol Fulfulde previously had the monopoly. Through the promotion of camp schools and literacy centers, UDOPER leaders headed by Demmo were able to demonstrate their ability to deal holistically with the concerns of the pastoral community, linking their originally economic struggle through MBA with the social and cultural dimensions of pastoralist livelihoods. Therefore, the PER association leaders were able to use all the baiting rhetoric around their innovative showcase (described above) to capture their first development funds, which they happily spent on their own areas of interest. This was a capability that Laawol did not have, since it lost its first glories of the 1980s and fell into lethargy, partly linked to the dissent it experienced and to the death of some of its key instigators.

Since local pastoralists often look for tangible services and more concrete results in the fight of their leaders (cf. Hodgson, 2011: 108), legitimacy is measured not in verbal confrontations and complaints about one another, but rather through the ability of each institution to undertake actions that leave footprints in the pastoralist regions and can provide immediate assistance for pastoralists during difficult times (conflicts and all forms of marginalization). The PER organizations, which now have a range of international donors to support their activities and implement their action plans, have completely outdone the cultural associations by claiming that they are not only “cultural” activists but also, and primarily, “professional” activists.

²²⁹ I have personally translated this excerpt which was originally in French and German in the report used.

8.7 Deserving of legitimacy: Defending pastoralists and reforming pastoralism

ANOPER Benin and its multi-scale branches are median-level institutions that stand in defense of pastoralists and in ensuring them improved livelihoods and secure futures. The action plans, implemented with the use of international funds, highlight technological and social services for improving the inclusion of the Fulani in the political, social and economic national context. To understand the transformations in pastoralism in northern Benin brought about by Fulani activists, some key areas of their interventions need to be examined.

Improving information access

Illiteracy, which remains one of the major bottlenecks for the social and political inclusion of the Fulani pastoralists, is addressed through various programs designed and implemented by technical staff members.²³⁰ Pastoralist associations work hard to translate and disseminate various programs related to pastoralism and mobility into the local languages, particularly Fulfulde, in order to raise awareness of the pastoralists and the institutional framework that governs their activities (UCOPER-Gogounou, 2013: 6). A booklet of good practices, inspired by the national laws governing the pastoral sector in Benin, was recently issued (GERED/ANOPER/Potal Men, 2012) and actions are being taken to inform a larger audience. A market-information program, implemented together with transnational donors, was approved by pastoralists as being of great benefit to them. Livestock prices and other useful notices were disseminated through a partnership between UDOPER B/A and radio stations, including Nonsina Radio (Bembéréké District), Bani Ganse Radio (Bani-koara District), Su Tii Dera Radio (Nikki District) and Radio Parakou, a regional station of ORTB²³¹, the National Radio of Benin (Djegga, 2007).

Vaccination programs, cattle rustling and other livestock keeping events were also announced on such channels. Fulani herders have easier access than before to such radio programs, even if some have stopped since the development programs supporting them came to an end. ANOPER and its regional branches regularly issue press releases to inform pastoralists about the vaccination programs. This enables, for instance, better epidemiological control of the local herds. Most herders interviewed in this study have accessed the immunization schedule several times, getting to know

²³⁰ The illiteracy rate is still very high among Fulani pastoralists and was estimated at 97% in 2007 (UNESCO, 2007: 16). The literacy campaign widely implemented by the PER associations has also benefited from support from some local NGOs such as DERANA, SIA N'SON, etc. Considerable efforts were also made by the Fulani NGO "Potal Men" in Atacora and Donga Provinces, where 7,364 Fulani (including 1,932 women) were trained in literacy (UNESCO, 2007: 17).

²³¹ Office de Radiodiffusion et Télévision du Bénin.



Photo 8.1: Board of livestock farmers' radio station (Maroowo Fm) in Gogounou

the venues and logistical instructions through the aforementioned radio stations they passionately follow every day in their mother tongue.

The initiative of creating a local radio station was also tried through a partnership between the pastoralist organizations and the municipality of Gogounou, but this was not fully fulfilled. However, evidence of the symbolic value of local radio stations for pastoralists is conveyed, for example, by a large billboard bearing the name “Maroowo Fm”²³² (cf. Photo 8.1), located at the entrance of Gogounou city and very close to the head offices of ANOPER and UDOPER B/A. During my visits to the camps, some Fulani pastoralists expressed a sense of pride about this achievement, which is proof to them of the technological progress among Fulani pastoralists.

The *Maroowo* newsletter (*Dewtere habaruuji Maroobe*)²³³, edited by UDOPER B/A, with support from the EU and CTA, has allowed information about the different achievements of pastoralist associations to flow. Readers can find general information about the self-managed livestock markets, as well as the organization and the functioning of pastoralist associations. Another fascinating aspect of communication through UDOPER's bulletin pertains to how technological innovations (new cattle breeds, milk processing and marketing, livestock inputs and veterinary products,

²³² *Maroowo* (plur. *Maroobe*) means “livestock farmer” in Fulfulde language. More explanations are made on the concept later in this chapter.

²³³ Newsletter of livestock farmers: “Bulletin d'information des éleveurs”; or “Bulletin d'information de l'UDOPER”.

Photo 8.2:
UDOPER B/A newsletter
(*Maroowo*) showing exotic
cattle breeds²³⁴



etc.) are announced and arguments extensively developed to attract the attention of the herders.

In the first and fourth issues of the *Maroowo* newsletter, scanned excerpts (see Photo 8.2) about highly productive exotic cattle breeds called *na'i batuure* (cow of the white people) were portrayed as a welcome innovation. This is the kind of news that herders would be glad to hear about. Demmo, who is the former president of UDOPER B/A, and the current president of ANOPER Benin, dedicated his editorial “Hoore Haala” in the fourth issue of the *Maroowo* bulletin to exalting the productive values of the *Blonde dakiten* (Blonde d’Aquitaine). This French cattle breed was planned to be introduced in Gogounou in order to meet the challenge of higher milk production that the *na'i bargu* (Borgou cow), the main local breed, could not reach. The adoption of new technologies is thereby portrayed as the way to bring herders “out from darkness to light” (*Illa e niwre, hanne beeggol faanake*), “from ignorance to knowledge” (*Illa der lokooru, hanne dum wartii e hunnuko lokooru*) and “from stagnation to advancement” (*Joowinoobe fu fuddii ladugo*) (Maroowo, 2008).

Improving veterinary services and livestock health care

Fulani civil society organizations have been involved with the governmental decision-making body for animal health since 2001 (Maroowo, 2007: 7). Several diseases that affect local livestock are targeted annually. These include: pasteurellosis, anthrax, foot-and-mouth disease, bovine contagious pleuropneumonia, and sheep and goat plague. The Government of Benin has developed a regional strategy, which recommends an annual vaccination campaign over five years and a seasonal monitoring to facilitate systematic slaughtering of sick animals and application of ring vaccination when new outbreaks occur. The pastoral leaders, in partnership with the decentralized structures (CARDER and SCDA) of the Ministry of Livestock, are associated

²³⁴ Source: Maroowo, 2007 [A]; Maroowo, 2008 [B].

with the consultation body in designing and implementing such a policy (cf. MAEP, 2012; 2013).

Apart from the governmental veterinary services, the Fulani associations also carry out a number of initiatives independently to improve the accessibility of their constituencies to veterinary care. UDOPER B/A and UCOPER-Gogounou facilitate their members' access to veterinary products through their own veterinary pharmacy. A drugstore, installed within the cattle market of Gogounou, enables Fulani herders to buy their veterinary products easily in this market that they regularly visit to sell animals or to socialize with their network members. The herder associations also offer their members training in primary veterinary care. The local Fulani pastoralists recognize all these facilities as having a positive impact on the production and the reproduction of their herds (cf. Chapter 7).

Improving feeds and mineral supplements

Several innovations related to forage are practiced in Gogounou District, including the cultivation of grass and browse species as well as fodder conservation technologies. These forage technologies, although still used only on a limited scale, help maintain or improve animal productivity in conditions of scarcity. Only dairy cows, calves or draft animals are generally catered for by the forage reserves and the small-scale forage plots. However, ANOPER and its local branches are fighting for the development of these technologies, which are often impeded by the poor access of the Fulani to land, as discussed in Chapter 7.

Forage seedlings are provided free of charge to herders who want to grow forage. For example, in 2013 UDOPER B/A distributed 800 woody fodder seedlings to its members, including: 550 *Khaya senegalensis* and 250 *Leucaena leucocephala*. Eight ox-carts of *Panicum maximum* cuttings (covering 0.25 ha of land with 40/80 cm spacing) and 80 kg of forage cowpea were also offered free of charge to the pastoralists and agro-pastoralists in order to encourage the adoption of these forage crops (Boukari Bata, 2013: 20). Some experimental plots were also developed by the pastoralist associations in order to have a seed bank (another showcase) for easier supply. The seed banks are hosted by pilot herders, who will be later in charge of supplying seeds for further development of forage cultivation among pastoralists. UCOPER-Gogounou recently requested and obtained from the local authorities of Zougou-Pantrossi Region, specifically in Fana-Peulh village, a grazing area of 103.75 ha for setting up a forage farm (UCOPER-Gogounou, 2013: 14). This project is expected to help cover the forage needs of some exotic cows to be imported to Gogounou with funds from external donors. This was the solution found to supply SOCOLAIG, a mini-dairy unit managed by UCOPER-Gogounou, closed down since 2010 due, *inter alia*, to shortage of milk on account of the massive outmigration of Fulani pastoralists.

Apart from forage crops, pastoralist associations also promote several types of livestock feed, namely agro-industrial by-products and mineral supplements. Fulani

associations promote cottonseed cake, grain bran, brewery waste and fishmeal. Stores have been built to conserve various livestock feeds that Fulani leaders sell to herders at a “good price”. To facilitate the feed supply, ANOPER Benin partners as needed with cottonseed oil-mills or other private businesses (CTA, 2004: 21). The government livestock programs also provide support in this direction. For example, with support from the Livestock Ministry through the PAFILAV²³⁵ (Support Program for Milk and Meat Sectors), UDOPER B/A could supply about 50 tons of livestock concentrate feeds in 2013 in Borgou and Alibori Provinces (UDOPER B/A, 2014: 40). Some donors also supported such livestock concentrate feeding initiatives by funding the supply of several tons of animal feed. However, the results were less positive for several reasons, including the newness of the products, the sale price considered too high by the pastoralists and some supply difficulties by Fulani associations (AFDI, 2012: 5f.).

Mineral supplements are also gradually being used by Fulani pastoralists in Gogounou. Mineral licks and multi-nutritional blocks have been available to herders since 2010. These products are locally manufactured by Fulani women trained by pastoralist associations. Between 2010 and 2013, 197 livestock supplement licks were produced in Gogounou (Boukari Bata, 2013: 53). These mineral concentrates are supplied at 2,000 CFA francs per unit, a cheaper price compared to that of concentrates imported and marketed by the feed-supply businesses.²³⁶ However, by February 2014, local Fulani herders had purchased only 26 of the mineral licks (about 13%). Demand for these products is low because they are not well known to the Fulani. Some incidents already mentioned in Chapter 7 (injuries and cuts to cattle tongues) also impeded the uptake of these lick blocks. Despite this, mineral supplements are being produced in Gogounou and UCOPER-Gogounou even has an equipped manufacturing unit. The products are still in stock and their production is expected to increase in the coming years, along with a strong awareness campaign by Fulani leaders to improve their integration into livestock production practices. It appears that the pastoralist associations introduce new technologies, provide extension and advisory support and establish the institutional contacts necessary for change.

Demarcating and mapping livestock routes

In a context of land insecurity, identifying and mapping livestock corridors remains a key activity of the pastoralist associations; and there is seldom an annual action plan that does not include such operations. In Benin, the livestock routes or corridors are strips of land 25–50 meters wide that enable herders and their livestock

²³⁵ Programme d'Appui aux Filières Lait et Viande.

²³⁶ Indeed, this activity benefits both herders and their associations. A profit margin of 5,800 CFA francs is generated when 10 kg of mineral licks are made from local raw materials costing about 1,700 CFA francs. Otherwise, an imported lick block of less than two kg is sold by private operators for 2,350 CFA francs (Boukari Bata, 2011: 12).

to access grazing lands, water points, livestock markets, etc. In most cases, the livestock corridors are mapped by Fulani associations in partnership with the municipal authorities, donor representatives, the local structures in charge of agriculture and livestock, and representatives of all the local stakeholders. However, their life span is very limited due to the land insecurity to which the Fulani are subjected (cf. Chapter 6). My stay among Fulani pastoralists in Gogounou for almost a year enabled me to understand that the perpetual resumption of these “peaceful pastoral mobility infrastructures” (Rosier, 2009) is not entirely irrelevant to the pastoralist association leaders, who also enjoy very much the funds provided each year by external donors. All of this seems in line with the *projetoise* [Development project sickness] (Marty, 1990: 126), which propels several international donors towards their doors. Many Fulani pastoralists regularly complained of dealing with “*laawol*” or “*attal*”, rather than “*laadi na'i*”²³⁷ and link this situation to the “*toolon tirol*” (vb. *tolaago*)²³⁸ of their leaders, whom they criticize sometimes of pursuing the “*ceede Batuuure*” (white people’s money). One of the causes of dissatisfaction of Fulani pastoralists is that, despite well-funded budgets, some “corridors” are mapped in ways that do not always take into account their stated needs. This explains why the corridor issue is often a major one, since both farmers and herders are often guilty of not complying with the rules established consensually (PDC2 Gogounou, 2010: 47; Edja, 2014).

Unlike the trend in some municipalities, such as Banikoara, where livestock corridors mapped by Fulani leaders (cf. Figure 8.3) have been recognized by the municipal authorities through administrative acts, the livestock routes in Gogounou District and many other regions in Benin have no legal status. This makes it difficult to prevent them from being taken over by annual or perennial crops and the like. Therefore, livestock mobility is not a reality along the corridors recently traced and signposted in Gogounou District. The corridors are either encroached by fields of cotton, maize or cashew orchards (cf. Chapter 6)²³⁹. In Banikoara, where the situation seems better, the 208 corridors, which vary in length from one to 75 km, with a total length of 2,020 km, were identified and officially certified by the Local

²³⁷ The first two concepts (*laawol* and *attal*) refer to “ways” or “paths” that facilitate the movement of people in the bush by simply connecting point A to point B. Further, *laawol* can refer to ethnicity or social identity, while *attal* may also refer to an appointed social mediator. But the third concept (*laadi na'i*), which literally means “livestock passageway”, has a totally different meaning for herders. For the Fulani pastoralists, animal routes are more than bush trails. It is an infrastructure that strongly determines their pastoral identity (Edja, 2014).

²³⁸ This literally means a “joker”, in the sense that the person is well aware that the mapping of corridors, like other political rituals, is a means of taking advantage of the resources provided by donors.

²³⁹ For the last five years, the Municipal Authority of Gogounou has been planning to open up, rehabilitate and secure 200 km of livestock corridors, at a total cost of 10 million CFA francs (PDC2 Gogounou, 2010: 135). However, there has been little action in this direction.

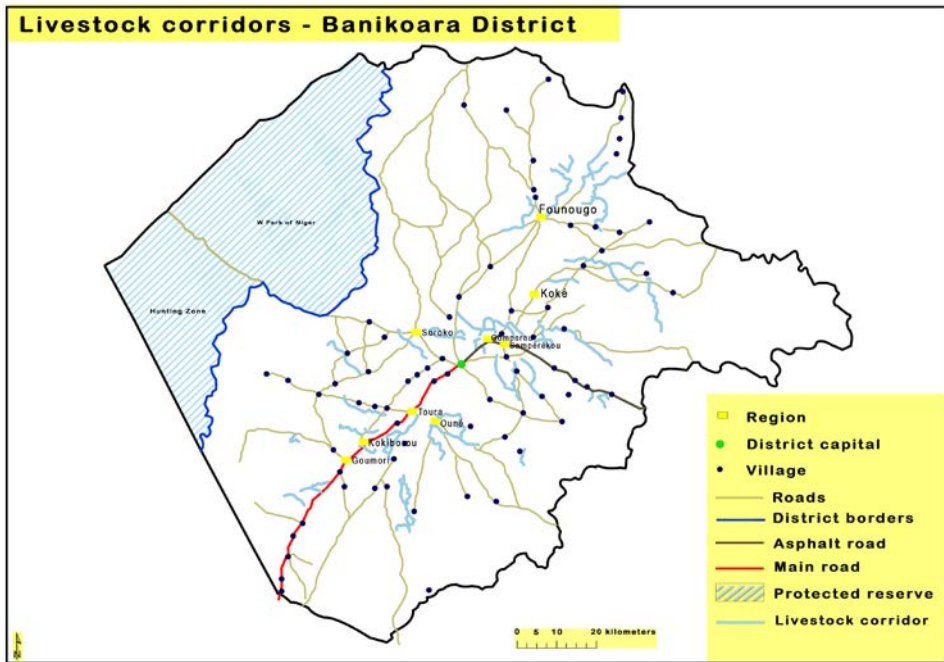


Figure 8.3: Animal routes mapped and formalized in Banikoara District²⁴⁰

Government. However, nothing prevented these corridors from also being completely narrowed by crop fields, dwellings, etc. (UCOPER-Banikoara, 2014: 8; Katé *et al.* 2015).

Improving livestock market access and contributing to local development

The level of involvement of local pastoralists in livestock trade is said to have increased with the advent of the MBA Gogounou. Figure 8.4 is drawn from the database provided by the ALGMB-Gogounou and should be treated with caution, given the context of the data production; nevertheless, it gives an idea on the annual trends of livestock transactions within the MBA market of Gogounou in the period 2003–2013.

The period 2003–2006 is characterized by a decrease in the number of animals sold in the market. The annual average number of animals sold is 527 cattle and 255 small ruminants. This period corresponds to that of the stronghold of the Municipal Authority over the MBA in the decentralization era. The advent of decentralization in Benin from 2003 destabilized the proper functioning of most MBA markets across the country by generating conflicts between Fulani leaders who claim legiti-

²⁴⁰ Source: Orou Guetido (2012: 20), redesigned and translated into English by the author.

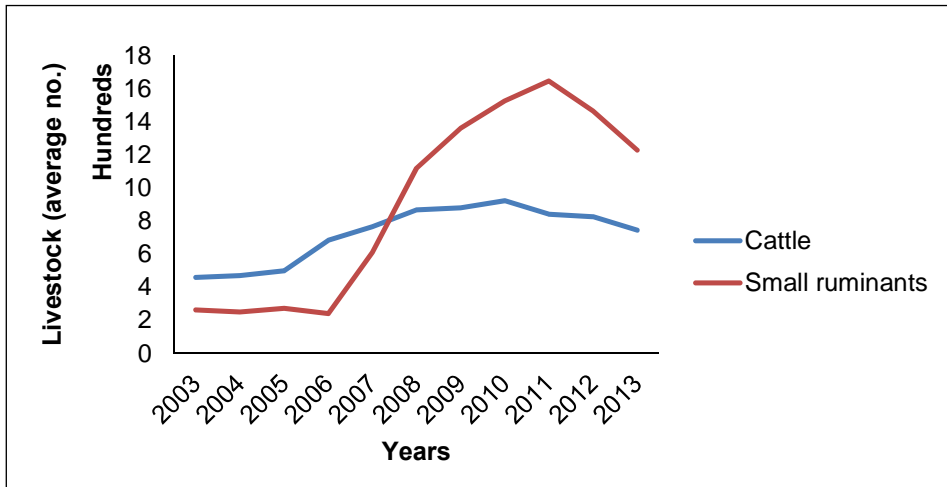


Figure 8.4: Trend in the annual average number of animals sold from 2003 to 2013²⁴¹

mate paternity of those markets that were finally put under the control of Municipal Authorities by the decentralization acts. The competition between stakeholders for the control of revenues from the livestock trade is often fierce, and the rivalries and legitimacy demonstrations in this regard are very common (Guibert *et al.* 2009: 61f.; Bonnassieux *et al.* 2013: 4; Houedassou, 2013: 154). The conflict between the Municipal Authority of Gogounou and Fulani leaders led to the downward trend in livestock transactions in the MBA livestock market, for reasons similar to what happened at the inception of the MBA. First, Fulani pastoralists were discouraged by their leaders from bringing their animals to the market, in order to strengthen their position in the political negotiations with the Local Government. Second, Fulani leaders challenged the Municipal Authority by purposely “misreporting” the transaction data provided at the end of each market day. Third, the disagreements between stakeholders over control of the market also contributed to the return of the former trade brokers, threatening the principles of self-management and good accounting (Maroowo, 2007: 5). All these factors explain the decline during this period. Here again, as already shown in the Fulani outmigration data in Chapter 7, the “engineering of figures” is a strong lobbying and political bargaining tool that is skillfully used by pastoral civil society organizations in Benin.

The period 2007–2010 shows an increase in the number of animals sold in the market. This is the result of the relatively good partnership that prevailed after the signing on 4 December 2006 of a lease contract between the municipality of Gogounou and the Fulani leaders (UCOPER-Gogounou, 2006; Maroowo, 2007: 8). The pastoralists were motivated again to bring animals into the local livestock

²⁴¹ Source: From ALGMB database (2014).

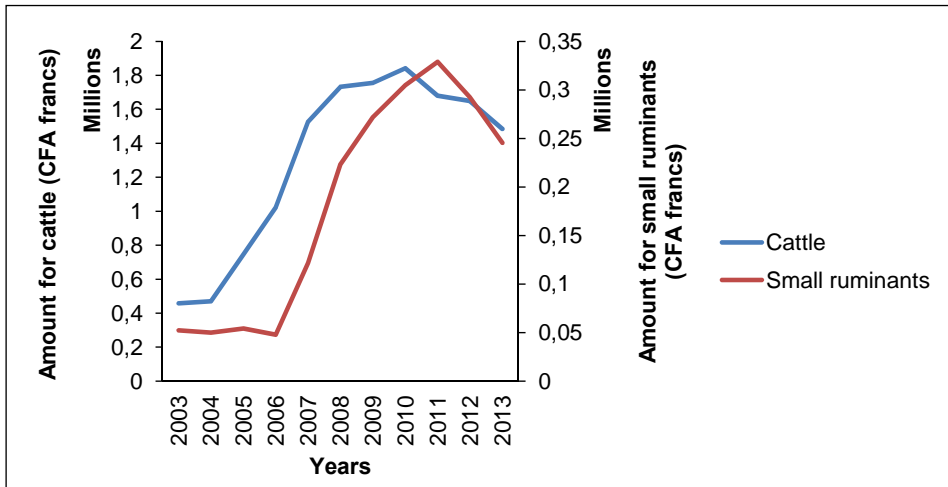


Figure 8.5: Trend in average annual amount of tax collected from 2003 to 2013²⁴²

market, while the financial governance system was also strengthened to secure confidence and reliability between the contracting parties.

The period 2011–2013 shows a decline in the number of animals sold on the market, but with some exceptions. The sale of small ruminants continued to increase until the end of 2010. This explains their high annual average of 1,444 head sold. As for cattle, the decline was observed in 2010, when the average number of animals sold per year during this period was 802. The outmigration of Fulani pastoralists from Gogounou and the bordering districts of northern Benin to other regions further south and to other countries (Togo, Ghana), helps to explain this trend. Fulani pastoralists began their *perol* and *egiol* moves with their cattle most noticeably from 2010 onwards. This explains the fall in the cattle sales in favor of small ruminants, upon which many of the Fulani households then relied. However, from 2012 onwards, the number of small ruminants sold in the market also clearly began to decline and could be explained, *inter alia*, by the fall in the local population of small ruminants and the moving by truck of all the belongings of the migrant Fulani pastoralists. As is often stated by the market officials themselves, the MBA market of Gogounou currently depends mainly on animals brought in from other regional livestock markets, mainly by large livestock merchants. I will now present how MBA innovations enable fundraising to support the activities of pastoralist activists and to contribute to the bargaining power of Fulani leaders in negotiations with local political forces. This will be done with reference to Figure 8.5, which shows the yearly average amount of taxes collected in the MBA market of Gogounou from 2003 to 2013.

²⁴² Source: From ALGMB database (2014).

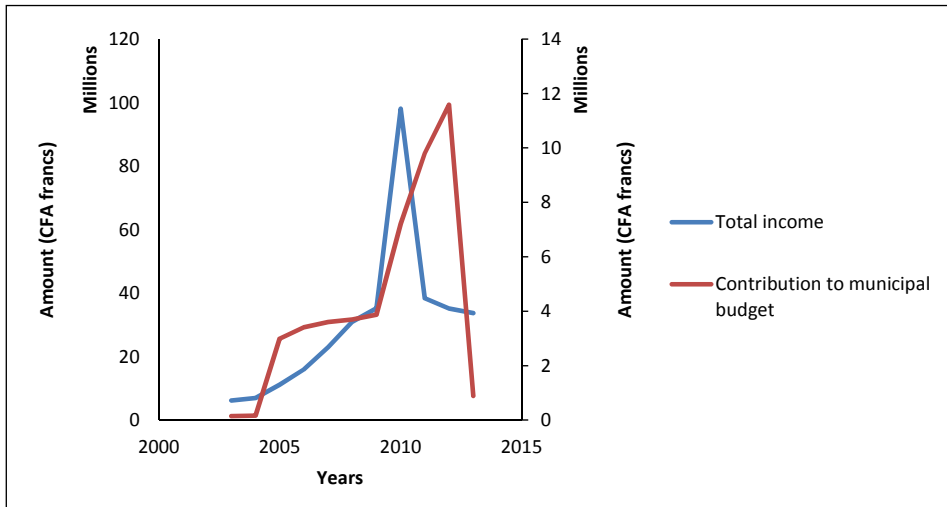


Figure 8.6: Trend in total income of MBA Gogounou and its contribution to the municipal budget from 2003 to 2013²⁴³

From 2003 to 2013, the average annual amount of taxes collected from the MBA Gogounou was 17.845 million CFA francs. The increase between 2003 and 2010 is due not only to the amount of tax tickets issued on the market, but also to the increase in tax levied per head of cattle, which rose from 1,000 CFA francs in 2003 to 1,500 CFA francs in 2005 and finally to 2,000 CFA francs in 2006 after the signing of the lease contract between the Fulani leaders and the Local Government. The tax levied is currently 200 CFA francs per head of small ruminant sold in the market (UCOPER-Gogounou, 2006: 4). This amount was initially 50 CFA francs before being changed respectively to 100 CFA francs in 1988–2002, 150 CFA francs in 2003–2005, and finally 200 CFA francs from 2006 onwards as a result of the aforementioned lease contract (*ibid*). All the increases in livestock trading taxes did not, however, prevent the fall in the total amount collected in the market after 2010. This is indicative of the drop in the number of transactions. The outmigration of local herds since 2010 has remarkably influenced the level of fundraising within the MBA livestock market. Figure 8.6 depicts the evolution of the total yearly turnover of MBA Gogounou between 2003 and 2013 as well as the contribution to the municipal budget.

The annual average income of MBA Gogounou over the 2003–2013 period is 30.413 million CFA francs. This consisted of 59% from taxes levied on livestock transactions and 41% of ancillary sources such as bike guard, truck loading and animal watering from the borehole of the market. The market workers are subject to penalties in case of delays, absence at work and involvement in fraud. There are

²⁴³ Source: From ALGMB database (2014).

also small taxes levied on food sales by women and on other trade in motorbikes, farming inputs and various other products widely demanded by the Fulani. The market management committee has also invested in recent years, with support from international donors, in building a hostel and a guest house that bring a significant income. The investments in agro-industrial livestock feeds, mineral supplements and veterinary products are also supposed to provide positive returns in the long run. The total income of MBA Gogounou significantly increased over time to reach a peak of 98.052 million CFA francs in 2010, but decreased to 33.719 million CFA francs in 2013. The turnover generated by the market is used to cover the salaries of the market workers and the association's technical staff, while promoting various charitable and development activities such as students awards, and building and equipping schools, mosques and literacy centers (Onibon, 2004; Maroowo, 2007: 8; BAA, 2012).

Beyond the potential of the self-managed livestock market to generate significant income to support the Fulani associations' activities, it is also an important source on which the Local Government relies in funding local development initiatives. Over ten years (2003–2013), MBA Gogounou made an annual average contribution of 4.307 million CFA francs to the budget of Gogounou Municipality. The trend increased from 150 thousand in 2003 to 11.589 million CFA francs in 2012. But this contribution drastically dropped to 886 thousand in 2013. There were complaints from the Local Government leaders, who also deplore the considerable reduction in the funds they received from the MBA market that could go towards local development activities.

The financial capacity of MBA Gogounou, and the high dependence of the municipality on this for funding its development policy, puts the Fulani leaders in a strong position of power. The self-managed cattle market has become a powerful tool used by Fulani leaders to challenge the policy options and decisions of the local political leaders. Accordingly, the antagonisms that emerged between the Mayor of Gogounou and the main Fulani leader have fueled in recent years several forms of mutual distrust, with consequences for local pastoralism. This reveals the power struggles and the “incapacitation” or “neutralization” strategies that can result from straddling between development brokerage and the exercise of local political power, when the two networks are not embodied in the same player (Blundo, 2000; Bier-schenk *et al.* 2000: 32f.). If solutions have sometimes been found with mediation from international donors, as shown by the lease contract mentioned above, it has not always been the case, and local pastoralists tend to be victims of the partisan positions.

Improving conflict management and promoting justice

Conflict resolution, although political, has multiple implications for livelihoods in pastoral areas (Devereux, 2006: 18). Conflict management is one of the most important areas of intervention of Fulani associations in Benin. The various grassroots branches of ANOPER record and manage a variety of conflicts involving Fulani

pastoralists and other actors (farmers, foresters, other State officials, etc.). Amicable settlement is favored in all conflicting situations (cf. Chapter 7). Although there are no official and reliable figures, Fulani pastoralists emphasize that the pastoralist associations play an important role in managing conflicts that occur in their daily lives. The conflict management approach is *bottom-up* ranging from the GPER in the village to the ANOPER at national level (cf. Figure 8.2 above). At the provincial level, the UDOPER is involved whenever attempts to settle disputes peacefully through the local Fulani officials fail at the village, regional or district levels. This is why Edja (2012) stated that UDOPER is like an “Appeal Court” for Fulani pastoralists who can lodge an appeal whenever they are not satisfied with the decisions made by the lower bodies of conflict governance. Pursuing the same logic, I could also say that ANOPER is the “Supreme Court” for Fulani pastoralists. It is the highest mediation body where a peaceful settlement could still be expected for a conflict in which Fulani herders oppose other actors. If the settlement fails definitively at this level, the conflict is then referred to the judicial apparatus.

However, some conflicts that involve intentional assault and battery, or death, are directly assigned to the relevant police offices. Similarly, some Fulani pastoralists who are seeking a faster and more effective treatment of their conflict situations skip all preliminary steps and call directly on the highest court (ANOPER), whose president is also the “supreme judge”. The decisions of ANOPER’s president are final for all parties in conflict; otherwise, it falls into the hands of the judicial system and its experts, without pastoral leaders being totally in control of how things will turn out. The Fulani are generally satisfied with most of the judgments passed by their greatest leader, even if the farmers are sometimes disappointed and prefer in such cases to bring their issues to the police and the judicial bureaucracy.

The success of pastoralist associations in conflict resolution is recognized by most Fulani herders interviewed in this study. However, there are no reliable and updated figures to prove it. L’Haridon (2012: 18) reported that out of 283 conflicts, recorded between 2006 and 2007, involving crop damage and cattle rustling, 89% were amicably settled. About 19% of these conflicts were managed amicably by the local leaders of UDOPER, who were involved in 37 mediation sessions between 2004 and 2007. The personal involvement of ANOPER’s highest leaders and local leaders promotes a more peaceful conflict management. Some Fulani herders even claim that they owe their being in Gogounou to ANOPER and its leaders; otherwise, they would have also migrated out like their peers who are engaged in *perol* and *egiol* moves. The increasingly remarkable involvement of Fulani leaders in the local consultation and decision-making bodies has successfully enabled better management of conflicts, which is also currently the case in Banikoara District, as reported by Katé *et al.* (2015).

Another innovation in conflict governance by pastoralist associations in Benin is the recent appointment of a legal expert (*Alankaliijo* or *Sirboowo*)²⁴⁴ in the defense of the rights of Fulani herders. Conflict management has experienced a major change since 2013. Apart from the small cases that can be managed amicably with the grassroots Fulani leaders, conflicts involving willful injuries and losses of lives are forwarded to the Legal Adviser of ANOPER, who is a lawyer recruited and paid through external funds. When ANOPER leaders are informed about hotbeds, the Legal Adviser is directly sent as part of a mission to investigate the case and take action to pursue the interests of the Fulani pastoralists involved. The main function of ANOPER's lawyer is to understand the real causes of each major conflict. When sufficient evidence is found, he makes a complaint before the courts and tries to defend the pastoralists known locally as association members. During an interview that I had with the Legal Adviser of ANOPER, to better understand his position within the pastoralist organizations, he cited an African proverb that says, "Until the lions have their own historians, tales of the hunt will always glorify the hunter". This portrays his work as a "historian" of Fulani pastoralists, which is concerned with correcting the "hunting stories" or wrongs they suffer from other social forces in the country. Conflict management definitely remains one of the most important sectors where ANOPER and its branches are greatly admired by their constituents.

Communicative power has greatly improved within pastoral civil society organizations in Benin during the last decade. Significant changes were recorded in the approaches of communication between the Fulani leaders at different levels, the experts and facilitators within the technical staff and the daily contacts with local pastoralists. Mobile telephony has greatly facilitated the degree of mobilization of Fulani activists and their closeness to their constituents. I was always amazed at how quickly Fulani leaders could get to the various hotbeds of tension through mobile phone calls. Aboard a sport utility truck (Toyota Four Wheel Drive Pickup, double cabin) acquired with external funding, Fulani representatives always travel with ease to assist the victims of the various clashes involving Fulani pastoralists and other actors. The gathering of relevant information often facilitates the better management of conflicts by the Legal Unit of ANOPER.

Designing and implementing advocacy and lobbying

The most common buzzwords within the pastoral civil society organizations in Benin during the last years include "advocacy" and "lobbying". There are not many days that the Fulani leaders do not use these concepts to picture their achievements and show their ability to defend the interests of the pastoralists at the highest political level of the country. In effect, the advocacy and lobbying initiatives implemented by ANOPER rely extensively on international donors and some pan-African networks

²⁴⁴ *Alankaliijo* (plur. *Alankaliibe*) means a counselor, while *Sirboowo* (plur. *Cirboobe*) refers to anyone who has the responsibility to mediate or make a judgment in a conflictual situation.

of civil society organizations such as RBM and APSS, joined by ANOPER (cf. Chapter 2). The MBA and all the related innovations presented so far have largely contributed to an increase in the bargaining power of Fulani leaders with a variety of actors. Always presented as the secure solution for the development of pastoralists, local collectivities and the country as a whole, Fulani leaders have imposed the self-managed cattle market as the technological model that preserves and improves Fulani livelihoods.

The MBA marketplace is often suggested as the first place to visit for the representatives of transnational donors, who have contributed significantly to its “modernization”. I still remember all of the guided tours in which I also participated, where all of the market workers wore uniform (blue tunics and pants) and some carried the transaction record booklets (yellow booklets). These tours, headed by the permanent secretary of the market, tried to demonstrate the potential of the MBA in order to promote local development. We often visited the animal pens and the loading platforms, the traditional infrastructure that one would expect to find at any cattle market along with some modern touches (e.g. borehole, water tower, watering troughs, veterinary drugstore and livestock feed store). Fulani leaders also managed to seduce their audience by displaying their ingenuity through, a hostel and a guest house they had built, with support from external donors. These buildings were open for visiting at the market site. Demonstrations of this kind of social entrepreneurship were intended to arouse the generosity of reluctant donors to join those who already believed in the capabilities of Fulani leaders and to provide them with resources to make changes in pastoral areas. An administrative block consisting of three offices, shared by the technical staff of UCOPER-Gogounou, the permanent secretary and the cashier of the market, was sometimes intentionally showed off to donors.

In one of the offices, equipped with a desktop computer, sat a young lady, who worked as an “Accountant”, even though she had no background in accounting and had been trained on the job, Fulani leaders had managed to convince their foreign interlocutors about the professional and transparent management of the market resources. An Excel spreadsheet was often opened to display how transactions were recorded and workers’ performances assessed. After this, visitors were usually taken off the market and then across the road to visit a lick-block manufacturing plant and a closed mini-dairy (SOCOLAIG) to complete the staging of technological progress, driven by the MBA and its promoters.

This kind of tour eventually ended at the headquarters of ANOPER, located about 200 meters from the marketplace. This is a building, located at the southern entrance of Gogounou District about 20 meters from the interstate lane Cotonou-Niamey and painted yellow-brown – bearing in its upper front corner a dark green French inscription “SIEGE”²⁴⁵, with two copies of the logo of the association superimposed on it. Here, Fulani leaders dressed in traditional clothes and hats are often found sitting around a long table, well decorated for the occasion. This could

²⁴⁵ Headquarters.

be perceived as a genuine encounter, where Fulani leaders praised and prized for their achievements, can bargain with various donors. The Fulani leaders are second in these negotiations to other more educated young Fulani, generally technical staff members, well and modernly dressed. The Fulani activists had laptops equipped with different GSM operators' internet kits switched on, while taking notes during talks with the new visitors or current donors on tour.

With various high-end phones in their hands, or next to them on the table, Fulani leaders did not prevent themselves from taking the many phone calls they received, so as to show somehow their closeness to their constituents and their connection with the world. They were quick, if necessary, to brandish photos of different situations (conflict hotpots, training sessions, technology experiments and noteworthy events) or to use beamers to play videos recorded on various phenomena (MBA's achievements, international encounters, cultural assets). In this regard, I was regularly solicited by Fulani leaders, who always wanted to access digital copies of photos and video clips that I was taking during my research. All this enables them to gain credibility with outsiders and trust from their own constituents.

As an example, I repeatedly witnessed how the Fulani leaders showed themselves through a photo they had taken with the President of Benin Parliament during a hearing on 11 September 2013. This photo (cf. Photo 8.3), showing the ANOPER president and other members of the steering committee and the technical staff of the organization, is hung on the wall inside the head office of the organization. A sense of pride is delivered through this close-up shot that carries a symbolic value. It is proof of the advocacy and lobbying capability of the pastoral leaders. Therefore, it is constantly shown – sometimes even by taking it off the wall – to the various delegations that come to ANOPER and the Fulani members during the major meetings.

During the Annual General Meeting of the association on 24 April 2014, where delegations from all the UCOPERs of Benin, state officials and donors representatives were present, this picture was exhibited to the pastoralists to demonstrate the power of their leaders and how their future is promising if they can stick together and stay united to allow for greater exploits. Other international meetings attended by the Fulani leaders were also viewed through video records and photos projected sometimes through PowerPoint. Shouts of joy, slogans and dances, nothing was missed that day to celebrate the success of the pastoralists; although some of them would return moments later to land threatened by expropriation. This description shows that pastoral leaders in their advocacy strategies manage the meaning of various technologies (cf. Cohen and Comaroff, 1976), enabling them to develop the proper rhetorical discourses of development, to engage the external donors and to strengthen their local and nationwide patron-clientage networks.

Fulani leaders, as professional development brokers (Bierschenk *et al.* 2000: 27f.), were also able to meet the President of the Republic of Benin, whom they strongly support and for whom they mobilize the Fulani electorate, several times in person. On 30 November 2013, ANOPER leaders submitted to the Head of State a Pastoralist Memorandum in which the potentials of and the threats to pastoral-



Photo 8.3: Fulani leaders with the President of Benin's Parliament, photo hung on wall in ANOPER head office in Gogounou

ism were widely portrayed, and his favor was sought to better take into account the concerns of the Fulani (ANOPER, 2013a). This feat was constantly repeated during my research stay in Gogounou by the Fulani leaders at all meetings of the herders, either alone or together with external partners, to demonstrate how Benin's Fulani nowadays can communicate directly with the *laamu leydi* (Father of the Nation) to deal with their issues. I remember the speech of the ANOPER president, who exhibited at a meeting on 25 April 2014 at the headquarters of the association, his good relationship with the President of the Republic: he could call the President by phone to discuss the problems of pastoralists. A round of applause went up from the participants, who showed great pride in and satisfaction with their leaders. This was followed by a set of slogans such as *potal men, womi semme men* to say, "unity is strength". I then realized that I was following live one of the symbolic rituals already well known about the Fulani of northern Benin (Guichard, 1990; 1992; Bierschenk, 1992; 1995).

ANOPER, with support from international donors, was recently able to initiate and lobby the process of drafting a pastoral code in Benin. A delegation of pastoral leaders and Members of Benin's Parliament visited the Sahelian countries such as Niger and Burkina Faso, in order to inquire about their experiences in the development and implementation of pastoral codes. A commission was set up afterwards to draft the pastoral code to be submitted for vote in the Parliament. This is expected

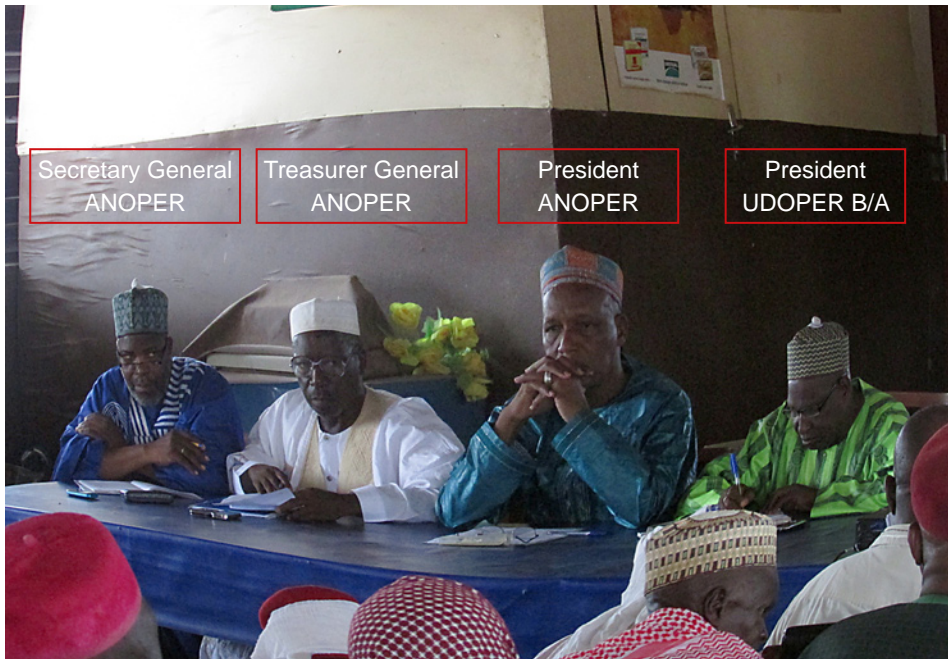


Photo 8.4: ANOPER Executive Board during a press conference on 25 April 2014 in Gogounou

to bring significant change in the land situation of Fulani pastoralists and to enable them to have sustainable access to natural resources. The strategic guidance document (DOS²⁴⁶) recently developed by ANOPER and its branches is also expected to allow the Fulani organizations to reconnect the past and the present trends of the pastoralism in Benin, to open up the path for a better future (cf. ANOPER, 2014).

The media are key tools in the communication strategies of pastoralist associations. Fulani leaders use radio stations with local, regional or national coverage as well as public and private TV stations to share information among pastoralists and to lobby the public authorities. With support from international partners, the activities of pastoralist associations have gained increasing media coverage. Some are part of raising awareness of herders on various aspects of livestock production (press releases, market information, etc.), while others aim to put pressure on policymakers (televised panel, press conference, etc.). In the latter case, ANOPER organizes an annual press conference (cf. Photo 8.4), often covered by television, radio and newspapers, to expose the abuses suffered by Fulani pastoralists (Agbikodo, 2013; Kouagou, 2013; own field records and notes, 2014). This often takes place the day after the Annual General Meeting of the association, when all the local and regional branches are present. Symbolic discourses by various Fulani officials are sent out to

²⁴⁶ Document d'Orientation Stratégique.

publicly regret the relegation of pastoralism to last place in the government's rural development policy. The contribution of Fulani herders to the socioeconomic development and peaceful political situation in Benin are often highlighted. The messages of Fulani leaders regularly criticize or accuse, in a veiled manner, the political and administrative authorities.

In summary, advocacy and lobbying by pastoral civil society organizations have become more visible, are well covered by the media and provide significant symbolic capital among the Fulani. However, practical solutions are far from being found for the everyday pastoralist concerns in terms of land rights and access to natural resources. The evidence is the critical land exclusion prevailing in Gogounou, where three of the most active pastoralist associations in Benin (ANOPER, UDOPER B/A and UCOPER-Gogounou) all have their head offices and where most of their highest officials are based. This is not unknown to local pastoralists, who express it sometimes in many ways. A Fulani herder of Djolè camp, criticizing the association leaders, mockingly told me during a conversation that: "Driving big cars, going to Parakou and Cotonou all the time, meeting the President of Republic, or browsing Africa and the whole world does not mean that solutions are found for Fulani problems" (field notes, 07/05/14). These critiques generally have to do with the more concrete outcomes expected by the pastoralists from their spokespersons (cf. Coll, 2000: 118; Hodgson, 2011: 108).

8.8 Dealing with ambiguities, cultivating the interfaces

Social scientists have recently used the concept of "ambiguity" to describe a number of ambivalent options and positions of the Fulani civil society organizations, in their ways of organizing Fulani ethnicity and achieving socio-political inclusion (Coll, 2000: 111; Hagberg, 2011; Ciavolella, 2013). This also has to do with the "cultivation of the interface", in that Fulani leaders in their brokerage strategies, position themselves between different individuals, organizations or worlds. Therefore, they navigate between "inside" and "outside", and use the rules and resources mobilized from the different worlds in shaping both "identity" and "otherness" (Coll, 2000: 109). I present some interfaces used by Fulani leaders, brokers in development, in their struggle to make a better life for their constituents. After having detailed how ANOPER and its agencies fight for pastoralists to obtain the legitimacy of their representation, I present now how Fulani activists manage interfaces.

Between single-ethnicity and multi-ethnicity

The pastoral civil society organizations in Benin depend on external funding. The associations receive abundant support from international partners. Despite the significant financial potential with its livestock markets and other related initiatives, self-financing is not yet a reality. The situation has further deteriorated with the mas-

sive emigration of herds to other countries. The markets are in decline and income-generating activities lack customers. In short, everything that made the fame and the financial power of the Fulani associations and their leaders is in decline. Most activities cited in this chapter would not be possible without the support from external donors. This requires action to preserve credibility before external partners, since only the capacity to raise their own funds will make the organizations sustainable. This is a crucial issue, well known by the Fulani leaders themselves, as it appeared in a report by UDOPER B/A:

Only the raising of our own funds and the respect of the distribution key of the members' contributions can make an organization credible before its partners. One thing desirable is to strengthen the fundraising. This may allow a sovereignty of the organization, the implementation of its activities and services to its members. (Boukari Bata, 2012: 18)

The withdrawal of outside donors remains a threat for ANOPER (AFDI, 2012: 7), even if it seems to have acquired credibility from many of them (CTA, 2004: 21; SOS-Faim, 2014: 6). Therefore, it has become important to take action to increase capital and achieve self-funding as much as possible. The membership was then revisited and the conditions to access the services of the association were further clarified. The boundaries of membership were always vague within the Fulani professional groups in Benin. Although membership was optional and subjected to certain conditions already mentioned in the first part of this chapter, being a Fulani pastoralist was almost synonymous with being a member of UDOPER. All the Fulani could then benefit from the services of UDOPER, since it was their *walde men* and *potal men*.²⁴⁷ UDOPER was usually portrayed as a common and non-excludable good, at the service of all Fulani. The quest for legitimacy did not allow Fulani leaders, the founders of the association, to exclude those who were not paying either membership fees or annual contributions. The only time that Fulani leaders are often able to collect money from the local Fulani pastoralists is during the compulsory vaccination sessions. All herders who attend these sessions often have on their heels the representatives of the associations or veterinary officials who cooperate with Fulani leaders to mobilize funds.

Recently, talks about membership have changed in order to exclude the Fulani "free-riders" who take refuge in ethnicity to receive services without fulfilling their obligations. The last reform of 2014 provides conditions for excluding certain Fulani pastoralists from benefiting from the services of the pastoral civil society organizations. This is to avoid the tragedy of the commons (Hardin, 1968), attributed to those who benefit from the services without contributing to keeping the association

²⁴⁷ The two concepts are used by Fulani to mean they are among themselves, people sharing the same social identity, making consensus around a minimum of moral values, and fighting against the same enemies.

alive. Remaining alive means achieving self-financing and being credible to the external donors. Self-financing ensures the credibility of the associations and improves their bargaining power (Maroowo, 2007: 7). This is why the individual cash contribution is always portrayed as being the lifeline of the collective action: “*ceede laatiwa bogool nyonki*”. The exclusion from ANOPER services, recently considered by its leaders, aims at avoiding the aforementioned drama, which will make pastoralist associations unable to provide adequate services to their members. This issue was broadly discussed during the Annual General Meeting on 24 April 2014, and the following point was made by the ANOPER president:

We will no longer provide services to everybody. Only our members will benefit from our services. When someone will call us to come and settle his problem, the first thing we will check is his membership card. Every herder has to pay his membership fees, which entitles him to a membership card, and [he] must also regularly pay his annual contributions. If he fulfills all these conditions, we will move to assist him. Otherwise, we will no longer do something for the people who are not up to date and who call us when they are in trouble. We are not forcing anyone to join. Membership is optional and our support will go henceforth to our members. (Demmo Cheenon, Gogounou, 24/04/14)

Demmo’s public statement clearly indicates that ANOPER is increasingly giving priority to membership over ethnicity. It will no longer suffice to be a Fulani in order to be systematically defended by ANOPER and its decentralized branches. The member, regardless of his ethnic background, has the privilege of accessing the association’s services. It might also be one of the reasons why the concept of *maroobe* (sing. *maroowo*) has gained prominence over *duroobe* (sing. *duroowo*) in the official and informal language of the Fulani leaders in Benin (cf. also Ciavolella, 2013).²⁴⁸ The latter generally refers to the traditional livestock farmers and mobile Fulani pastoralists, very attached to their socio-cultural identity, an identity that is supposed to be preserved by ANOPER and the like. The former refers to all livestock owners who do not necessarily have a commitment to mobility. The exclusion reform was also reinforced by a number of measures including the upward revision of the amount of the annual contribution of the members. This amount increased from 1,200²⁴⁹ to 2,000 CFA francs. Moreover, the allocation of membership funds between the dif-

²⁴⁸ *Duroobe* literally means “grazers”, and *maroobe* literally means “livestock owners”, but in common speech, the Fulani leaders use *duroobe* to refer to the Fulani herders and *maroobe* when vaguely referring to all livestock farmers including the non-Fulani agro-herders. To avoid confusion, sometimes they say *duroobe maroobe* to accurately target the Fulani pastoralist audience.

²⁴⁹ This was claimed to be based on the willingness of herders to contribute 100 CFA francs per month (cf. Maroowo, 2007: 8). One could then understand by this the willingness of livestock farmers to contribute 167 CFA francs per month.

ferent branches was also reviewed, so as to enable better management of their own funds and to stimulate the generosity of the international donors.

This strategy of disavowing ethnicity by claiming the primacy of the up-to-date “member” over the “Fulani” is a way for Fulani associations to preserve their image before international donors, while maintaining the legitimacy to be representatives of not only Fulani, but also the “others” viz. *haabe*. The ethnic richness within ANOPER, as argued by L’Haridon (2012: 16), also adds legitimacy to its relationships with the Government and other socio-professional groups. Although Fulani leaders have kept the ethnic character of the association, controlling the key positions within the Executive Board, and even the salaried technical staff (cf. also L’Haridon, 2012: 19), they must now better consider the presence of members with other ethnic backgrounds. The ambitions of the latter to head their common association in the future could become an issue in the medium and long term. Towards the end of the 2014 General Meeting, some ANOPER members present asked whether there would be an election, since the renewal of the steering committee should be among the items on the agenda. The ANOPER coordinator, who was the master of ceremonies, gave this answer:

Those who are currently on the Executive Board did not tell us that they are tired of leading us. We did not record any resignation among them. The constitution of the association has planned a renewable term of five years. They have already completed seven years, but they are ready to continue [*as Executive Committee members*]. Therefore, there is no election. (Field notes 24/04/14)

The lack of leadership alternation, which is an important democratic principle, is one of the strategies often known to development brokers who generally seek to keep the monopoly of brokering between their donors and their local constituents (Coll, 2000: 118). This could become a major issue in the coming years if other non-Fulani or even Fulani brokers emerge from ANOPER and its decentralized structures.

The ambiguity of ANOPER in dealing with open membership was sometimes very obvious during meetings of the organization. The association’s language of communication is Fulfulde. Most major meetings were held in Fulfulde with translations into French. Participants from other ethnic groups who understand neither French nor Fulfulde regard themselves as being marginalized by the Fulani. During the General Meeting that I attended on 24 April 2014, several participants from central and southern Benin regularly asked for a translation into French of Fulani leaders’ statements. Participants who did not even understand French could not follow what was said at that meeting. Some statements said to be part of *haala Fulbe* or *hakkune Fulbe*²⁵⁰ were even made in Fulfulde and purposely not translated. This

²⁵⁰ The words *haala Fulbe* literally mean “talk of Fulani” and *hakkune Fulbe* literally means “space between Fulani”. These two concepts are regularly used by Fulani leaders to refer to things that other

kind of Fulani-targeted information was often related either to the political position of Fulani leaders (which might not necessarily be shared by their members from further south) or to their tendency to use the occasion of ANOPER member meetings to make arrangements within and discuss important issues concerning their own ethnic group. During the General Assembly of 24 April 2014, some speeches were addressed alternately by various Fulani elites to lecture the Fulani youth. Leaving school voluntarily, getting married without finishing studying, getting drunk, being on drugs, raping, robbing and other antisocial acts were treated during the gathering without a word being translated for ANOPER non-Fulani members.

On this same occasion, two representatives of the Fulani students' association from the University of Parakou also came and were given the floor to share a message from their club to their Fulani parents. In his speech, the Secretary General of this student group, often sponsored by ANOPER and its heads, stated:

A wise child remains close to his father and inherits from him while he is still alive. But a foolish child, away from his parents, inherits after their death, wind and dust. This is why we came to show our support for you, our parents, during this meeting. In the name of all our comrades, we reassure you that we are on your side and we strongly support you for safeguarding the interests of our entire community. (Field notes, 25/04/14)

No one could doubt that we were part of an ethnic encounter. This demonstration reached its highest point with a concert offered that night by the Fulani leaders to the participants on 24 April 2014. A Fulani traditional musical group invited from Banikoara District played Fulani rhythms and performed Fulani dances. Thus, the cultural talent and assets of the Fulani were displayed to the non-Fulani members, who travel annually to Gogounou to attend the General Meeting of their joint association. This pilgrimage seems legitimate for anyone who regards himself as a livestock farmer or pastoralist, regardless of his ethnic background. All local and regional branches of the association must send representatives to the head office. Gogounou has become a symbol of pastoralism in Benin, and Fulani leaders take advantage of being at the interface between a single ethnicity and the open membership of the organizations.

ethnic groups should not hear. This is part of the "internal scheming" of the Fulani ethnic group. These are the secrets of the Fulani and those of their common paternal homestead (*suudu baba*).

Between traditionalism and modernism

ANOPER, which globally aims at “contributing to the modernization and the sustainable development of ruminant livestock production in Benin” (CTA, 2010; ANOPER, 2013b), has recently opted for an equilibrium model that seeks a balance between the Fulani traditional livestock practices and the Western-like modernist livestock farming. This was believed to be the wisest way of ensuring the sustainable development of Fulani pastoralism.

Keeping pastoralism in its traditional form means supporting livestock accumulation, and therefore the depletion of natural resources in the absence of effective regulations that prevent each actor to act only on his own interests: an argument from the “tragedy of the commons” (Hardin, 1968). This traditionalistic model, assumed to be socially unviable by Fulani activists, was claimed by them to lead to the end of pastoralism in Benin. Signs of this are increasingly obvious, as recent development in land-use practices has made it difficult to access resources and has increased conflicts between actors (ANOPER, 2014).

Likewise, agribusiness, which is currently practiced by 0.13% of the livestock farmers in Benin, and which continues to influence governmental policies, was decried by the Fulani organizations. This modern system, based on exotic breeds, raised in intensive or semi-intensive systems, is currently found in some state farms and other farms by private peri-urban operators. It is overtly blamed for being capital-demanding, energy-consuming, labor-intensive, environmentally unfriendly, and unaffordable for small-scale family livestock farms. It is also generally accused of promoting land grabbing and marginalizing therefore the pastoral and agro-pastoral small-scale livestock family farms that will probably vanish as a result of agribusiness development. ANOPER (2014) claimed that, if agribusiness becomes the dominant production model, 95% of current livestock farmers in Benin would be adversely affected, with social setbacks being unemployment, inequality, poverty, rural-urban migration and a rise in conflict and other social vices.

To avoid the “tragedies” related to the two models described above – as predicted by development experts and handed over to pastoralist activists – Fulani leaders in line with international donor agendas promote so-called “transformed livestock farming” (ANOPER, 2014: 43). Therefore, Fulani pastoralists must consent to the following changes: reducing the size of their herds, limiting transhumance, and adopting new strategies and new technologies, as needed, to make proper use of the available resources to which they currently have access. The pastoralists must further improve their cooperation with crop-farming stakeholders in order to promote better management of common resources. The pastoral code project initiated by ANOPER was in line with this. The complementarities between both crop farming and pastoral livelihoods are now given greater attention, as both are believed to help safeguard the interests of Fulani pastoralists, and provide positive socio-economic and environmental outcomes.

The major challenge for Fulani leaders that remains is achieving this balance between traditionalism and modernism. This is difficult since there is no barometer to measure the degree to which traditional Fulani values (assets, knowledge and power related to livestock) will be preserved in the restructured livestock-farming model that they currently support. Evidence of this is found in the technological progress among Fulani pastoralists in the last years. Fodder farms are promoted and are being tested by many herders. Fulani leaders are also eager to import exotic cattle breeds to increase herd productivity in order to supply the milk-processing factories that are being built across the pastoral regions. Cattle markets are being built and modernized across the country. Veterinary pharmacies are being set up, as well as, small businesses that manufacture mineral supplements. Industrial concentrate feeds are gaining in popularity and modern veterinary treatments are on the rise. Pastoralism has evolved in Benin and, as I have shown in the previous chapter, only those who have fully taken advantage of these changes to diversify their livelihoods have been able to adapt to the ongoing crisis.

Through their claims to fight for the preservation of Fulani traditional values, Fulani leaders have contributed immensely to transform the pastoral practices by fitting these claims into the agendas of many international donors. With the continued involvement of local and international experts, Fulani brokers are now very accustomed to “development projects”, “action plans” and “business plans”, which they develop and implement in various aspects of livestock production. Fulani men and women are invited almost daily to information meetings, trainings or other forms of encounters that involve donors and other visitors. Everyone is used to receiving a “per diem”, which refers to the attendance allowances that are well appreciated by Fulani pastoralists. Those who are closer to the highest leaders seemed more privileged, as they were always invited to different gatherings. The cases of Sidi Fana and Sanda Wesseke presented in Chapter 7 are cases in point. The close relationships of these two pastoralists with the ANOPER leaders allowed them to build their respective adaptive livelihood trajectories in the prevailing context of crisis. I argue that the struggle of pastoralist organizations in Gogounou has made a new class of Fulani livestock farmers well accustomed to development projects, and involved, to some extent, in socio-technological change with slightly “modern” ways of breeding livestock.

Between civil society and political society

Development brokerage and politics are interdependent (Sahlins, 1963: 292; Blundo, 1995; Bierschenk *et al.* 2000). Both patron-clientage networks often interfere, with the broker who adopts strategies that make his actions look like a political campaign (Coll, 2000: 113). Some practices of Fulani leaders enable a better understanding of this phenomenon.

Beyond the topical information found in the *Dewtere habaruuji Maroobe*, the bulletin issued in both French and Fulfulde by the Fulani associations, at times, po-

litical issues are also included. The actions of the President of Benin Republic were sometimes addressed, contributing thereby to his propaganda. It is quite ambiguous to read Fulani herders reporting in their newsletters with photographs of the President of Benin undertaking salutary reforms in cotton production (Maroowo, 2008: 12), a sector they often blame for competing with their pastoral livelihoods and for being privileged by the Government. This contradiction between the “reality” and the written discourse is part of a quest to position oneself in the political arena controlled by the President, whom Fulani leaders emotionally call *laamu leydi* (Father of the Nation) or *mawdo leydi* (Highest Authority). Other events further demonstrate the political commitment of the pastoral civil society organizations in Benin:

During the ANOPER meeting on 25 April 2014 in the presence of all the representatives of all UCOPERS in Benin, the president of the organization regretted the absence of the state officials invited for the event, and stated:

When elections come up, politicians need us. [But they] never come to our meetings. MPs, Ministers, Prefects and Mayors, nobody has come to this event. But when elections approach, they know that they must come to us to vote for them. This is why I say and I repeat that we, Fulani, we must be careful. We cannot continue voting for people who do not want to help us. (Demmo Cheenon, Gogounou, 25/04/14).

After describing what he called a lack of consideration for pastoralists, he went further, presenting a totally bleak picture of the situation of pastoralists:

The Fulani were killed. The animals of Fulani were killed and their food granaries were also burned. None of them [state officials] came to at least comfort the victims. I repeat again, none of them came to our rescue. A police officer killed a Fulani with a gun because of 25 thousand CFA francs. Those who are supposed to protect and defend us are killing us. If a Fulani has problems, he is supposed to go to the police to find refuge. It is now the police who shoot the Fulani, and nobody cares. Many Fulani were killed and buried in the same grave, many cattle disappeared, and no MP and no Minister came here. But if one Bariba dies, it is the President of the Republic himself who will take his helicopter to visit. If only one pile of cotton is burned, the whole Republic is shaken. Ministers, MPs, all ruling officials in this country come to the rescue. But when hundreds of cattle are decimated, it does not concern anyone. If it is so, we Fulani, we must know our place. (Demmo Cheenon, Gogounou, 25/04/14)

Demmo’s speech continues, calling now for a general mobilization of the Fulani herders to meet together their life purpose:

I say all this loud and clear for us to be more united. When elections come [...], they do everything to sow division among us, and we cannot support each other to win; and it is the people who do not want to support us, who win the elections. [...]. I want to say to all those who are here, and who are livestock farmers. Let me tell you, whether you are Fon, Mina, Adja, Goun, Yoruba, Bariba, Dendi, Mokolé or Fulani; whoever you are, if you are a livestock farmer [marooŋbe], consider that we are of the same family. We have to be careful. Our goods are being destroyed. Those who are supposed to defend us do not want to defend us. [...]. We must stand up as one man and fight for our future. (Demmo Cheenon, Gogounou, 25/04/14)

Demmo, in his statement, convinced the pastoralists that the only way to defend successfully their interests is to unite and vote in the next elections for people who can really defend their rights. He compared a cattle herd to a small pile of cotton (however promoted in UDOPER's newsletters) to show how livestock and crops do not receive the same attention from the Government. He sent out the message that the incidents Fulani herders have suffered in recent years did not receive consolation from any political authority. Therefore, the Fulani must in a united manner stand up to have some of their leaders elected in the political decision-making bodies. Since ANOPER is a national association, all other ethnic groups present were called to promote "interethnic harmony", which would enable Fulani leaders to gain a stronger position to defend their common good, which is "livestock". Being labeled "livestock farmer" has become a strategy of the leaders of marginal groups to enroll the dominant groups for their own purposes of political patronage.

After this statement of the highest Fulani leader, several participants took turns speaking to show the need for the Fulani to have their own representatives in the political machinery. A first group of participants pointed out that the Fulani already have Ministers and MPs, and worried about how the situation of the Fulani is going from bad to worse, without their officials in the state apparatus being keen to defend them. But other participants quickly countered this by showing that the people most concerned about the future of the Fulani pastoralists have yet to be elected. They argued that it is not enough to be Fulani to defend the rights of the Fulani, but that the Fulani defenders must be elected by their association's active members.

As someone who has been pro-actively involved in the associative struggle for a long time, Demmo succeeded in legitimizing himself publicly as the only one who carries this burden of defending the interests of the Fulani. A participant finally asked him to be a candidate in the coming legislative elections so that the Fulani could vote for him. He expressed his loyalty to support the probable candidacy of the Fulani leader, by publicly and joyfully asking Demmo to lend him a heifer, by way of a covenant (*habbanaaye*)²⁵¹. Demmo then proudly stood up and volubly through the

²⁵¹ The heifer loan (*habbanaaye* or *habbana'e*) is a cultural institution already well presented in Chapter 2.

mike, declared: “Be it unto you immediately as you have desired”. Shouts and cheers could be heard as a way of endorsing this scene of solidarity across a socio-cultural institution like *habbanaaye*, the content of which became politicized on this occasion.

All of this was part of the staging of the political brokerage for which Fulani leaders in my field of study are famous. The Fulani elites of northern Benin are well known for their potential to politicize the Fulani ethnicity and blithely generate identity statements, as far as their own patron-clientage interests are concerned (Guichard, 1992: 522; 2000: 97). Demmo, who had already lost in a legislative election in Benin four years earlier, had not relented in his ambition to reach the Parliament. Accordingly, he had already started preparing for this. The General Meeting of ANOPER was a great opportunity to prepare his constituencies. As portrayed in various pre-campaign objects used in pastoralist camps during my research, Demmo was a member of a local political alliance called AFU (Alliance Force dans l’Unité), meaning “Strength in Unity Alliance”. This coalition, formed by Demmo with two other politically strong Bariba locals, also falls within his municipal authority and *neutralization strategy* that I mentioned earlier. The messages delivered to the pastoralists were meaningful as they appear on a pre-campaign calendar: *Ensemble, on est plus fort* (Together we are stronger); *Bâtissons maintenant, la commune de Gogounou* (Let us build now the district of Gogounou); *Ensemble poursuivons le développement de nos localités* (Let us pursue together the development of our areas). Different kinds of calendars were widely distributed to the Fulani pastoralists who guard them closely in their houses. I often found them at the bedside of pastoralists in the Fulani camps during my stay in Gogounou.

I was informed a few months after my return from the field to Germany that Demmo, who was finally included on a list by the political ruling alliance FCBE²⁵² (Cowry Forces for an Emerging Benin), was – much to the dismay of many Fulani pastoralists – not able to sit in Parliament due to his substitute position during the April 2015 legislative elections in Benin.²⁵³ However, he succeeded in having his eldest son elected as the First Deputy Mayor of Gogounou in the aftermath of the June–July 2015 local and municipal elections in Benin. This was possible through his renunciation of his former political alliance to go with a new political grouping in the northern Benin called the “Alliance Soleil” (Sun Alliance), for which the Fulani had overwhelmingly voted. The political achievement of the associative struggle among the Fulani pastoralists in Gogounou is that they have now a substitute MP, a Deputy Mayor and other local and municipal Fulani counselors. There appears to be a conciliation of the political commitment with the apolitical vocation which many opine should characterize the Fulani associations (cf. MCRI, 2009: 1). Thus, the

²⁵² Force Cauris pour un Bénin Emergent.

²⁵³ The fact of putting Demmo in substitute position on the FCBE candidates’ list generated a crisis in Gogounou District, where young people and women mobilized to ask the President of the Republic to review the position of their leader (Nouvelle Expression, 2015: <https://web.archive.org/web/20150317023955/http://nouvelle-expression.org/article-524.html>, accessed 10/12/17).

boundary between civil society and political society remains elusive in Benin (Pirotte and Poncelet, 2003: 7; Mestre and Tomety, 2004: 50; Bierschenk, 2009: 353; Sonon, 2011: 6).

In summary, Demmo defended the Fulani pastoralists by instituting the so-called “fair” livestock markets (MBA). Then, he established grassroots associations to defend their interests with support from various external partners. Having succeeded in the civil society struggle, the highest leader of Fulani associations in Benin reconverted his activism-generated resources into political capital, to be, as he repeatedly argued, more useful to his ethnic group. The marginal conditions of the Fulani are used in campaign messages to engage the masses by using slogans that evoke either a sense of misery or a sense of hope. All of these campaigns are integrated into a political framework that can be revised whenever their chances of success are threatened by one or another political alliance. In any case, “bigmanism” (Cameron, 2001: 63; Igoe, 2003: 875)²⁵⁴ allows an individual like Demmo to succeed in a kind of political transhumance that is supported by loyal “clienteles”. The evolution of pastoral civil society organizations in Benin, closely linked to the life trajectory of their highest leader, Demmo, shows the straddling of identity, development and political struggles among Fulani. The power built over time and the decision-making processes seem sometimes to suggest a struggle by *proxy* with associations that are like figureheads (Marty, 1990: 126).

8.9 Conclusion

I have shown in this chapter that, by specializing in the identity struggle initiated by Fulani elites in the 1980s, some Fulani leaders, organized around self-managed livestock markets, have become professional development brokers (cf. Bierschenk *et al.* 2000: 27f.). They mobilize several levels of skills, not just rhetorical, organizational, theatrical and relational, but that also include the design and implementation of development projects and access to decision-making arenas without intermediaries. This success does not seem to be premeditated, but falls within continuous processes of positioning and repositioning of Fulani leaders in the face of constraints and opportunities in their activism (cf. Hodgson, 2011). This is proof of the procedural or discovery logic in development brokerage (Bierschenk *et al.* 2000: 27).

Seeking to fulfill the agendas of international donors, to align with government policies and to fulfill themselves economically and socio-politically, they find themselves between a “rock and a hard place” (Igoe and Kelsall, 2005: 9f.). Their constituents have been unable to overcome the exclusion against which they have struggled for more than three decades. Despite the presence of three major umbrella organizations in Gogounou District working with many local Fulani groups, the land calamity and the growing exclusion described in Chapter 6 have yet to be prevented

²⁵⁴ Referring to the *big-man*, described by Sahlins (1963).

and continue to be the main causes of the outmigration of pastoralists and their animals.

Still, the situation has changed significantly and pastoral civil society organizations have better access than before to decision-making bodies and international development agencies, the actions of which are visible nationwide. Pastoralism itself has also changed considerably. Fulani pastoralists have better access to information and veterinary services. They are also provided with livestock feeding technologies and appreciate very much the new way of marketing livestock through autonomous markets. They also admire the approach used by their leaders to settle their conflicts. These successes in various technological and institutional innovations are precisely why L'Haridon (2012: 15) gave his text the following title: "Herders in northern Benin become more professional".

However, the transformations acknowledged by most of the Fulani pastoralists involved in this research, should not be considered as synonymous with the resolution of their main concerns. They are still facing land insecurity. They do not hold any right over land and have to deal every day with land expropriation as abundantly shown in this book.

9 General conclusion

Pastoralism at the crossroads: The future of Fulani at stake?

The main objective of this research was to analyze the socio-technological transformations occurring within pastoral communities in northern Benin. More specifically, it called for identifying the changes in access to pastoral resources by Fulani pastoralists and scrutinizing the individual and collective responses as favored by various technological and socio-economic arrangements. I intended to contribute to the current debate on development at the margins, oriented towards pastoral sustainability in Africa. To achieve this, I first questioned the availability of productive resources using a political ecology perspective. I have shown how pastoralists are facing exclusion since farmers have access to various technologies that they use to control land and natural resources. Second, I have shown that in a crisis situation, Fulani households respond with a wide array of strategies according to their perception and the assets they possess. Third, I have shown that a strong “pastoral civil society” has emerged in Benin in recent years and has contributed greatly in transforming pastoralism, even if the main issues of grassroots pastoralists remain unresolved. This last chapter of the book recalls the main findings and discusses the major contributions of my research to the existing knowledge on the evolution of pastoralism in West Africa. I have also suggested some lines of action that could lead to help pacify and develop the livestock sector.

9.1 Uncertainties and pastoral adaptation trajectories in Benin

The first specific objective of this research was to provide insight on how access to pastoral resources was possible or potentially limited to Fulani herders in a changing environment. My ethnographic fieldwork has shown that in Benin, pastoralism is dealing with an unprecedented crisis. The asymmetric power relation between rural actors has become very detrimental to the Fulani. Various technologies promoted in rural areas are reinterpreted and used by crop farmers for rangeland acquisition and territory making. It has caused a greater exclusion of Fulani, since their neighbor farmers now have access to technological substitutes for all the factors that were favoring a complementary and cooperative relationship between them in the past. Land individualization, although still less pronounced, already contributes to the marginalization of Fulani pastoralists who must deal every day with land expropriation and social stigmatization. All the factors that have contributed to the land and social crisis underway in my study area are summarized in Figure 9.1.

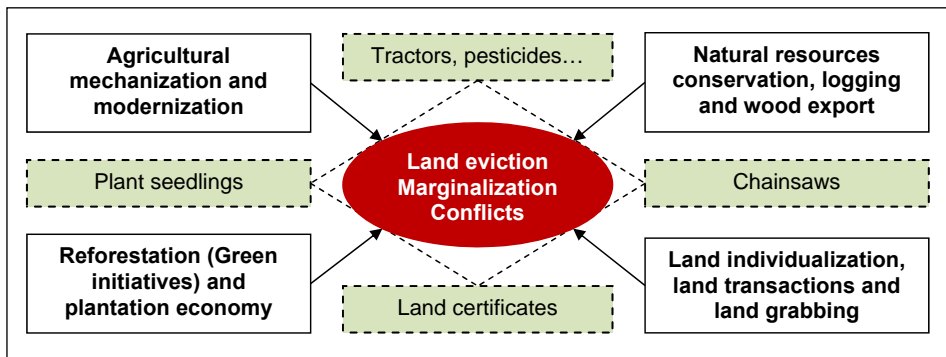


Figure 9.1: Socio-technological factors causing pastoralists' exclusion in Gogounou District

The second specific objective was to diagnose the ways in which Fulani pastoralists cope with a crisis that hinders equitable access to pastoral resources. Therefore, my ethnographic study was interested in responses and alternative livelihoods each household rely on, in the face of threats. I must admit that my fieldwork did not look deeply at all the livelihood trajectories, and could not also target especially women and youth through a gender perspective. This is a weakness induced by logistical and financial conditions under which the study was conducted (cf. Chapter 5). However, with hope that these aspects will be further addressed in future studies, I was able to capture an overview of the major ways of adaptation. The strategies are diverse and guided by how everyone perceives and interprets the situation. The opportunities available are also seized differently from one household to another, and it would not

be relevant to generalize. Mobility and crop farming have proven key in pastoralist livelihood strategies. This is supported by a number of technological innovations, informal social arrangements and inclusion practices which favor income diversification. School education for children has been one of the main changes recorded and seems relevant in helping pastoralists withstand adversities. The main pastoralist household-scale adaptation strategies are recapitulated in Figure 9.2.

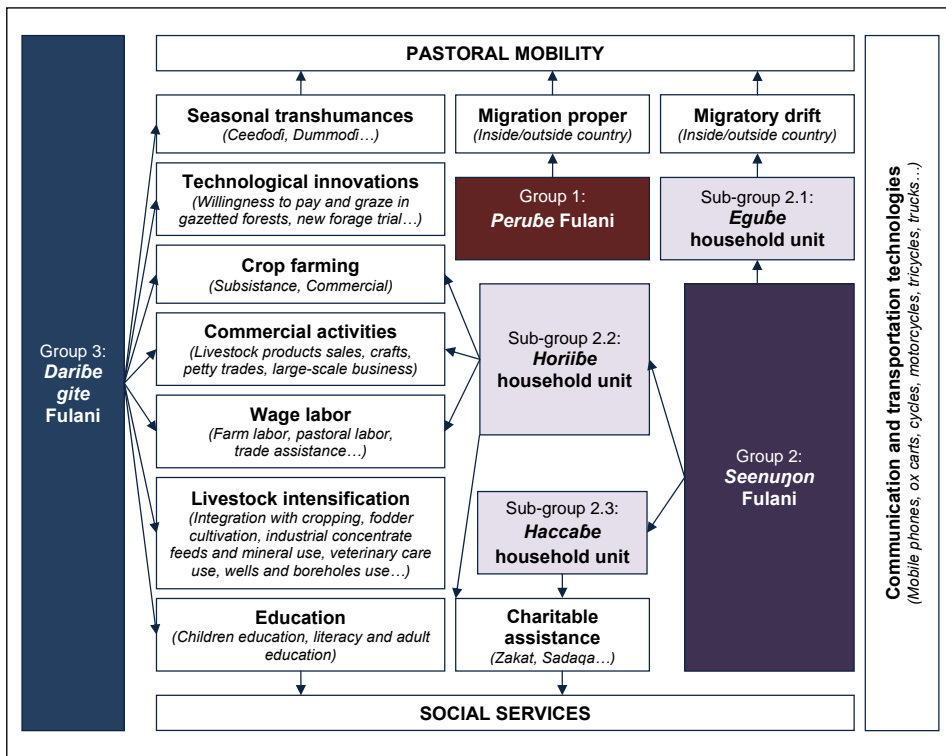


Figure 9.2: Pastoralist adaptive strategies in Gogounou District

The third specific objective of my study is concerned with how collective action among Fulani is to make pastoralism sustainable and improve the socio-economic and political conditions of those who depend on it. I have found that the so-called pastoral civil society is only a host of development brokers positioning and repositioning themselves continually facing various multilevel challenges and opportunities. They like operating with ambiguities, navigating between single-ethnicity/multi-ethnicity, tradition/modernity, civil society/political society, from which they derive significant benefits to achieve their own economic and socio-political ends. Their practices of struggle are not different from the classic patron-clientage, only that they have become very professional, being well designed technologically and implemented competently. However, my study has revealed that the contribution of

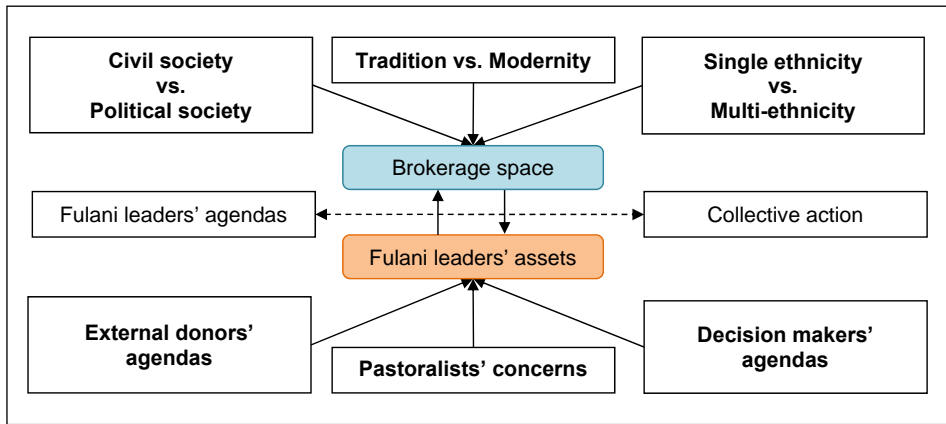


Figure 9.3: Components of brokerage among Fulani pastoralists in Gogounou District

pastoralist associations to the transformation of pastoralism is quite significant. The model of professionalization and modernization of livestock farming, defended by Fulani activists, promotes behavior change among pastoralists and emphasizes the need for technological change to achieve added value and better integration into the market. The drive of Fulani spokespersons to seek rent through extroversion strategies, and their fierce persistence in maintaining permanent agreement with donors and political powers are no longer consistent with preserving traditional pastoralism. The main components of the associative struggle among Fulani pastoralists in Gogounou are reflected in Figure 9.3.

9.2 Technological change and political ecology of development territories

Several authors have recently been concerned with pastoralism in West Africa given the multifaceted challenges in our contemporary world (cf. Juul, 2005b; Homewood *et al.* 2009; Kossoumna Liba'a, 2012; Catley *et al.* 2013a; Gonin, 2014). My research is part of the same perspective, focusing particularly on technologies and associative struggle dynamics among Fulani pastoralists in northern Benin. The main contribution of this book has to do with the political ecology of agro-pastoral development territories in West Africa. My study has mainly highlighted how rural actors, especially crop farmers, take advantage of the technological revolution and the fragility or overlapping of various rural development policies (agricultural, environmental, land, etc.), to increase their power over land to the detriment of their neighboring pastoralists. I have shown, through a detailed ethnography, which has also tapped into the contemporary history of Fulani in Benin, that marginalization and exclusion of marginal groups like pastoralists in northern Benin are the result of an imbalance in power relations between rural socio-professional groups. This is also what Rob-

bins (2012: 21) has tried to show when stating that modernist development efforts to improve local production systems promote practices among local people that are imbued with poor sustainability and unfair resource distribution.

The proliferation in rural areas of technologies such as tractors, pesticides, land certificates, cashew orchards is a result of policies that are entangled in the rural development designed and implemented by the nation-state, in collaboration with international partners. These technologies, alongside high population growth, have significantly contributed to land control by becoming territorialization tools for some (cf. Chauveau *et al.* 2006; Gonin, 2014), and, for others, weapons in social conflicts. Government rural development policies and the power asymmetry they have created, have largely contributed to strengthening the polarization of rural livelihoods already known in the area (cf. De Haan, 1997). This is followed by a fairly obvious marginalization of Fulani pastoralists that is worse today than in the past.

It should be recalled here that the territory-making politics necessarily rely on territorial strategies deployed by competing actors to produce boundaries to control some spaces and achieve some effects desired by them (Chauveau *et al.* 2006; Bassett and Gautier, 2014; Audouin and Gonin, 2014; Gonin, 2014). The different land control dynamics underway in Gogounou are indicative of these processes. The large range of technologies, presented in the first empirical chapter of this book (Chapter 6), are now more accessible to farmer groups, who appropriate them and endanger the mobility practices of pastoralists and their extensive use of natural resources, acknowledged by many as efficient and adapted to the areas where pastoralism still prevails (Gonin, 2014: 397).

In reality, the extensification strategies surrounding the use of tractors and CUMA innovations have increased the farmer's need for labor (cf. Balse *et al.* 2015a; 2015b). Within a context of improved schooling for children from farming households, and an increasingly rare wage labor market, the costs of such innovations have been difficult to manage. To deal with such constraints, and to enable easier access to and use of land, farmers look for alternatives like pesticides, especially chemical weed killers that are readily available at lower purchase costs. The institutional changes in the agricultural sector have made possible all forms of abuse in pesticide supply and use (cf. Meenink, 2013a; 2013b). The de-liberalization of the cotton sector, the cancellation of public-private partnership in cotton production and the inability of the Benin Government to control illegal flows of agricultural inputs have largely contributed to further destabilize the existing social imbalance between farmers and pastoralists. Farmers, who took advantage of these products, use them to increase their acreages with new crop farming practices that allow saving time and labor, continually reinvested in the conquest of new lands (cf. Chapter 6). The short-term profitability of new agricultural practices based on tractors and especially pesticides, has made crop production (especially grains) more attractive than in the past. The sector has started recruiting new actors who are increasingly interested in agriculture, such as, women, youth and various officials, as discussed in Chapter 6. This "return to the village" calls for a more nuanced approach, especially given that mobility in African countries

seems only focus on the move from villages into towns. I have clearly demonstrated in this book that since maize production and contraband pesticides have become easy and effective “resources” (Marfaing, 2014)²⁵⁵, mobility that involves the return back to village is no longer a *choice* but a *necessity* for many unemployed people living in major cities of northern Benin.

The development of the illicit trade of pesticides sold in retail locally by some unemployed youth and various other actors along the supply chain has also induced new forms of appropriation of these chemicals. Since the technology trajectories are also often linked to the meanings and the uses provided by their users (Latour, 1986; Pfaffenberger, 1992; Wajcman, 2000), herbicides have become rapid agricultural extensification technologies, tools for land control and chemical weapons used in social conflicts to the benefit of farmers. It is therefore clear that agricultural technology, especially tractors and herbicides, have greatly contributed in recent years to the territorialization of spaces in favor of crop farming that is more extensive than ever and more predatory of land compared to the situation a few decades ago. This is an important contribution to the recent debate on land grabbing and territorialization in Africa in general, which highlights that the power relations of the actors who succeed in the territory-making process lies in central state authorities or in territorial alliances involving actors with varied social, institutional and geographical anchors (Bassett and Gautier, 2014: 5). I have shown that the ability of crop farmers to handle pesticides, especially herbicides, as weapons against pastoralists and their herds – by spraying them in water sources or by using them in ambushes on rangelands – gives them an important advantage in their territorial control strategies.

In addition to cotton, which is a cash crop carrying significant territorial issues (cf. Benjaminsen, 2002), the currently flourishing grain market also offers local farmers great opportunities for territorialization. Maize, which is increasingly exported across West Africa (cf. Baco *et al.* 2009; Diallo *et al.* 2012), and even internationally with the prosperous Asian market, is a crop that farmers and several new players (cf. Chapter 6) are excited about, since investing in the sector has proven to result in substantial profit. The outcome has been the redefinition of property rights and the process of exclusion, particularly prejudicial to Fulani pastoralists. This confirms that social inequalities are widening, as certain commodities, like maize, suddenly take on a greater economic market value than before (cf. Gautier *et al.* 2011; Audouin and Gonin, 2014; Gonin, 2014). This same trend is also observed in the growing sector of wood exports. Since the browsing forage species, such as *Afzelia africana*, *Khaya senegalensis*, *Pterocarpus eurinaceus* and so forth, have become valuable now that Benin opened itself up to the Asian market, particularly China, the Fulani land situation has become more precarious. Since the latter have no right to land and,

²⁵⁵ Through the concept of “mobility by and for resources”, the author emphasizes that a “resource” can also be seen as a mobility opportunity, including work opportunities for which migrants move and by which they earn financial and material resources required for their survival and their fulfillment (Marfaing, 2014: 50).

consequently, are not owners of fodder trees on rangelands, their local citizenship is challenged on a daily basis. They are silenced by hate and marginalizing speeches that convey the domination of farmers who own all rights to sell and harvest timbers as they want, where they want and when they want. Thus, farmers with support from local political powers make their daily rounds to Fulani camps, prospecting for good business opportunities offered by Fulani settlements where the best preserved such trees still exist. After the big wave of deforestation in Benin, most local forest reserves have been cleared of marketable trees.

Even chainsaws, the noise of which causes great discontent and anxiety among Fulani pastoralists (cf. case of Gida in Chapter 6) have been imported into the local interactional landscape of power plays already unfavorable to herders. That the use of chainsaws in the trafficking of timber have been tolerated nationally and in violation of forestry laws, shows again how globalized markets without necessarily stimulating coercive territorialization from above, take part locally in a certain socio-spatial reconfiguration conferring rights and more opportunities to some actors, who eventually end up winners in controlling land and natural resources, at the expense of others, who lose out (cf. Audouin and Gonin, 2014; Gonin, 2014 for other situations in Burkina Faso).

Yet another phenomenon typical of contemporary forms of land control is the development of plantations, especially cashew orchards. Like some authors in other West African countries (Gonin and Tallet, 2012; Audouin and Gonin, 2014; Gonin, 2014; Fokou, 2015), my ethnographic study of rural communities of Gogounou has also emphasized the use of cashew plantations as an effective strategy of territorialization. Fulani pastoralists, who are perpetually considered strangers and landless people, hold no right to plant perennial crops. Bariba farmers, who are long-standing land right claimants in the municipality, can take ownership of grazing areas, livestock corridors, and even parts of Fulani residential areas through confrontational practices that result in the increasingly visible development of perennial plantations. Cashew trees, which dominate this process, are seen as a way to prepare for retirement as revealed by the president of the cashew growers association, whose speech is quoted in Chapter 6.

This plantation economy, introduced and supported by the State and many development agencies, was also enhanced by the green policy recently designed and ritually implemented. Political rituals, including seedling grants and highly publicized tree planting ceremonies, led by forestry bodies and local politicians as an expression of their support to the Head of State in their various electoral constituencies, have contributed in innovative ways for some farmers to increase their orchards (cf. Chapter 6). Ultimately, the embeddedness of tree rights into land rights (cf. Fortman, 1985; Berry, 1988), induces and facilitates territory making from below (Audouin and Gonin, 2014; Bassett and Gautier, 2014), as I also observed in my study area.

Livestock grazing in these unfenced cashew orchards are often followed by severe penalties and conflicts (cf. case of Gnoma reported in Chapter 6). Restricted access to these areas during dry periods negatively impacts livestock keeping. The outcomes

for pastoralists obviously are the same as those emanating from the authoritative and repressive wildlife conservation approaches, through which access has been strictly forbidden in recent decades. This is in line with what Bassett and Gautier (2014: 5) have conceptualized by saying that “the processes of territorialization, whether driven from above or from below, play out in a terrain of social differentiation that results in landscapes of opportunity for some and impoverishment for others”. Fulani herders seem to be the main losers in these new land dynamics that result in the emergence of autochthonous discourses, with a sense of local belonging that is further developed (cf. Lund, 2011a; 2011b). This is also in line with the increasingly marginalizing land policy, as revealed by the current form of PFR implementation in Gogounou District.

Commons privatization through PFR, followed by the issuance of CFR, also contributed to the increase of farmers’ power over land. Whereas, in the past, they could only verbally or forcefully claim ownership of local lands, farmers now have legal titles, which confirm their dominance over marginal groups such as Fulani pastoralists, who still have no access to these kinds of land right recognition documents. The analysis of the discourses provided by some recipients about the CFR, and those of some local authorities involved in the implementation of the PFR (Chapter 6), has revealed that the land certificate was seen as genuine proof of autochthony, and a way to legitimize the exclusion of non-beneficiaries. The local citizenship of Fulani who are often constantly reminded of their origins (cf. Chapter 6 in speeches by the traditional leaders in Gounarou and Gogounou who consider Fulani as being Nigerien and Burkinabe), is challenged on a daily basis. Although they are known as Benin citizens, rejecting local citizenship (Jacob and Le Meur, 2010; Lund, 2011b) is therefore a strategy of weakening Fulani pastoralists’ rights and access to natural resources, thereby making their pastoral livelihood vulnerable. This is without considering the land grabbing which is also developing in northern Benin (cf. Comlan Aguessi, 2014; Idrissou, 2014; Idrissou *et al.* 2014). Large rangelands are increasingly confiscated by multinationals with facilitations from various politicians and other national contacts. While the evidence is still very limited in the municipality considered in this study, land grabbing is and remains a strong threat to the future of pastoralism in Africa (cf. Cotula *et al.* 2009; Babiker, 2013; Galaty, 2013). Allowing or encouraging this in northern Benin, would contribute to the extinction of the pastoral lifestyle and the destitution of those who depend on it.

Faced with multifaceted territorialization and the confiscation of rangelands in Gogounou District, Fulani pastoralists rely on various coping strategies that align with the ongoing debate on how African pastoralists deal with crises and uncertainties.

Spatial/geographic mobility remains the primary identity preservation strategy among Fulani in Gogounou. The “migration proper” (cf. Stenning, 1957; 1959; Schareika *et al.* 2000) is the most effective way to permanently escape the troubling local dynamics of territorialization, marginalization and exclusion. The no-return *perol* move is made either inside the country or across national borders in search of

refuge in host countries, and is considered less susceptible to the poor and conflict-prone farming practices caused by the all-out use of chemical pesticides and other technologies widely developed in this book. The *perube* pastoralists, discussed in Chapter 7, prefer to be land refugees, thus managing to preserve their Fulani identity by remaining exclusively attached to livestock ownership. If mobility in the bush remains a major obstacle due to the short existence of livestock corridors, some pastoralists increasingly rely on transport technologies (motorcycles, trucks, tricycles) that they use to move their livestock, household members and other holdings to their new settlement areas. Staying Fulani has become strongly entangled with the dexterity of pastoralists in gaining access to modern transport technologies to meet their needs as mobile herders.

Another important contribution of this research lies in the forms of social organization in vogue among Fulani households in the context of land recession and social exclusion. I have highlighted how the same pastoralist household may pursue complementary survival strategies, in which disparate units are engaged in livelihood approaches carrying certain levels of specialization. By performing migratory drifts that offer livestock maintenance opportunities abroad, *egube* households from Gogounou District live in perfect symbiosis with their *haccabe/horiibe wuro* that are sedentary family units. While depending on the herd and its productions, they make calls to their relatives, if necessary, to supply staple foods. Conversely, settled households also rely somewhat on livestock in exile to get through a certain period of the year when availability of food and financial resources are limited. While some income-generating activities are more possible for some (e.g. *horiibe wuro*) than for others (e.g. *haccabe wuro*), many Fulani pastoralist households in Gogounou have displayed resourcefulness and creativity in mobilizing additional resources for their survival (cf. Chapter 7).

Crop farming remains the largest opportunity for them, allowing them to achieve small cotton or maize fields, according to the amount of land they possess, or by getting hired as a temporary wage laborer for farmers where cooperative relationships still exist. These transitory or security agro-pastoral practices (Bonfiglioli, 1990: 258f.) seem to be among the safest survival strategies. However, when the physical conditions of herders no longer favor other activities (case of *haccabe wuro*), social assistance acts as a means of safeguarding. Through it, members of Fulani households enjoy the generosity of fellow believers or distant relatives who support them through donations such as *zakat* and *sadaqa* which are well known subsidies in most Islamic faith pastoralist communities (cf. De Bruijn and Dijk, 1995: 57ff.; De Bruijn, 2000: 31; Moritz, 2003; Devereux, 2006: 12ff.), and other informal transfers not listed in the study.

The land crisis represents, then, an important moment of manifestation of intra-ethnic solidarity, as the Fulani pastoralists of Gogounou have demonstrated many times in this study, even if their everyday speeches seem to convey that the Fulani are not sympathetic and do not show enough solidarity towards one another (cf. also Guichard, 2000: 117). They are capable of collective arrangements with forest

officers (case of Wara Region in Chapter 7) and mutual aids for supervision of their herds, both inside the country and abroad (cases of Lougou village and Tilla camp in Chapter 7). This social interdependence is also what prevailed right across Wesseke camp when Oumarou was afflicted by a horrible herbicide-driven tragedy, which decimated part of his cattle herd (cf. Chapter 6).

Another important aspect in the adaptation of scattered Fulani households in a context of crisis lies in how social ties are preserved and secured through complementary approaches, combining information and communication technologies (especially mobile phone) and modern means of transportation that facilitate visits and mobility from both sides. My study has emphasized the complementarity of physical contact and mobile communication in maintaining trusted relationships between kinsmen, in which long breaks in contact between them are treated as horrible tragedy (cf. Chapter 7). This is again evidence that globalization, while weakening inter-ethnic relationships in my research site, has, at the same time, improved the practical and technical conditions for mobility and has also favored social cohesion (cf. Brinkman *et al.* 2009: 77f.; De Bruijn *et al.* 2009: 12; Kibora, 2009: 119f.; De Bruijn and Brinkman, 2011; Boesen *et al.* 2014: 5; Marfaing, 2014: 45f.).

Elites and other important persons with whom Fulani herders have personal contact, are often involved in resolving various issues within their sphere of competence and possibilities, and with the sustainability of pastoralist livelihoods in mind (cf. also Juul, 2005a: 126f.). All of this shows that the crisis faced by pastoralists does not always correspond to the end of pastoralism. As I have just shown, communication and transport technologies offer tremendous opportunities for Fulani herders who can afford to move back and forth between crisis zones and favorable areas for the preservation of their pastoral economy. This ability to cope with shocks is not unique to *seenuyon* [scattered] Fulani households. There are other Fulani households that still do better, as I have also demonstrated through those locally stereotyped as the “awakened” or “modern Fulani” (*daribe gite*).

My ethnographic study in Gogounou District reveals the emergence of a new class of pastoralists. Following the profiles and routes of Fulani herders that constitute this class reflected clearly the deep level of transformation reached by local pastoralists, as well as the forms that pastoralism might take in the future. Technological innovation and socio-cultural integration is at the heart of future paths of livestock farming in Benin. I join other scientists (Juul, 2005a; 2005b; Moritz *et al.* 2009), who have skillfully shown that West African pastoralists seem to deal well with crises and uncertainties. Despite the jungle described in Chapter 6, there are those Fulani herders who manage to establish manure contracts, even in other regions of the district, and use ox-carts to carry straw in order to feed their animals in more efficient ways. It is encouraging to meet Fulani herders who have formal agreements and the energy and will to pay to graze in forest reserves. Although they sometimes make fun of this option – gossiping that forest officers only collaborate with them because there is no better browse species or valuable feeding grass left in the classified forests (cf. Chapter 7) – it is quite obvious that many herders also take advantage of the

poor enforcement of forestry laws to develop their pastoral economy within forest reserves. Cases of individual and collective arrangements with local forest officials reported in Chapter 7 are examples in point.

One of the impressive innovations in the adaptive trajectories of Fulani pastoralists in Gogounou is training animals to adapt to dietary change. In this case, the less palatable tree species have now become favorite feeding resources of livestock. This remains one of the most innovative and effective strategies alongside the forage technologies introduced and supported by pastoralist associations and various development programs and agencies. By adopting and using agro-industrial by-products and mineral supplements, some Fulani in Gogounou are doing well with a kind of stepping up (Devereux and Scoones, 2008, Catley and Aklilu, 2013), which allows them not only to maintain dairy cows, but mainly to propose different animals, once totally emaciated, to various local and regional markets when they are better fed. Although still adopted on a limited scale, cottonseed cake – the availability of which has even been limited in recent years by concerns related to the cotton oil plants in Benin – has become part and parcel of the pastoral economy, as an alternative sought by some pastoralists and agro-pastoralists. These changes align perfectly with the dynamics already observed in other African countries and particularly in the West African sub-region (cf. Ayantunde *et al.* 2000; Boutrais, 2000: 184; Moritz, 2003; Mortimore, 2005; Juul, 2005a; La Rovere *et al.* 2005; Moritz *et al.* 2009).

Mobile phones have been the subject of particular attention in this study without exploring deeply the contours of its social and cultural appropriation. However, I observed that this technology, which has become inseparable from the pastoral life of Fulani, is a tool for economic development and social integration, improving also their business sensitivity (cf. Brinkman *et al.* 2009; Molony, 2009; Pfaff, 2009). With mobile phones, herders plan their collaboration with other players; they also learn new languages including French, enlarging thereby their income diversification pathways. As ample proof, I would like to remind the reader of the case of the many pastoralists in Fana-Peulh village (cf. Chapter 7) who benefitted from the availability of educated youth, with whom they establish learning contracts to strengthen their ability to handle mobile phones. With this added knowledge, phones can be more skillfully used to access markets, veterinary services, natural resources, as well as the human resources necessary for resolving various issues. Several young Fulani also benefit from the informal economy induced by the mobile phone market, to create small jobs and small businesses through which they support their parents or themselves in the sense of building up their own herd. The cases of Sanda, Arouna, Abou and Amadou, presented in Chapter 7, are striking examples. I have confirmed the transformative power of mobile phones among pastoralists (Sangare, 2010; Kosoumna Liba'a, 2012; Stockton, 2012; Keita, 2015) and argue that the future of pastoralism might also depend on the path that these communication technologies will take in the future, since the rapid technological changes taking place foreshadow undoubtedly that “the realities of tomorrow will be different from those of today” (De Bruijn *et al.* 2009: 13). And, as I have already shown above, transport technolo-

gies always come to complement this mobile phone-based livestock keeping, ensuring their success and improving the wellbeing of herders.

Some Fulani herders in Gogounou District draw increasingly substantial income from crop farming. When talking about cultivation by the Fulani pastoralists, it always seems to be understood by small-scale food cropping and crop-livestock integration. My study has revealed that beyond the small-scale food cropping, which is often integrated with livestock, some Fulani herders are also involved in cash cropping, especially cotton and maize. This market-oriented farming, which also make significant use of pesticides (cf. Chapter 7), seems in line with what some political ecologists conceptualize as follows: “If you can’t beat them, join them” (Blaikie and Brookfield, 1987; Bryant and Bailey, 1997: 160). This means that, without being able to politically condemn and punish the abuse or ban on the way local farmers use chemicals, herders might also decide to follow the same trend.

This might be seen as one resistance strategy of marginalized groups (cf. Scott, 1990), which, in this case, is to follow the ways of the stronger groups and to participate in the prevailing socio-ecological dynamics. For Fulani pastoralists, they will continue to be squeezed and driven out, unless they make their presence be known on the land by also using herbicides. Though some may be involved in degrading the environment, Fulani pastoralists found it to be a good way to control portions of land not yet acquired by those who claim to be the sole owners and holders of all rights. These realities call into question the earlier observations of some ethnographers who claim that the Fulani in Benin are only engaged in subsistence agriculture and that very few are market-oriented (Schepp, 1989: 32ff.; Guichard, 2000: 95). Herbicides, which were hardly known and even unappreciated in pastoral societies some years ago (cf. Boutrais, 2000: 185), have become for Fulani in Gogounou a resistance technology to deal with farmers, who use these chemicals to assert their power over local lands.²⁵⁶ Readers should be reminded that the land control practices by local crop farmers have been denounced by the Fulani pastoralists as being part of an “ethnic catch-up” by farmers who would be guided by jealousy towards them and their herds (cf. Chapter 7).

Livelihood diversification has proven to be central in the way forward for many Fulani pastoralists who live in Gogounou. Although not all livelihood trajectories are scrutinized in detail in this book, it is however very clear that the Fulani who are able to sustain more in the face of the current land and social crisis, are obviously those who are able to broaden their social networks, forging alliances (manure contracts with farmers, arrangements with forest officers, inter-ethnic marriages, activism in pastoralist associations, etc.), and those who seek additional revenue in a wider range of economic activities. As I have demonstrated in the case studies of Sidi Fana and Sanda Wesseke (Chapter 7), trade and seasonal jobs strongly support cultivation and herding, constituting important sources of income for them. They are also prepared

²⁵⁶ The Mbororo pastoralists in northern Cameroon also use herbicides, but in subsistence crop farming, which is oriented towards self-consumption (Kossoumna Liba’a, 2012: 97).

for different kinds of compromise, which might even mean selling ones ethnicity for urbanity and modernity, for which they are defamed locally. This is why the concept of *daribé gite*, which is used to refer to such individuals, also evokes a sense of betrayal to the genuine culture or tradition of the Fulani (Chapter 7).

The pastoral ideology and Fulani cultural values have sometimes completely faded in the lives of these kinds of pastoralists (cf. Boutrais, 1994b: 175). Hodgson (2011: 208) has also reported on how Maasai pastoralists in Tanzania reshape their cultural attitudes and practices in order to make money. There is no longer any barrier for some Fulani, who accept all stereotypes used against them, in order to integrate as much as possible with other socio-cultural groups and access resources to overcome poverty in a context of pastoral resources shortage. The bush, the village and the town are all arenas where the Fulani are intended to be more enterprising, more competitive and more open to innovations that are sustainable. The prevalence of this mobility rationale among pastoralists who are and considered sedentary, shows that mobility should not be seen only spatially. It also encompasses all of the socio-economic and political dynamics of innovatively appropriating various resources (cf. Boesen *et al.* 2014; Grémont, 2014). This is why my study also calls for redefining Fulani ethnicity in this new socio-technological context. An earlier volume by Diallo and Schlee (2000)²⁵⁷ *The Fulani ethnicity in new contexts: the dynamics of frontiers* also shows, more broadly, how these new contexts shape Fulani ethnicity.

The boundaries between Fulani ethnicity and local ethnic groups must also be re-defined by taking into account school education, which now occupies an important place among the Fulani. The importance of formal education for herders is largely due to the fact that it opens up new horizons for their children in terms of resource access and more secure jobs. Based on the many interviews I conducted with undergraduate and graduate Fulani, and their proud parents, I agree with other authors (Lesorogol, 2005: 1968f.; Devereux, 2006; Homewood *et al.* 2009; Hodgson, 2011: 197f.), that school education for children is now received among pastoralists as offering diversification benefits.²⁵⁸ This is only one of the perceived benefits, as many herders consider the presence of school educated children in their camps as a way to reduce the likelihood of land expropriation and to ensure greater justice in the case of conflict (cf. case of the Fulani student in Binga camp as reported in Chapter 7). This mediating role is also observed among Maasai pastoralists, whose school educated children ensure the connection with the non-Maasai world including officials, health workers and development bodies (Hodgson, 2011: 198). All this causes Fulani herders to willing to send their children to school, despite the poor infrastructural conditions and the deficit of teaching staff and school officials in the context of northern Benin. The lack of education policy, which specifically targets pastoralists,

²⁵⁷ “L’ethnicité Peule dans des contextes nouveaux: la dynamique des frontières”.

²⁵⁸ Marfaing (2014: 48) has also observed among non-exclusively pastoralist migrants in the Sahara-Sahel area that there is a correlation between diversification strategies and school education.

however, reflects badly on their commitment to send their children to school (cf. case of Wesseke Fulani School in Chapter 7).

My research also makes a significant contribution to the recent debate on the struggles of non-governmental organization in African pastoral societies (Igoe, 2003; 2006; Igoe and Kelsall, 2005; Hagberg, 2011; Hodgson, 2011). By combining the perspective of development brokerage – free of all prejudices concerning the doings of rural activists – (cf. Bierschenk *et al.* 2000), and the dynamics of positioning and repositioning conceptualized by Hodgson (2011), I have shown how some Fulani elites ambiguously defend pastoralists with the intention of ensuring sustainable livelihood practices. Beginning with a case study, based on the national association of professional organizations of ruminant herders (ANOPER) and its multi-scale branches, the research found that identity claims, economic development and socio-political actions are closely linked and carried by the same spokespersons that purport to be pastoral civil society. Through a main technological and institutional showcase, namely, the autonomous livestock market (MBA), which is associated with other technological innovations promoted over years, some Fulani leaders have emerged in northern Benin as professional brokers between grassroots Fulani pastoralists and external actors including international donors, government officials and so forth.

By mobilizing a number of assets detailed in Chapter 8, they have managed to deeply transform local pastoralism through their active involvement in promoting technological change, supporting and advising herders and managing conflicts. This progress is conceptualized in development discourse as “professionalization” (cf. L’Haridon, 2012). My study has revealed that traditional pastoralism called “old-fashioned” (Devereux and Scoones, 2008: 3) is progressively changing in Gogounou District and obviously in many other regions of Benin. The herder associations claiming to preserve the cultural values associated with mobile livestock keeping are giving more priority to a seemingly new way of farming livestock. The famous scenario 4: “The family livestock farmers change their farming system”²⁵⁹, recently adopted by ANOPER in its strategic policy document for 2030 (cf. ANOPER, 2014: 43ff.), remains the expert opinion passed on to Fulani leaders by pastoral development planners through a so-called participatory approach. This model, supported by transnational development agencies, does not hope for anything good from traditional pastoralism, in which an unavoidable disappearance, inspired by the famous tragedy of commons (Hardin, 1968) is assumed. Taking this position, Fulani association leaders are driven towards a discourse which emphasizes that pastoralism will be transformed, but the Fulani socio-cultural assets associated thereto will be preserved (ANOPER, 2014). This seems simply an ambiguity and, one thing is certain: nothing will ever be as it was for Fulani pastoralists. Whether innovations come from outside or from themselves, they must now deal with tough technological neutralizing practices from farmers who use chemicals to assert power over land and natural resources; and consequently undermine access by Fulani (cf. Chapter 6).

²⁵⁹ “Les éleveurs familiaux modifient leur système d’élevage”.

Therefore, it seems increasingly clear that many innovations will gain ground in the coming years in pastoral communities in northern Benin. Forage technologies such as hay, silage and other straw conservation practices will continue to attract the sedentary pastoralists. Modern veterinary products and services will most likely continue to attract herders if their supply conditions are consistent with their needs and financial capabilities. Individual water wells or community boreholes will probably increase as livestock mobility areas are reduced. Thus, the semi-modern or transformed livestock farming that Fulani leaders wish to see copied by all pastoralists, could gradually take shape and become a reality in the medium and long term.

The supra-local legitimacy enjoyed by pastoralist association leaders through open membership (Hagberg, 2011; L'Haridon, 2012), gives them a broader scope, in that they may attempt, as applicable, to represent both the marginal groups (Fulani) and the dominant groups (*haabe*). This enables them to obtain the necessary influence for retaining their local and external "clientele" as needed to fulfill socio-political ambitions (Blundo, 1995; 2000). Access to media (radio, television, print media, newsletters in local languages) allow Fulani median-level actors to develop not only local or regional anchoring strategies (Bierschenk *et al.* 2000: 31f.), but also national influence, through enlisting a host of external donors who fund a variety of initiatives towards "pastoral development". Complacent with ambiguities, pastoralist leaders manage to use key concepts of "civil society", "advocacy", "lobbying" etc., to assert their influence and power at all territorial levels from local to national. While all this is assumed to be for the better inclusion of Fulani herders in socio-economic and political settings, it is clear that the basic needs of Fulani pastoralists, namely, access to land and pastoral resources, are not yet satisfied. However, the new methods of managing pastoral conflicts by using legal experts, the more overt involvement of Fulani leaders in politics (cf. case of Fulani elites in Gogounou reported in Chapter 8) and the forthcoming adoption of a pastoral code, are certainly about to become catalysts for further changes. From this study in northern Benin, it has become convincing beyond any doubt that the West African pastoralism, while adapting to threats and being transformed at the same time, has started a new chapter in its history.

9.3 Policy recommendations

My research has demonstrated a need for efficient integrated development interventions drawing on findings related to the exacerbated social exclusion of Fulani as result of straddling agricultural, environmental and land policies. This sheds light on recommendations for policymakers in certain respects. The Government of Benin now cannot successfully change anything without modifying its line of governance, which, at first glance, includes having lots of good policy documents that do not however serve a harmonic rural development approach. International partners must play a major role in lobbying the political powers for change. The local organizations – both pastoral and non-pastoral – should be strong enough to be able to set their

own agenda and “to sell” it to donors (because Benin will be needing, at least for the near future, financial aid from outside the country). If the institutional environment is cleaned up and the role of each player recognized, more specific policies must now be implemented. In this regard, I would like to make some proposals in the following sections.

Citizenship policy

The issue of Fulani local citizenship must be definitively settled. There are still too many blurred boundaries around the issue of local citizenship of bush-Fulani in Benin. As amply demonstrated in this book (Chapter 6), many Fulani are still considered strangers in regions where they live and where they contribute to the animation of the socio-cultural, economic and even political life. When it comes to accessing land and natural resources, the restrictions observed locally are too strong and generate increasingly violent conflicts. I suggest a forum be organized to permanently resolve this challenge. Cautionary notes at regional and municipal levels may henceforth prevent competing groups from holding this kind of discrimination against them. This approach is not to suggest that all Fulani are national citizens or local citizens in the different regions of Benin. It will rather provide useful clarification on the ones who hold citizenship and those who do not. Necessary information must be given on naturalization routes for those who are willing to settle permanently in the country. The difference would be clearer between Fulani nationals/locals, resident immigrants and seasonal immigrants.

Forestry policy

As long as forest management and the wood trade policy is still export oriented, this will continue to impact negatively on the access of Fulani pastoralists to tree forages which are currently an indispensable feed resource for pastoral activities in Benin. Therefore, decisions must be taken about reforming the forestry sector and enforcing the forestry laws in pursuing participative approaches so as to ensure fair access to all local stakeholders. The fraudulent export of targeted and endangered species to the Asian market must be controlled with strong forestry laws and good practices in sustainable management of natural resources. Fulani pastoralists must be trained on methods of selecting branches or leaves from fodder trees to ensure their reproduction and to preserve biodiversity.

Pesticides supply policy

The development of pesticide and especially herbicide-based agriculture in Benin without any form of regulation upstream will inevitably lead to, in my opinion, an ecological crunch and a social fracture to be fueled by violent clashes. Policymakers must act promptly to stop the use of tons of pesticides, which turn the landscape of

interdependence and cooperative relations into one of exclusion and confrontations. The input supply policy must be improved, and this requires better production control of the cotton sector, which remains the economic priority of the Government. The agricultural promotion and extension bodies must implement an environmental education program to improve awareness of the impacts of chemical products on livestock, environment, human health and so forth. Technical and financial resources need to be deployed to obtain quick results in light of the rapid expansion of mal-practices and abuse related thereto.

Livelihood diversification policy

The outmigration of Fulani pastoralists is a major social phenomenon. Its socio-economic impacts are widely demonstrated in this research. They are manifest in Fulani households where herd delocalization has impeded on the socio-economic independence of women. Livestock transactions have decreased considerably as well as animal product processing and marketing. Pastoralist associations and municipalities are suffering enormous costs. Therefore, it is important to undertake concrete actions causing emigrants to come back and to prevent successfully the herders who are still on site from escaping with their herds. Awareness campaigns should be organized to assure the security of their belongings through a real institutional framework promoting equitable access to resources. A gender-sensitive agro-pastoral policy is necessary, empowering women and vulnerable people and sympathetic towards Fulani pastoralists engaged in livelihood diversification. The three categories of pastoralist households presented in this study must be given a very specific approach that values their strengths and addresses their respective weaknesses.

This does not mean neglecting some common aspects that could benefit all of them. Communication and transportation technologies, and infrastructure facilitating their profitable use, should be strengthened. For instance, mobile phone financial mechanisms could be promoted within pastoralist communities to improve money transfer operations and economic management. All this will increase the sensitivity to business, in a context of technological innovation oriented towards job creation and trade invention. Central Government, decentralized collectives and pastoral civil society organizations must work harmoniously in promoting social dialogue, which is key to governing common resources and achieving sustainable development.

Accordingly, priority should be given to friendly and impartial methods of managing conflicts. A more neutral consultation framework managing objectively the conflicts between actors would be preferable to the current partisan approaches. Although pastoralist association leaders and their legal advisor have so far been helpful to the pastoralists, it remains that the position taken, in one case or another, is often full of bias. Transhumance committees are currently not very operational in Benin and are also politicized bodies, since they are often led by the political authorities at various territorial division levels (prefects in provinces, mayors in districts, etc.). It is important to establish an independent observatory for the management of pastoral

mobility within the country. An actor-oriented intervention is also needed for each category of Fulani herders.

Emigrant herders: Sensitization and advocacy must be organized for their return back to Benin, while trying to create the conditions upstream for equitable access to natural resources. This must be done in partnership with Fulani organizations, and also in collaboration with the Fulani leaders of the host countries especially Togo and Ghana. It is also important to change the policy of demarcation and markup of livestock corridors. The current approach consumes budgets more than it corresponds to the dynamic needs of pastoralists for livestock routes. Mobility should be facilitated on the livestock routes mentioned in this book for Fulani pastoralists of Gogounou. More effort should also be made to have a formal regional and national directory of Fulani mobility routes, which must be equipped with useful pastoral infrastructure (water points, grazing areas, rest areas, vaccination parks etc.). The latter should not be considered as a permanent achievement and frequent updates must be carried out, for instance, within a five-year term, to ensure the pastoralist dynamic is well captured.

Semi-sedentary herders: The intervention should follow two dimensions. The first part must address the desperate on-site household units, which depend less on livestock or do not even have animals at all. A policy promoting income-generating activities is necessary. For migrant household units in social divide, it is important to develop actions that prioritize modern communication technologies such as the mobile phone, which contributes enormously to social cohesion. Mobile money transfer technologies and communication infrastructure would be useful while increasing the opportunities of able-bodied young Fulani in search of employment. Support needs to be given with veterinary care. Fulani small-scale crop farming, which currently seems to be more integrated with livestock, deserves particular attention in order to strengthen and improve agro-pastoral integration as a rural development strategy.

Sedentary herders: They practice integrated crop-livestock farming, and must be helped in several other domains too. First, they need a certain security of land tenure for their agricultural activity. The herders open to modern technologies (fodder cultivation, fattening, etc.) and who are less mobile and more market-oriented, should be supported in these ways. It might be good to develop some actions for strengthening semi-modern Fulani livestock farmers. Access to veterinary inputs and care must be improved for them. The public, without interfering in the management of livestock markets, must participate in the establishment of a trustworthy partnership between pastoral leaders and Local Government officials. This will limit conflicts between the proponents of livestock markets and municipal authorities. Livestock markets should also be more equipped with infrastructure facilitating transactions, handling and mobility. Education in Fulani communities must be strengthened through providing infrastructure and recruiting teachers in sufficient numbers. This would be an important support to the Fulani herders who want to better educate their children. In this regard, Benin Government may also consider formal education programs through mobile schools and teachings based on media-coverage for mobile pastoral-

ists. Women and youth occupations within sedentary households must be accompanied by specific programs to facilitate their development.

Land privatization policy

Land tenure must be made a major concern for policymakers. The research has shown that the land individualization policy, which is still in its testing phase in northeast Benin, has to be redesigned and better crafted. Otherwise, land expropriation will further develop and Fulani pastoralists will eventually be totally excluded from local lands, with disastrous consequences not only for their ethnic group, but also for the whole country. Therefore, it is important to clarify the question of ownership, and find solutions for areas where land ownership is unfairly denied to the Fulani pastoralists, before going ahead and completing the rural tenure plans. Expropriation and mass eviction of Fulani from land will not always remain without ripostes from their victims. The northern regions are gradually approaching the time when Fulani pastoralists will stand up and defend their legitimacy to own land (cf. speech of the Fulani leader quoted in Chapter 6), and this must be avoided as soon as possible.

Policymakers now need to find a mechanism to recognize Fulani property rights. This property right may need somehow to be “invented” (Barrière and Barrière, 2002; Gonin, 2014). The public authorities should ensure that the ongoing land privatization process does not compound the long-standing land marginalization and pave the way for inter-ethnic confrontations. The pastoral code being developed is a good way to proceed. However, care should be taken not to promote it as a panacea in an environment full of susceptibility and suspicion between actors. An effort should be made upstream to strengthen dialogue between stakeholders for a peaceful resolution of disputes. All land and pastoral laws should be further harmonized, disseminated and enforced without favoritism and discrimination.

Research policy

My research recommends some avenues for further studies in order to provide more scientific evidence of various problems raised. The real impact of pesticides on livestock and human health, soil and environment globally must be scientifically approved. Common privatization and land grabbing phenomenon must be further observed more deeply and their impacts on pastoralists further shown. The impacts of rural land plans on Fulani pastoralists, as a marginalized social group, should be further elucidated. The findings of all these studies will help review the land privatization approach for better integration of pastoralists and to minimize the effect on them. I also suggest a gender-oriented assessment of pastoral livelihood trajectories, to better take into account all the livelihood dynamics of women, youth and other vulnerable Fulani groups within this context of crisis.

9.4 Conclusion

To the question: “Will pastoralism be sustainable through the technological adaptation practices and the associative struggle in a context of land crisis and resources dwindling?” my answer in this research highlights a nuanced view showing that pastoralists adapt to shocks, but that pastoralism has also changed and will probably continue to be transformed. As Latour (1986: 267) states in his argument about technological translation, I too think the fate of pastoralism is “in the hands of the people”. Technologies in a globalized world have unpredictable paths, leaving the human-human and human-nature interactions in the greatest uncertainty. Who could imagine that herbicides would become land control tools and weapons in social struggles in rural areas? Who could imagine that the chainsaw would be used to eliminate targeted browse forages within Fulani settlements so as to prompt the pastoralists’ own move decision-making or to evict them completely from coveted lands? The manufacturers and promoters of these technologies have certainly never imagined their use in this way. However, these events have become common in pastoral regions of northern Benin. If crop farming technologies have become tools of social exclusion, making land potentates in northeast Benin, this is also the result of the socio-economic and political changes at the global level. Dealing with chemical farming products has made the pastoral crisis more evident than in the past. Livelihood diversification remains the most favored way out for many Fulani pastoralists who must humbly seek refuge in various other forms of life. Those of them more integrated socially, school educated and more open to change and modernity seem the most able to have a better future in the Benin society. The findings of this study should be used to undertake advocacy and lobbying, and move away from the common patron-clientage model, to a supranational level to avoid an ecological crunch, which is threatening to follow a possible social tension in pastoral areas in Benin. Urgent actions are needed to create a framework for more equitable access to natural resources and a more harmonious cooperation between rural actors. I am really looking forward to seeing my suggestions considered by decision-makers and transnational partners in the future, and to changing the current dramatic trend by offering a glimmer of hope for pastoralism and its practitioners.

10 References

- Aboh A.B., Ouedraogo S., Rivera A.M., Phm Thi H.H., Mekhtoub K. 2003: Importance, contraintes et voies de développement des élevages urbains et périurbains dans la région sud du Bénin. *Agro-éleveur/Bulletin trimestriel d'information et de liaison du projet de développement de l'élevage (phase III)* 9: 15–16.
- ABP, 2014: *Alibori/Gouvernance: Salamatou Kora décerne un satisfécit au conseil communal de Gogounou pour ses réalisations*. In Agence Bénin Presse (10/12/2014). Online at: <http://www.abp.gouv.bj/vues/index1.php?action=affichepeche&idpeche=13793&idrubrique=4&idsourubrique=5> (accessed 05/04/15).*
- Adam K.S., Boko M. 1993: *Le Benin*. Cotonou: Les Editions du Flamboyant & EDICEF.
- Adamu F., Filani M., Mamman A.B. 2005: Market and transport institutions in Nigeria's livestock trade: case studies from Sokoto and Ibadan: 35–58 in Porter G., Lyon F. and Nigerian Marketing Network (eds), *Investigations on building a food marketing policy evidence base in Nigeria*. London: UK Department for International Development.

- Adamu F.L. 2000: *The role of informal market institutions in trading and market security: the case of Acida livestock market in Sokoto*. London: UK Department for International Development.
- Adégbidi A.B.E.A. 2003: *Elaboration du plan de production agricole en milieu paysan dans l'agriculture pluviale du Bénin: une analyse de l'incidence de la pluviométrie dans la zone cotonnière du Nord-Bénin; Cas du village de Bagou*. Doctoral Dissertation. Groningen: Groningen University.
- Adégbola P.Y., Oloukoï L., Sossou H.C. 2005: *Analyse de la compétitivité de la filière anacarde au Bénin*. Rapport technique final. Cotonou: MAEP/PAPA.
- Adjou Moumouni P.F. 2006: *Evaluation zootechniques des performances des bovins de race Borgou en sélection à la ferme d'élevage de l'Okpara-Bénin*. Thèse de Doctorat Vétérinaire no.20. Dakar: EISMV.
- Adjou Moumouni P.F. 2012: *Characteristics of traditional cattle farms in Borgou District, Republic of Benin*. Obihiro: Obihiro University Archives of Knowledge (OAK).
- Adriansen H. 1999: Pastoral mobility as a response to climate variability in African dryland. *Danish Journal of Geography* 1 (special issue): 1–10.
- Adriansen H.K. 2006: Continuity and change in pastoral livelihoods of Senegalese Fulani. *Agriculture and Human Values* 23, 2: 215–229.
- Adriansen H.K., Nielsen T.T. 2002: Going where the grass is greener: on the study of pastoral mobility in Ferlo, Senegal. *Human Ecology* 30, 2: 215–226.
- AFDI (Video), 2011: Benin-Elevage [Aboubacar Tidjani («Demo»), président de l'ANOPER: Association Nationale des Organisations Professionnelles d'Éleveurs de Ruminants]. Gogounou: ANOPER/AFDI/Union Européenne/JADE Productions.
- AFDI, 2012: *Rapport d'activités 2011 AFDI Aquitaine: Assemblée Générale du 12 juin 2012*. Aquitaine: Agriculteurs Français et Développement International.
- AFDI, 2015: *Rapport d'activités 2014 AFDI Aquitaine: Assemblée Générale du 19 mai 2015*. Aquitaine: Agriculteurs Français et Développement International.
- Afouda L.C.A., Zinsou V., Balogoun R.K., Onzo A., Ahohuendo B.C. 2013: Inventaire des agents pathogènes de l'anacardier (*Anacardium occidentale* L.) au Bénin. *Bulletin de la Recherche Agronomique du Bénin* 73, 13–19.
- African Union, 2010: *Policy Framework for Pastoralism in Africa: Securing, Protecting and Improving the Lives, Livelihoods and Rights of Pastoralist Communities*. Addis Ababa: African Union Commission.
- Afronline, 2012: *Interview: Jeremy Swift, "Pastoralism has a future in Africa"*. Online at: <http://www.afronline.org/?p=24112> (accessed 03/07/15).*
- Agbahungba G., Sokpon N., Gaoué O.G. 2001: *Situation des ressources génétiques forestières du Bénin*. Atelier sous-régional FAO/IPGRI/ICRAF sur la conservation, la gestion, l'utilisation durable et la mise en valeur des ressources génétiques forestières de la zone sahélienne (Ouagadougou, 22–24 sept. 1998). Note Thématique FGR/12F. Rome: FAO/Département des forêts.

- Agbikodo N. 2013: *Les éleveurs de l'ANOPER ont discuté de leurs problèmes à Gogounou*. In L'Expression (18/04/13). Online at: <http://www.lexpression-benin.info/%C3%A9conomie/agriculture/74-les-%C3%A9leveurs-de-l%E2%80%99anoper-ont-discut%C3%A9-de-leurs-probl%C3%A8mes-%C3%A0-gogounou> (accessed 23/12/14).*
- Agbodji D.C. 2011: *Exploitation abusive des ressources forestières au Bénin: Le scandale du bois*. In Actudubénin overblog (08/09/11). Online at: <http://actudubenin.over-blog.com/article-exploitation-abusive-des-ressources-forestieres-au-benin-le-scandale-du-bois-83681628.html#> (accessed 18/03/15).
- Agossou C. 2001: Expressions identitaires et enjeux politiques dans le contexte multiculturel du Bénin. UNESCO/ENA (eds), *Africa at crossroads: complex political emergencies in the 21st century*. Most Ethno-Net Africa Publications. Online at: <http://www.unesco.org/most/crossroadsago.htm> (accessed 17/04/15).
- Agro-Benin, 2011: Remise de machines agricoles aux producteurs. In Agro-Bénin (18/08/11). Online at: <http://www.agrobenin.com/remise-de-machines-agricoles-aux-producteurs/> (accessed 16/03/15).
- Ahlonso T. 2012: *Proposition de loi portant commerce de bois au Bénin: L'Honorable Azizou El Hadj Issa engage la salubrité contre la mafia*. In La Presse du Jour (04/09/12). Online at: <http://www.lapressedujour.net/archives/18998> (accessed 18/03/15).
- Ahmed A.G.M. 2001: Livelihood and resource competition, Sudan: 172–193 in Mohamed Salih M.A., Dietz T., Ahmed A.G.M (eds), *African Pastoralism: Conflict, Institutions and Government*. London: Pluto Press.
- Akindès F. 1995: Benin: between democratic renewal and the demands of structural adjustment: 263–280 in Mkandawire T., Adebayo O. (eds), *Between liberalisation and oppression: the politics of structural adjustment in Africa*. Oxford: Codesria Book Series.
- Aklilu Y., Catley A. 2010: *Mind the gap: commercialization, livelihoods and wealth disparity in pastoralist areas of Ethiopia*. Addis Ababa: Feinstein International Centre/Tufts University & UKaid.
- Akouehou G.S. 2004: Environnement institutionnel et gestion traditionnelle des espaces forestiers: cas de la région des monts Kouffé au centre du Bénin. *Les Cahiers d'Outre-Mer* 57, 226–227: 175–190.
- Akrich M. 1989: La construction d'un système sociotechnique: Esquisse pour une anthropologie des techniques. *Anthropologie et Société* 13, 2: 31–54.
- Akrich M. 1992: The de-scription of technical objects: 205–224 in Bijker W.E., Law John (eds), *Shaping technology/building society: studies in sociotechnical change*. Cambridge: MIT Press.
- Akrich M. 1994: Comment sortir de la dichotomie technique/société: présentation des diverses sociologies de la technique: 105–131 in Latour B., Lemonnier P. (eds), *De la préhistoire aux missiles balistiques: l'intelligence sociale des techniques*. Paris: La Découverte.

- Akrich M. 1998: Les utilisateurs, acteurs de l'innovation. *Education Permanente* 134: 78–89.
- Akrich M., Callon M., Latour B. 2006: *Sociologie de la traduction: Textes fondateurs*. Paris: Presses des Mines.
- Alary V., Duteurtre G., Faye B. 2011: Elevages et sociétés: les rôles multiples de l'élevage dans les pays tropicaux. *Inra Productions Animales* 24, 1: 145–156.
- Aldenderfer M.S., Maschner H.D.G. 1996: *Anthropology, Space, and Geographic Information Systems*. Oxford: Oxford University Press.
- Alfa Tidjani A. 2010: Les marchés à bétail autogérés au Bénin: 51–53 in Kamil H., Larbodière L. (eds), *Pastoralisme, développement durable et changement climatique dans le Ferlo*. Actes de l'atelier tenu du 24 au 26 juin 2009 à Saint-Louis (Sénégal). Dakar: AVSF.
- Alkoiret I.T., Awouhouedji D.Y.G., Gbangboche A.B., Bosma R.H. 2010: Productivité des systèmes d'élevage bovin de la commune de Gogounou au Nord-Est du Bénin. *Annales des Sciences Agronomiques* 14, 2: 145–163.
- Alkoiret T.I., Awouhouedji D.Y.G., Akossou A.Y.J., Bosma R.H. 2009: Typologie des systèmes d'élevage bovin de la commune de Gogounou au nord-est du Bénin. *Annales des Sciences Agronomiques* 12, 2: 78–98.
- Alkoiret T.I., Radji M., Babatoundé S. 2011: Typologie des élevages bovins installés dans la commune de Ouaké au nord-ouest du Bénin. *Livestock Research for Rural Development* 23, 3.
- Amanor K.S. 1995: Dynamics of herd structures and herding strategies in West Africa: a study of market integration and ecological adaptation. *Africa* 65, 3: 351–394
- Amoussou E.K., Sagbohan A. 2010: *Développement Economique Local et Promotion de l'Emploi des Jeunes*. MCRI/PSCC/APP 2010/Guide de clarification thématique. Online at: <http://www.mdsbenin.org/IMG/pdf/guide-developpement-economique-local-emploi.pdf> (accessed 01/08/15).
- Anonrin A. 2013: *République du Bénin: Des peulhs transhumants saccagent, violent, tuent et passent (L'Etat a tout simplement démissionné)*. In La Presse du Jour (07/03/13). Online at: <http://www.lapressedujour.net/archives/22336> (accessed 19/04/15).
- ANOPER, 2013a: *Mémoire du monde des éleveurs lors de la rencontre avec le Président de la République du Bénin, tenue à Kandi, le Samedi 30 novembre 2013*. Gogounou: ANOPER Bénin.
- ANOPER, 2013b: *Présentation de l'ANOPER*. Powerpoint ANOPER. Gogounou: ANOPER Bénin.
- ANOPER, 2014: *La situation actuelle de l'élevage et des éleveurs de ruminants au Bénin: analyse et perspective par l'Association Nationale des Organisations Professionnelles d'Éleveurs de Ruminants du Bénin (ANOPER)/Annexe du Document d'Orientation Stratégique (DOS) de l'ANOPER*. Online at: http://www.inter-reseaux.org/IMG/pdf/DOS_ANNEXE_ANOPER-1.pdf (accessed 03/09/15).

- APESS, 2011: *Pour un élevage familial moderne de vie. Document d'Orientation Stratégique (DOS) de l'APESS*. Online at: http://www.inter-reseaux.org/IMG/pdf/DOS_APESS_pre_final_1_.pdf (accessed 19/02/15).
- Apitzsch U., Siouti I. 2007: *Biographical analysis as an interdisciplinary research perspective in the field of migration studies*. Frankfurt am Main: Johann Wolfgang Goethe Universität & University of York.
- Aregheore E.M. 2009: *Country Pasture/Forage Resource Profiles: The Republic of Benin*. Rome: FAO.
- Arouna A. 2013: *Table ronde des éleveurs à Gogounou: L'ANOPER plaide pour une meilleure compréhension entre agriculteurs et transhumants*. In *Fraternité* (11/04/13). Online at: <http://www.fraternitebj.info/societe/article/table-ronde-des-eleveurs-a> (accessed 23/12/14).
- Assogba-Miguel V. 1999: Agriculture urbaine et péri-urbaine à Cotonou. *Bulletin de la Recherche Agronomique* 27: 14–26.
- Atachi P. 1979: *Test de comportement sur certains herbicides CIBA-GEIGY: cas de Primagram sur maïs et sorgho, puis de Cotofor et Cotodon sur coton et arachide, en République Populaire du Bénin*. Rapport Etude de Pré-vulgarisation/Projet de Défense des Cultures. Cotonou: Ministère des Enseignements Technique et Supérieur.
- Aubreville A. 1937: Les forêts du Dahomey et du Togo. *Bulletin du comité d'études historiques et scientifiques de l'Afrique occidentale française* XX, 1–2: 1–112
- Audouin S., Gonin A. 2014: L'anacarde: produit de la globalisation, moteur de la territorialisation, l'exemple du Sud du Burkina Faso. *EchoGéo* 29. Online at: <http://echogeo.revues.org/13926> (accessed 22/12/15).
- Awassi V.B. 2015: *Fête du printemps chinois au Bénin: des Béninois goûtent à la gastronomie chinoise: des invités apprécient l'art culinaire chinois*. In *Le Matinal* (16/02/15). Online at: <http://quotidien-lematinal.info/fete-du-printemps-chinois-au-benin-des-beninois-goutent-a-la-gastronomie-chinoise/> (accessed 06/03/15).
- Awohouedji D.Y.G 2008: *Évaluation du potentiel laitier Communal et de son exploitation par la mini laiterie de Gogounou*. Thèse d'Ingénieur Agronome. Parakou: Faculté d'Agronomie/Université de Parakou.
- Awuor C.B. 2011: Vulnerability in Ethiopia's pastoral communities: Case study. *Joto Africa* 7, August 2011.
- Ayantunde A.A. 2011: Coping with drought in Niger: Research summary. *Joto Africa* 7, August 2011.
- Ayantunde A.A., Williams T.O., Udo H.M.J., Fernandez-Rivera S., Hiernaux P., van Keulen H. 2000: Herders' perceptions, practice, and problems of night grazing in the Sahel: case studies from Niger. *Human Ecology* 28, 1: 109–130.
- BAA, 2012: *Rapport de l'étude diagnostique du marché à bétail autogéré de la commune de Gogounou: forces, faiblesses, perfectibilité et reproductibilité*. PASDeR/Coopération Suisse, Cotonou, Bénin.

- Babiker M. 2013: Mobile pastoralism and land grabbing in Sudan: 177–185 in Catley A., Lind J., Scoones I. (eds), *Pastoralism and development in Africa: Dynamic change at the margins*. London: Routledge.
- Baco M.N. 2008: *Evaluation communautaire de l'impact du maïs tolérant à la sécheresse dans les communes de Tanguéta et Kandi au Nord Bénin*. Drought Tolerant Maize for Africa. Cotonou: International Institute of Tropical Agriculture (IITA) & Institut National des Recherches Agricoles du Bénin (INRAB).
- Baco M.N., Abdoulaye T., Sanogo D., Langyintuo A. 2009: *Characterization of maize producing households in the dry savanna of Benin Republic: Drought Tolerant Maize for Africa*. Cotonou: International Institute of Tropical Agriculture (IITA) & Institut National des Recherches Agricoles du Bénin (INRAB).
- Badet S.G. 2012: *Gouvernance politique au Bénin: Etat des lieux et défis*. In Association of European Parliamentarians with Africa (AWEPA). Online at: <http://a-dtap.awepa.org/wp-content/uploads/2012/10/Gouvernance-politique-a-u-B%C3%A9nin-%E2%80%93-Etat-des-lieux-et-d%C3%A9fis-%E2%80%93-M.-Gilles-Badet.pdf> (accessed 02/02/15).
- Bailyn B. 2009: Introduction: reflections on some major themes: 1–43 in Bailyn B., Denault P.L. (eds), *Soundings in Atlantic history: latent structures and intellectual currents, 1500–1830*. Cambridge: Harvard University Press.
- Bako-Arifari N. 1995: Démocratie, régionalisme et “logique du terroir” au Bénin. *Politique Africaine* 59: 7–24.
- Balac R. 1999: Les économies pionnières prédatrices du milieu forestier: le cas de l'économie de plantation en Côte d'Ivoire: 429–438 in Bahuchet S., Bley D., Pagezy H., Vernazza-Licht N. (eds), *L'homme et la forêt tropicale*. Châteauneuf de Grasse: Editions de Bergier.
- Balogoun I., Saïdou A., Ahoton E.L., Amadji L.G., Ahohuendo C.B., Adebo I.B., Babatounde S., Chougourou D., Adoukonou-Sagbadja H., Ahanchede A. 2014: Caractérisation des systèmes de production à base d'anacardier dans les principales zones de culture au Bénin. *Agronomie Africaine* 26, 1: 9–22.
- Balse M., Ferrier C., Girard P., Havard M., Herbel D., Larue F. 2015a: *Une expérience originale de mécanisation partagée en Afrique: les coopératives d'utilisation de matériel agricole du Bénin*. Champ d'Acteurs 03. Montrouge: Fondation pour l'Agriculture et la Ruralité dans le Monde (FARM).
- Balse M., Ferrier C., Girard P., Larue F. 2015b: La motorisation partagée: levier d'émergence des exploitations agricoles familiales? L'expérience des Cuma du Bénin, enseignements et prise de recul par rapport à l'expérience française. Colloque de la Société Française d'Economie Rurale (12–13/02/15), *Structures d'exploitation et exercice de l'activité agricole: continuités, changements ou ruptures?* Rennes: SFER.
- Banegas R. 2015: Bénin. *Encyclopædia Universalis*. Online at: <http://www.universalis.fr/encyclopedie/benin/> (accessed 25/02/15).

- Bani G. 2006: *Monographie de la commune de Gogounou*. Cotonou: Afrique Conseil.
- Bani G. 2011: *Coupe frauduleuse de produits forestiers dans les forêts classées des «Trois rivières» et de l'«Alibori supérieur»: Lettre ouverte d'un citoyen au président de la République, Le Président de l'Association des Ressortissants de la Commune de Gogounou résidant au Sud Bénin*. In *La Nation* (30/06/11). Cotonou: La Nation.
- Barrière O., Barrière C. 2002: *Un droit à inventer: foncier et environnement dans le delta intérieur du Niger (Mali)*. Paris: IRD Editions.
- Bartholomé E., Belward A.S. 2005: GLC2000: a new approach to global land cover mapping from Earth observation data. *International Journal of Remote Sensing* 26, 9: 1959–1977.
- Bassett T.J. 1988: The political ecology of peasant-herder conflicts on the northern Ivory Coast. *Annals of the Association of American Geographers* 78, 3: 453–472.
- Bassett T.J. Gautier D. 2014: Regulation by territorialization: the political ecology of conservation and development territories. *EchoGéo* 29. Online at: <http://echogeo.revues.org/14038> (accessed 22/12/15).
- Bassett T.J., Turner M.D. 2007: Sudden shift or migratory drift? Fulbe herd movements to the Sudano-Guinean region of West Africa. *Human Ecology* 35, 1: 33–49.
- Bayart J-F. 1993: *The State in Africa: the politics of the belly*. London: Longman Press.
- Bayart J-F. 2000: Africa in the world: a history of extraversion. *African Affairs* 99: 217–267.
- BCEAO, 2014: *Perspectives économiques des Etats de l'Union Economique et Monétaire Ouest Africaine en 2014*. Dakar: Banque Centrale des Etats de l'Afrique de l'Ouest (BCEAO).
- Behnke R.H., Scoones I. 1992: *Rethinking range ecology: implications for rangeland management in Africa*. IIED Issue Paper 33. London: Overseas Development Institute.
- Beninactu, 2012: *Environnement: le Bénin, 4e pays au rang mondial, destructeurs de forêts*. In *L'Autre Fraternité* (30/08/12). Online at: <http://web.archive.org/web/20120904075205/http://lautrefraternite.com/2012/08/30/environnement-le-benin-4e-pays-au-rang-mondial-destructeurs-de-forets> (accessed 8/12/17).
- Benjaminsen T.A. 2002: Enclosing the land : cotton, population growth and tenure in Mali. *Norsk Geografisk Tidsskrift – Norwegian Journal of Geography* 56, 1: 1–9.
- Bernard R.H. 2006: *Research methods in Anthropology (Fourth Edition): Qualitative and Quantitative Approaches*. Oxford: AltaMira Press.
- Berry S. 1988: Property rights and rural resource management: the case of tree crops in West Africa. *Cahier des Sciences Humaines* 24, 1: 3–16.

- Bertrand A., Agbahungba G., Tonou P. 2009: *Contribution du secteur forestier à l'économie du Bénin. Rapport final, volumes 1, 2 et 3*. Cotonou: Edenia Consult Tanja & Bege-Consult.
- Bertrand A., Agbahungba G.A., Fandohan S. 2013: Urbanisation et produits forestiers alimentaires au Bénin. *Unasywa* 241/64, 2: 30–36.
- Besamusca J., Tijdens K., Tingum E.N., Alinsato A.S. 2013: *Wages in Benin: Wage-Indicator survey 2012*. WageIndicator Data Report (January 2013). Online at: http://www.wageindicator.org/documents/publicationslist/publications-2013/AIAS_WI_countryreports_f2f_report_Benin_final_20130122_english.pdf (accessed 12/04/15).
- Bierschenk T. 1992: The ethnicisation of Fulani Society in the Borgou Province of Benin by the ethnologist. *Cahiers d'Etudes africaines* 127, XXXII-3: 509–520.
- Bierschenk T. 1995: Rituels politiques et construction de l'identité ethnique des Peuls au Bénin. *Cahiers des Sciences humaines* 31, 2: 457–484.
- Bierschenk T. 1996: Peuls et État colonial dans le Borgou français/Nord-Dahomey (1895–1940). *Nomadic Peoples* 38: 99–124.
- Bierschenk T. 1997: *Die Fulbe Nordbénins: Geschichte, soziale Organisation, Wirtschaftsweise*. Hamburg: Spectrum 49 & LIT Verlag.
- Bierschenk T. 1999: Structures spatiales et pratiques sociales chez les Peuls du nord du Bénin: 195–209 in Botte R., Boutrais J., Schmitz J. (eds), *Figures peules*. Paris: Karthala.
- Bierschenk T. 2009: Democratization without development: Benin 1989–2009. *International Journal of Politics, Culture, and Society* 223: 337–357.
- Bierschenk T., Chauveau J.-P., Olivier de Sardan J.-P. 2000: Introduction: Les courtiers entre développement et État: 5–42 in Bierschenk T., Chauveau J.-P., Olivier de Sardan J.-P. (eds), *Courtiers en développement: les villages africains en quête de projets*. Paris: APAD & Karthala.
- Bierschenk T., Forster R. 2004: *L'organisation sociale des Peuls dans l'est de l'Atacora (République du Bénin, communes de Kouandé, Péhonco et Kérou)*. Working Paper 46. Mainz: Institut für Ethnologie und Afrikastudien/Johannes Gutenberg Universität.
- Bierschenk T., Le Meur P.Y. 1997: *Trajectoires peules au Bénin: six études anthropologiques*. Paris: Karthala.
- Bierschenk T., Olivier de Sardan J.-P. 1997: Local powers and a distant state in rural Central African Republic. *The Journal of Modern African Studies* 35, 3: 441–468.
- Bierschenk T., Olivier de Sardan J.-P. 1998: *Les pouvoirs au village: le Bénin rural entre démocratisation et décentralisation*. Paris: Karthala.
- Bierschenk T., Olivier de Sardan J.-P. 2003: Powers in the village: Rural Benin between democratisation and decentralisation. *Africa* 73, 2: 145–173.
- Bijker W.E. 1995: *Of bicycles, bakelites, and bulbs: Toward a theory of sociotechnical change*. Cambridge: MIT Press.

- Bijker W.E. 2012: The social construction of Bakelite: Toward a theory of invention: 155–182 in Bijker W.E., Hughes T., Pinch T. (eds), *The social construction of technological systems: New directions in the sociology and history of technology*. Cambridge: MIT Press.
- Bijker W.E., Hughes T.P., Pinch T. 2012: General introduction: 1–6 in Bijker W.E., Hughes T., Pinch T. (eds), *The social construction of technological systems: New directions in the sociology and history of technology*. Cambridge: MIT Press.
- Birch I., Shuria H.A. 2002: *Taking Charge of the Future: Pastoral institution building in northern Kenya*. Issue Paper 114. Wajir: IIED Drylands Programme & Oxfam.
- Blaikie P. 1985: *The political economy of soil erosion in developing countries*. London: Longman.
- Blaikie P. 2008: Epilogue: towards a future for political ecology that works. *Geoforum* 39, 2: 765–772.
- Blaikie P., Brookfield H. 1987: *Land degradation and society*. London: Methuen.
- Blench R.M. 1994: The expansion and adaptation of Fulbe pastoralism to subhumid and humid conditions in Nigeria. *Cahiers d'Etudes africaines* 133–135, XXXIV–1–3: 197–212.
- Blench R.M. 1999: *Traditional livestock breeds: geographical distribution and dynamics in relation to the ecology of West Africa*. Working Paper 122. London: Overseas Development Institute.
- Blundo G. 1995: Les courtiers du développement en milieu rural sénégalais. *Cahiers d'Etudes africaines* 137, XXXV–1: 173–199.
- Blundo G. 2000: Elus locaux et courtiers en développement au Sénégal: Trajectoires politiques, modes de légitimation et stratégies d'alliance: 71–100 in Bierschenk T., Chauveau J.-P., Olivier de Sardan J.-P. (eds), *Courtiers en développement: les villages africains en quête de projets*. Paris: APAD & Karthala.
- Boesen E. 1999: Pulaaku: Sur la foulantité: 83–97 in Botte R., Boutrais J., Schmitz J. (eds), *Figures peules*. Paris: Karthala.
- Boesen E., Marfaing L., De Bruijn M. 2014: Nomadism and mobility in the Sahara-Sahel: introduction. *Canadian Journal of African Studies* 48, 1: 1–12.
- Boissevain J. 1974: *Friends of friends, networks, manipulators and coalitions*. Oxford: Basil Blackwell.
- Boko M., Kosmowski F., Vissin W.E. 2012: *Les Enjeux du Changement Climatique au Bénin*. Cotonou: Konrad-Adenauer-Stiftung.
- Bonfiglioli A.M. 1988: *Dudal: histoire de famille et histoire de troupeau chez un groupe de Wodaabe du Niger*. Paris: Éditions de la Maison des Sciences de l'Homme (MSH).
- Bonfiglioli A.M. 1990: Pastoralisme, agro-pastoralisme et retour: itinéraires sahéliens. *Cahiers des Sciences humaines* 26, 1–2: 255–266.

- Bonnassieux A., Hiernaux P., Diawara M., Droy I., Bidou J.-E. 2013: *Dynamique des marchés au bétail dans les communes de Hombori, au Mali, de Dantiandou, au Niger et de Djougou au Bénin*. Livrable 6.6. Toulouse: ANR/ECliS.
- Booth A. H. 1958: The Niger, the Volta and the Dahomey Gap as geographic barriers. *Evolution* 12, 1: 48–62.
- Botte R. 1994: Stigmates sociaux et discriminations religieuses: l'ancienne classe servile au Fuuta Jaloo. *Cahiers d'Études africaines* 133–135, XXXIV–1–3: 109–136.
- Boukari Bata A. 2011: *Rapport Général des activités de l'UDOPER Borgou-Alibori, exercice 2010–2011*. Gogounou: UDOPER Borgou-Alibori.
- Boukari Bata A. 2012: *Rapport d'activité de l'UDOPER Borgou-Alibori 2012*. Gogounou UDOPER Borgou-Alibori.
- Boukari Bata A. 2013: *Rapport d'activité de l'UDOPER Borgou-Alibori 2013*. Gogounou UDOPER Borgou-Alibori.
- Bouraima A.K. 2006: *Etat des lieux quantitatif et spatialisé de la transhumance dans la zone de Gogounou, Bénin*. Thèse d'Ingénieur Agronome. Parakou: Faculté d'Agronomie/Université de Parakou.
- Boureima D. 2010: La constitution d'un réseau régional avec les communautés pastorales d'Afrique de l'ouest: le Réseau Billital Maroobe: 113–123 in GITPA/IWGIA (ed), *Pasteurs nomades et transhumants autochtones*. Paris: L'Harmattan.
- Bourn D., Wint W. 1994: *Livestock, land use and agricultural intensification in sub-Saharan Africa*. Pastoral Development Network Paper 37a. London: Overseas Development Institute.
- Boutrais J. 1986: L'expansion des éleveurs Peul dans les savanes humides du Cameroun: 145–160 in Kirk-Greene A.H.M., Adamu M. (eds), *Pastoralists of the West African Savanna*. Manchester: Manchester University Press.
- Boutrais J. 1990: Les savanes humides, dernier refuge pastoral: L'exemple des Wodaabe' Mbororo'en de Centrafrique. *Geneve-Afrique* 28, 1: 65–90
- Boutrais J. 1994a: Pour une nouvelle cartographie des Peuls. *Cahiers d'Études africaines* 133–135, XXXIV–1–3: 137–146.
- Boutrais J. 1994b: Les Foulbé de l'Adamaoua et l'élevage: de l'idéologie pastorale à la pluri-activité. *Cahiers d'Études africaines* 133–135, XXXIV–1–3: 175–196.
- Boutrais J. 1999a: Préface III, Gens du pouvoir, gens du bétail: 32–50 in Botte R., Boutrais J., Schmitz J. (eds), *Figures peules*. Paris: Karthala.
- Boutrais J. 1999b: La vache et le pouvoir: Foulbé et Mbororo de l'Adamaoua: 347–371 in Botte R., Schmitz J., Boutrais J. (eds), *Figures Peules*. Paris: Karthala.
- Boutrais J. 2000: L'agro-élevage des Peuls de Ngaoundéré (Adamaoua camerounais): 161–189 in Diallo Y., Schlee G. (eds), *L'ethnicité peule dans des contextes nouveaux: la dynamique des frontières*. Paris: Karthala.
- Brégand D. 1998: *Commerce caravanier et relations sociales au Bénin: Les Wangara du Borgou*. Paris: L'Harmattan.

- Brinkman I., De Bruijn M., Bilal H. 2009: The mobile phone, 'modernity' and change in Khartoum, Sudan: 69–91 in De Bruijn M., Nyamnjoh F.B., Brinkman I. (eds), *Mobile phones: The new talking drums of everyday Africa*. Leiden: Langaa & African Studies Centre.
- Bruce J.W. 1992: *From replacement to adaptation: a shift of paradigm*. Working Paper. Madison: Land Tenure Center.
- Bruun H., Hukkinen J. 2003: Crossing Boundaries: An Integrative Framework for Studying Technological Change. *Social Studies of Science* 33, 1: 95–116.
- Bryant R.L., Bailey S. 1997: *Third World Political Ecology*. London: Routledge.
- Bryman A. 2012: *Social Research Methods (Fourth edition)*. Oxford: Oxford University Press.
- Buechler S.M. 2011: *Understanding social movements: theories from the classical era to the present*. Boulder: Paradigm Publishers.
- Bunker S.G. 1985: *Underdeveloping the Amazon: Extraction, Unequal Exchange, and the Failure of the Modern State*. Urbana: University of Illinois Press.
- Burnham P. 1991: L'ethnie, la religion et l'Etat: Le rôle des Peuls dans la vie politique et sociale du Nord-Cameroun. *Journal des Africanistes* 61, 1: 73–102.
- Burnham P., Last M. 1994: From pastoralist to politician: the problem of a Fulbe "Aristocracy". *Cahiers d'Etudes africaines* 133–135, XXXIV–1–3: 313–357.
- CAADP, 2007: *BENIN: OSD/PSRSA Programme 2 "Développement de l'Élevage"*. Comprehensive Africa Agriculture Development Programme (CAADP). Online at: <http://www.resakss.org/sites/default/files/pdfs//benin-caadp-brief-2-dveloppement-de-lrsquolevage-f-42529.pdf>, (accessed 02/02/15).
- Callon M. 1981: Pour une sociologie des controverses technologiques. *Fundamenta Scientiae* 2, 3/4: 381–399.
- Callon M. 1986: Some elements of a sociology of translation: domestication of the scallops and the fishermen of St. Brieuc Bay: 196–223 in Law J. (ed), *Power, action, and belief: a new sociology of knowledge*. London: Routledge.
- Callon M., Latour B. 2006: Le grand Léviathan s'apprivoise-t-il ? : 11–32 in Akrich M., Callon M., Latour B. (eds), *Sociologie de la traduction: Textes fondateurs*. Paris: Les Presses des Mines.
- Callon M., Law J. 1982: On interests and their transformation: enrolment and counter-enrolment. *Social Studies of Science* 12, 4: 615–625.
- Cameron C. 2001: Taking stock of pastoral NGOs in Tanzania. *Review of African Political Economy* 28, 87: 55–72.
- Campbell D.J. 1984: Response to drought among farmers and herders in Southern Kajiado District, Kenya. *Human Ecology* 12, 1: 35–64.
- Campbell D.J. 1999: Response to drought among farmers and herders in southern Kajiado District, Kenya: A comparison of 1972–1976 and 1994–1995. *Human Ecology* 27, 3: 377–416.
- Campbell D.J., Zinyama L.M., Matiza T. 1990: Strategies for coping with food deficits in rural Zimbabwe. *Geographical Journal of Zimbabwe* 20: 15–41.

- Catley A., Aklilu Y. 2013: Moving up or moving out? Commercialization, growth and destitution in pastoralist areas: 85–97 in Catley A., Lind J., Scoones I. (eds), *Pastoralism and development in Africa: dynamic change at the margins*. London: Routledge.
- Catley A., Iyasu A. 2010: *Moving up or moving out? A rapid livelihoods and conflict analysis in Mieso Mulu woreda, Shinile Zone, Somali Region, Ethiopia*. Addis Ababa: Feinstein International Centre/Tufts University & Mercy Corps.
- Catley A., Lind J., Scoones I. 2013a: *Pastoralism and development in Africa: dynamic change at the margins*. London: Routledge.
- Catley A., Lind J., Scoones I. 2013b: Development at the margins: Pastoralism in the Horn of Africa: 1–26 in Catley A., Lind J., Scoones I. (eds), *Pastoralism and development in Africa: dynamic change at the margins*. London: Routledge.
- CES, 2011: *La déforestation au Bénin: enjeux et perspectives*. Rapport d'étude (22/12/11). Cotonou: Conseil Economique et Social (CES)/République du Bénin.
- Chantararat S., Mude A.G, Barrett C.B. 2010: *Willingness to pay for Index Based Livestock Insurance: A field experiment from northern Kenya*. Working Paper. Ithaca: Cornell University.
- Chauveau J.-P., Colin J.-P., Jacob J.-P., Lavigne Delville P., Le Meur P.Y. 2006: *Modes d'accès à la terre, marchés, gouvernance et politiques foncières en Afrique de l'Ouest; résultats du projet de recherche CLAIMS*. London: IIED.
- Chéneau-Loquay A. 2004: Comment les NTIC sont-elles compatibles avec l'économie informelle en Afrique. *Annuaire Français de Relations Internationales* 5: 345–375.
- China-Embassy, 2009: *Allocution de son Excellence Monsieur Geng Wenbing, ambassadeur de Chine près le Bénin lors de la réception à l'occasion de la 60ème Fête Nationale de Chine*. In Ambassade de la République Populaire de Chine au Bénin (26/09/09). Online at: <http://bj.china-embassy.org/fra/dsjh/P020090927589106449770.doc> (accessed 06/03/15).
- China-Embassy, 2014: *Allocution de M. Tao Weiguang, Ambassadeur de Chine au Bénin, à l'occasion du spectacle donné par la troupe artistique de Hunan*. In Ambassade de la République Populaire de Chine au Bénin (02/08/14). Online at: <http://bj.china-embassy.org/fra/zxxx/t1184914.htm> (accessed 06/03/15).
- Ciavolella R. 2013: *Les dilemmes du pastoralisme: entre marginalisation et modernisation chez les éleveurs Peuls à Djougou (Bénin)*. Livrable 5.6. Toulouse: ANR/ECLiS. Online at: <http://alterpol.hypotheses.org/234> (accessed 29/08/15).
- Cohen A.P., Comaroff J.L. 1976: The management of meaning: on the phenomenology of political transactions: 87–107 in Kapferer B. (ed), *Transactions and meanings*. Philadelphia: Institute for the Study of Human Issues.

- Coll J. 2000: Animateurs et coordonnateurs: les courtiers en développement de Malem-Hodar (Sénégal): 101–123 in Bierschenk T., Chauveau J.-P., Olivier de Sardan J.-P. (eds), *Courtiers en développement: les villages africains en quête de projets*. Paris: APAD & Karthala.
- Comby J. 1998: *Réforme du droit foncier au Bénin: Etude de faisabilité*. Cotonou: SERHAU-SEM.
- Comlan Aguessy F. 2014: La gestion coutumière du foncier rural face à l'avancée de l'acquisition de terres à grande échelle: 27–33 in Idrissou A.H., Wennink B., Baltissen G., Obura F. (eds), *La gouvernance du foncier rural au Bénin: La société civile s'engage*. Cotonou: SNV-Bénin.
- Concern Worldwide, 2013: *Concern Worldwide: Uganda Programme Plan 2013*. Online at: <https://www.concern.net/sites/default/files/media/resource/uganda-annual-plan-2013.pdf> (accessed 23/07/15).
- Constitutional Court of Benin, 2014: *Décision DCC 14-076 du 17 Avril 2014*. Online at: http://www.cour-constitutionnelle-benin.org/doss_decisions/DCC%2014-076.pdf (accessed 29/04/15).
- Cotton C.M. 1997: Methods in ethnobotanical study: 91–126 in Cotton C.M. (ed), *Ethnobotany: principles and applications*. Chichester: John Wiley & Sons.
- Cotula L., Vermeulen S., Leonard R., Keeley J. 2009: *Land grab or development opportunity?: agricultural investment and international land deals in Africa*. London: IIED, FAO & IFAD.
- Couao-zotti F. 2014: *Des Chinois comme compatriotes: Bénin ma patrie*. In Facebook, (01/03/14). Online at: <https://www.facebook.com/beninmapatrie/posts/625650637507817> (accessed 06/03/15).
- Crandall A. 2012: Kenyan farmers' use of cell phones: calling preferred over SMS: 119–129 in Kumar V., Svensson J. (eds), *Proceedings of M4D 2012, 28–29 February 2012 New Delhi, India*. New Delhi: Karlstad University Studies.
- CTA, 2004: Les organisations paysannes et leur environnement: les éleveurs béninois de l'Udoper: une grande capacité à nouer des relations avec d'autres acteurs. *Grain de Sel* 28: 19–22.
- CTA, 2008: *L'Association Interprofessionnelle du Coton au Bénin*. Online at: http://www.inter-reseaux.org/IMG/pdf/Fiche_AIC_francais_premiere_version.pdf, (accessed 17/11/14).
- CTA, 2010: *Union Départementale des Organisations Professionnelles des Eleveurs de Ruminants*. Technical Centre for Agricultural and Rural Cooperation. Online at: <http://partners.cta.int/UDOPER/Pages/Home.aspx> (accessed 28/03/15)
- CTA, 2011: Motorisation agricole: l'énergie de l'espoir. *SPORE Le magazine du développement agricole et rural des pays ACP* 150: 13–16.
- CUMA-Benin, 2010: *La mécanisation partagée au Bénin: fiche de communication*. Online at: http://cumabenin.com/DOCUMENTS/UNCUMA/1058140767_CUMABE_Fiche_Com.pdf (accessed 22/03/15).*

- CUMA-Benin, 2014: *Réseau des CUMA au Bénin*. Online at: <http://api.ning.com/files/Y9Yc5qVXVzSI5FwFO-SOJ-ZRfmdiYUB20P-7eQnmTP3m62iK2a-SqyT6TZZdMIFE3D5253SVrpkeuv0dTxvl5SZV3Cd4ZXo/Depliant-Cuma.pdf> (accessed 22/03/15).
- CUMA-Benin, 2015: *Modernisons ensemble notre agriculture par la mécanisation partagée*. Online at: <http://www.cumabenin.com/> (accessed 16/03/15).
- Dagba R. 1993: *L'impact du PAS sur l'emploi au Bénin*. Communication orale, Séminaire Programme d'Ajustement Structurel (PAS) face aux problèmes de l'emploi au Bénin (23–24/09/1993). Cotonou: Fondation Friedrich Ebert.
- Dahl G. 1987: Women in pastoral production: some theoretical notes on roles and resources. *Ethnos* 52, 1: 246–279.
- De Bruijn M. 1999: Bierschrenk, Thomas & Le Meur, Pierre-Yves, eds.-Trajectoires peules au Bénin. Six études anthropologiques. *Cahiers d'Etudes africaines* 39, 153: 186–188.
- De Bruijn M. 2000: Rapports interethniques et identité: l'exemple des pasteurs peuls et des cultivateurs hummbeebe au Mali central: 15–36 in Diallo Y., Schlee G. (eds), *L'ethnicité peule dans des contextes nouveaux: la dynamique des frontières*. Paris: Karthala.
- De Bruijn M. 2008: *The telephone has grown legs: mobile communication and social change in the margins of African society*. Leiden: African Studies Centre.
- De Bruijn M., Nyamnjoh F.B., Brinkman I. 2009: Introduction: Mobile communication and new social spaces in Africa: 11–22 in De Bruijn M., Nyamnjoh F.B., Brinkman I. (eds), *Mobile phones: the new talking drums of everyday Africa*. Leiden: Langaa & African Studies Centre.
- De Bruijn M., Brinkman I. 2011: Communicating Africa: researching mobile kin communities communication technologies, and social transformation in Angola and Cameroon. *Autrepart* 57–58: 41–57.
- De Bruijn M., Brinkman I., Nyamnjoh F. 2013. *Side@ways: mobile margins and the dynamics of communication in Africa*. Leiden: Langaa & African Studies Centre.
- De Bruijn M., Van Dijk H. 1988: *From pastoralist to proletarian*. Master of Science Thesis. Leiden: University of Leiden & Agricultural University of Wageningen.
- De Bruijn M., Van Dijk H. 1994: Drought and coping strategies in Fulbe society in the Hayre (Central Mali): A historical perspective. *Cahiers d'Etudes africaines* 133–135, XXXIV–1–3: 85–108.
- De Bruijn M., Van Dijk V. 1995: *Arid ways: cultural understandings of insecurity in Fulbe society, Central Mali*. Amsterdam: CERES & Thela Publishers.
- De Bruijn M., Van Oostrum K., Obono O., Oumarou A., Boureima D. 2011: *Mobilités nouvelles et insécurités dans les sociétés nomades fulbé (peules): étude des plusieurs pays en Afrique centrale de l'ouest (Niger-Nigeria)*. Working Paper 97. Leiden: African Studies Centre.

- De Haan L.J., Van Driel A., Kruithof A. 1990: From symbiosis to polarization?: peasants and pastoralists in northern Benin. *Indian Geographical Journal* 65, 1: 51–65.
- De Haan L.J. 1995: Local environmental management in North Benin: bright spots in the local impasse: 129–146 in Van de Breemer J.P.M., Drijver C.A., Venema L.B. (eds), *Local resource management in Africa*. Chichester: John Wiley & Sons.
- De Haan L.J. 1997: *Agriculteurs et éleveurs au Nord-Bénin: écologie et genres de vie*. Paris: Karthala.
- De Haan L.J. 1998: Gestion de terroir at the frontier: Village land management of peasants and pastoralists in Benin: 209–227 in Bruijn H.J., Lithwick H. (eds), *The arid frontier: interactive management of environment and development*. Boston: Kluwer Academic Publishers.
- De Jode H. 2010. *Modern and mobile: The future of livestock production in Africa's drylands*. London: IIED & SOS-Sahel International.
- De Souza S. 2008: *Flore du Bénin, Tome 3 (Deuxième édition): nom des plantes dans les langues nationales béninoises*. Cotonou: Presses de l'Imprimerie Tundé.
- Débourou M.D. 2013: *La guerre coloniale au nord du Dahomey: Bio Gera, entre mythe et réalité: le sens de son combat pour la liberté (1915–1917)*. Paris: L'Harmattan.
- Dedjan J.Y. 2010: *Changements Climatiques et évolution des périodes de semis des principales cultures dans l'Alibori, cas des communes de Malanville et de Banikoara, Bénin*. Thèse d'Ingénieur Agronome. Parakou: Faculté d'Agronomie / Université de Parakou.
- Degbohuet H.J.F. 2010: *Productivité des pâturages naturels soudaniens au Nord-Bénin: Cas des pâturages naturels de la commune de Gogounou*. Thèse d'Ingénieur Agronome. Parakou: Faculté d'Agronomie/Université de Parakou.
- Dehoux J.P., Hounsou-Ve, G. 1993: Productivité de la race bovine Borgou selon les systèmes d'élevage traditionnels au Nord-Est du Bénin. *Revue Mondiale de Zootechnie* 74, 75: 36–48.
- Devereux S. 2006: *Vulnerable livelihoods in Somali region, Ethiopia*. Research Report 57. Brighton: Institute of Development Studies (IDS)/University of Sussex.
- Devereux S., Scoones I. 2008: *The crisis of pastoralism? A response from Stephen Devereux and Ian Scoones*. Discussion Paper 003. Sussex: Institute of Development Studies (IDS)/University of Sussex.
- DGDGL, 2010: *Recueil de lois sur la décentralisation*. DGDGL/Ministère de la Décentralisation, de la Gouvernance Locale, de l'Administration et de l'Aménagement du Territoire. Online at: http://base.afrique-gouvernance.net/docs/recueil_des_lois_sur_la_decentralisation.pdf (accessed 01/02/15).
- DGFRN, 2012: *Politique Forestière du Bénin*. Cotonou: Direction Générale des Forêts et des Ressources Naturelles (DGFRN)/Ministère de l'Environnement, de l'Habitat et de l'Urbanisme (MEHU).

- Diallo B. 2004: *De la naissance au mariage chez les Peuls de Mauritanie*. Paris: Karthala.
- Diallo B., Dembélé N., Staatz J., 2012: *Compétitivité du maïs local en Afrique de l'Ouest depuis la hausse des prix alimentaires mondiaux. Résultats de recherche 2 (Mai 2012)*. Michigan: PRESAO/SRAI, MSU, AfricaRice & Syngenta Fondation.
- Diallo Y. 1999: Autour du puits: paysans, pasteurs et politique de l'eau dans le Gondo-Sourou (Burkina Faso): 373–406 in Botte R., Boutrais J., Schmitz J. (eds), *Figures peules*. Paris: Karthala.
- Diallo Y. 2000: Les Peuls et les Sénoufo de la savane ivoirienne: quelques modalités de leurs relations: 65–91 in Diallo Y., Schlee G. (eds), *L'ethnicité peule dans des contextes nouveaux: la dynamique des frontières*. Paris: Karthala.
- Diallo Y. 2001: *Conflict, cooperation and integration: a West African example (Côte d'Ivoire)*. Working Paper 22. Halle/Saale: Max Planck Institute for Social Anthropology.
- Diallo Y., Guichard M., Schlee G. 2000: Quelques aspects comparatifs: 225–255 in Diallo Y., Schlee G.(eds), *L'ethnicité peule dans des contextes nouveaux: la dynamique des frontières*. Paris: Karthala.
- Diallo Y., Schlee G. 2000: *L'ethnicité peule dans des contextes nouveaux: la dynamique des frontières*. Paris: Karthala.
- Dieye A.M., Roy D.P. 2012: A study of rural Senegalese attitudes and perceptions of their behavior to changes in the climate. *Environmental Management* 50: 929–941.
- Djedjebi T. 2009: *Pastoralistes et la ville au Bénin: livelihoods en questionnement*. African Studies Collection 17. Leiden: African Studies Centre.
- Djegga D. 2007: Editorial: Un partenariat fructueux: 1 in Maroowo/Bulletin d'information de l'UDOPER no.001 (Juin 2007). Online at: <http://partners.cta.int/UDOPER/Documents/Dynamique%20Paysanne.pdf> (accessed 28/03/15).*
- Djenontin A.J., Amidou M., Baco N.M. 2004: Diagnostic gestion de troupeau: gestion des ressources pastorales dans les départements de l'Alibori et du Borgou au Nord du Bénin. *Bulletin de la Recherche Agronomique du Bénin* 43: 30–45.
- Djenontin A.J.P., Houinato M., Toutain B., Sinsin B. 2009: Pratiques et stratégies des éleveurs face à la réduction de l'offre fourragère au Nord-Est du Bénin. *Science et changements planétaires/Sécheresse* 20, 4: 346–353.
- Djenontin J. 2010: *Dynamique des stratégies et des pratiques d'utilisation des parcours naturels pour l'alimentation des troupeaux bovins au Nord-Est du Bénin*. Thèse de Doctorat. Abomey-Calavi: Université d'Abomey-Calavi.
- Djenontin J.A., Madjidou O., Houinato M.R., Mensah G.A., Sinsin B.A. 2012: Le calendrier pastoral en élevage extensif dans le Nord-Est du Bénin: un outil de gestion du cheptel bovin de l'exploitation. *Science et changements planétaires/Sécheresse*, 23, 4: 261–270.

- Djohy G. 2010: *Transhumance et changements climatiques: une analyse des dynamiques socio-politiques et organisationnelles d'adaptation des éleveurs dans l'Alibori (nord-Bénin)*. Thèse d'Ingénieur Agronome. Parakou: Faculté d'Agronomie/ Université de Parakou.
- Djohy G., Edja A.H., Akponikpè P.B.I., Olokesusi F., Belem M., Bellwood-Howard I. 2014b: Cattle pastoralists' strategies to cope with water scarcity in climate change context in northern Benin, West Africa. *African Journal of Livestock Extension* 14, 1: 21–30.
- Djohy G., Edja A.H., Djenontin A.J., Houinato M., Zoungrana T.P. 2014a: Dynamiques sociocommunautaires de gestion des risques climatiques par les agropasteurs dans les terroirs riverains du Parc W, au Nord-Bénin. *Revue de Géographie de l'Université de Ouagadougou* 3: 15–34.
- Djohy G., Edja H. 2014: Valorisation de bourgoutières dans les terroirs riverains du Parc W au Nord-Bénin: entre contrôle et patrimonialisation du territoire. *Développement durable et territoires* 5, 3. Online at: <http://developpement-durable.revues.org/10687> (accessed 10/12/14).
- Dossoumou E. 2012: *Les dernières décisions du Gouvernement sur la filière coton: Bénin: conseil des Ministres mercredi 25, samedi 28 et dimanche 29 avril 2012*. In 24H-au-Bénin (30/04/12). Online at: <http://www.24haubenin.info/?Les-dernieres-decisions-du-16> (accessed 17/11/14).
- Droy I., Bidou J-E. 2015: Fragilité de la sédentarisation d'une population pastorale peule au Bénin: 75–90 in Bosc P-M., Sourisseau J-M., Bonnal P., Gasselin P., Valette E., Béliers J-F. (eds), *Diversité des agricultures familiales: exister, se transformer, devenir*. Versailles: Editions Quae.
- Droy I., Pascual C., Bidou J. E. 2014: Inégalités de genre et vulnérabilité alimentaire au Bénin: 85–115 in Guétat-Bernard H., Saussey M. (eds), *Genre et savoirs: pratiques et innovations rurales au Sud*. Marseille: IRD Editions.
- Dupire M. 1970: *Organisation sociale des Peul: étude d'ethnographie comparée*. Recherche en Sciences Humaines 32. Paris: Librairie Plon.
- Dupire M. 1994: Identité ethnique et processus d'incorporation tribale et étatique (Ethnic identity and processes of tribal and state incorporation). *Cahiers d'Etudes africaines* 133–135, XXXIV–1–3: 265–280.
- Dupré M., Shi W. 2008: *La présence chinoise en Afrique de l'Ouest: le cas du Mali et du Bénin*. Document de travail 69. Paris: Agence Française de Développement (AFD).
- ECOWAS, 2012: *Importance et potentialités du secteur de l'élevage d'Afrique de l'Ouest*. In ECOWAS/DADR (30/11/12). Online at: <http://portails.cilss.bf/archivesCILSS/IMG/pdf/orientationelevagecedeo.pdf> (accessed 10/12/17).
- Edja H. 2012: *Agenceité, savoirs locaux et médiation communautaire: le pastoralisme transhumant et la conservation des écosystèmes forestiers au Bénin*. Communication au colloque «La recherche en sciences sociales sur le Bénin par la coopération Allemagne-Bénin: thèmes, bilans, perspectives», 8–10 Mars 2012. Bayreuth: Université de Bayreuth.

- Edja H. 2014: International Animal Routes in sub-Saharan Africa: perceptions and dynamics of pastoralists in northern-Benin. *Bulletin de la Recherche Agronomique du Bénin* (Numéro spécial/Décembre 2014): 11–19.
- Edja H., Le Meur P.Y. 2004: *Le Plan foncier rural au Bénin Production de savoir, gouvernance et participation*. Document de travail de l'Unité de Recherche 095/ no.9. Montpellier: IRD REFO & FRET.
- El Adnani J. 2007: *La Tijàniyya, 1781–1881: les origines d'une confrérie religieuse au Maghreb*. Rabat: Marsam.
- Eneyew A. 2012: Is settling pastoralists a viable livelihood strategy? Implication for policy dialogue. *Scholarly Journal of Agricultural Science* 2, 5: 94–102.
- Ermert V., Brücher T. 2009: Le climat du Bénin (1961–1990): 17–18 in Judex M., Thamm H-P, Röhrig J., Schulz O. (eds), *Impetus Atlas du Bénin: Résultats de Recherche 2000–2007 (Troisième édition)*. Bonn: Université de Bonn.
- Escobar A. 1995: *Encountering development: the making and unmaking of the Third World*. Princeton: Princeton University Press.
- Escobar A. 1998: Whose knowledge, whose nature?: Biodiversity, conservation, and the political ecology of social movements. *Journal of Political Ecology* 5, 1: 53–82.
- Escobar A. 1999: After nature: steps to an antiessentialist political ecology. *Current Anthropology* 40, 1: 1–16.
- Fage J.D. 1995: *A history of Africa*. London: Routledge.
- Fairlie S., Hildyard N., Lohmann L., Sexton S. 1994: Whose common future: reclaiming the commons. *Environment and Urbanization* 6, 1: 106–130.
- FAO, 2010a: *Evaluation des ressources forestières mondiales 2010*. Rapport national Bénin/FRA2010/022. Rome: FAO.
- FAO, 2010b: *Projets TCP/BEN/3003 et TCP/BEN/3204: Appui à l'amélioration de la collecte, de la transformation et de la commercialisation du lait, du wagashi et autres produits laitiers*. Rapport d'évaluation. Cotonou: FAO Bénin.
- FAOSTAT, 2014. *Répartition des effectifs d'animaux vivants selon année, niveau administratif 2, produit (Têtes)*. Online at: <http://www.countrystat.org/home.aspx?c=BEN&tr=-2> (accessed 25/08/2014)
- FAOSTAT, 2015: *Répartition de la production des cultures primaires selon année, niveau administratif 2, culture (Tonnes)*. Online at: <http://www.countrystat.org/home.aspx?c=BEN&ta=053SPD110&tr=21> (accessed 05/04/15).
- Faye C. 2014: *25eme anniversaire en promotion de l'élevage en Afrique: l'APESS étale sa nouvelle vision*. In *Sud Quotidien* (04/12/14). Online at: http://mobile.sudonline.sn/l-apeess-etale-sa-nouvelle-vision_m_21986.htm (accessed 19/02/15)
- Ferguson E.S. 1977: The mind's eye: non-verbal thought in technology. *Science* 197: 827–836.

- Floquet A., Nansi J. 2005: *Plus de place en ville pour les bœufs: La filière bovine face à l'expansion urbaine à Abomey et Bohicon (Bénin)*. CEBEDES, Document de travail Ecocité 4. Online at: <http://www.gret.org/wp-content/uploads/07800.pdf> (accessed 10/12/17).
- Fokou G. 2015: *Coping with pastoral uncertainties in post-conflict context in West Africa: cross-border mobility, institutional change and livelihood strategies of smallholders in North Côte d'Ivoire*. Oral communication at: "Livelihood, Management, Reforms and Processes of structural change" workshop, 22–27 November 2015, University of Göttingen. Göttingen: Volkswagen Foundation & University of Göttingen.
- Fortman L. 1985: The tree tenure factor in agroforestry with particular reference to Africa. *Agroforestry systems* 2, 4: 229–251.
- Foucault M. 1977: *Discipline and punish: the birth of the prison*. New York: Pantheon Books.
- Fouda Ongodo M. 2006: Différences culturelles et relations d'affaires entre pays d'Afrique et pays émergents d'Asie. *Revue française de gestion* 8: 65–84.
- Fowler A., Campbell P., Pratt B. 1992: *Institutional development and NGOs in Africa: Policy perspectives for European Development Agencies*. Oxford: INTRAC Series 1.
- France volontaires, (2010): *Le clivage Nord/Sud au Bénin*. In Réseau Espaces Volontariats/Bénin. Online at: <http://www.reseau-espaces-volontariats.org/IMG/Clivage%20Nord%20-%20Sud.pdf> (accessed 01/02/15).
- Fratkin E. 1997: Pastoralism: governance and development issues. *Annual Review of Anthropology* 26: 235–261.
- Fratkin E. 2001: East African pastoralism in transition: Maasai, Boran and Rendille cases. *African Studies Review* 44, 3: 1–25.
- Fratkin E. 2004: *Ariial pastoralists of northern Kenya: studying pastoralism, drought, and development in Africa's arid lands*. Boston: Allyn and Bacon & Pearson.
- Fratkin E., Smith K. 1995: Women's changing roles with pastoral sedentarization: varying strategies in alternative Rendille communities. *Human Ecology* 23:433–54.
- Future Agricultures, 2015: *Pastoralists: moving with the times*. Online at: <http://www.future-agricultures.org/events/future-of-pastoralism/press-release/> (accessed 04/05/15).
- Gaborel C., Fadoegnon B. 1991: Le désherbage chimique du cotonnier et du maïs au Bénin: acquis et proposition de la recherche: 135–151 in CIRAD-CA (ed), *Rapport Réunion de coordination de recherche phytosanitaire cotonnière, 26–31 janvier 1991, Ouagadougou, Burkina Faso*. Montpellier: CIRAD & CA.
- Gagnon M.B., 1998: *Etude sur la filière anacarde au Bénin*. Rapport définitif. Cotonou: INRAB.

- Galaty J.G. 2013: Land grabbing in the Eastern African rangelands: 143–153 in Catley A., Lind J., Scoones I. (eds), *Pastoralism and development in Africa: dynamic change at the margins*. London: Routledge.
- Galaty J.G., Aronson D., Salzman P.C., Chouinard A. 1981: *The future of pastoral peoples: proceedings of "Future of Pastoral Peoples" conference, August 4–8, 1980*. Nairobi: IDRC.
- Gallais J. 1962: Signification du groupe ethnique au Mali. *L'Homme* 2, 2: 106–129.
- Gamson W.A., Fireman B., Rytina S., Taylor B. 1982: *Encounters with unjust authority*. Homewood: Dorsey Press.
- Gandonou B.M., Dossou-Yovo C., 2013: *Intégration de la décentralisation dans la loi 2013–01 portant code foncier et domanial au Bénin*. Rapport d'étude. Cotonou: CFD, LGCP & ANCB.
- Gautier D., Hautdidier B., Gazull L. 2011: Woodcutting and territorial claims in Mali. *Geoforum* 42, 1: 28–39.
- Gbeffo J. 2012: *Cagla-Bénin ou la prise en main de la gestion des intrants par les producteurs (1998–2008)*. PNOPPA-Bénin (Juillet 2012). Online at: <https://web.archive.org/web/20130825082506/http://www.pnoppa-benin.org:80/publications-de-la-pnoppa.html> (accessed 10/12/17).
- Gemtesa K., Emanu B., Tiki W. 2007: *Livelihood diversification in Borana pastoral communities of Ethiopia-prospects and challenges*. Wabekbon Consult. Online at: <http://www.saga.cornell.edu/saga/ilri0606/24gemtesa-emanu-tiki.pdf> (accessed 08/05/15).
- Geopolis, 2012: Africapolis: fiches documentaires par pays: République du Bénin: 6–12 in AFD (ed), *Dynamique de l'urbanisation, 1950–2020: approche géostatistique, Afrique de l'ouest*. Paris: Agence Française de Développement.
- GERED/ANOPER/Potal Men, 2012: *Petit guide de conseils pratiques aux acteurs en lien avec la transhumance au Bénin*. Version Provisoire (Mai, 2012). Parakou: GIZ/ZFD.
- Geschiere P. 1982: *Village communities and the State: changing relations among the Mahz of southeastern Cameroon since the colonial conquest*. London: Kegan Paul.
- Gibigaye M., Adégbidi, A., Sinsin B., 2010: Proximité géographique et dynamique des organisations paysannes au Bénin : le cas des CUMA dans le Borgou et l'Alibori: 67–82 in Atta K, Zoungrana P.T. (eds), *Logiques paysannes et espaces agraires en Afrique (Volume 5)*. Paris: Karthala.
- Gnacadjia C., Biauou A., Gninanfo M.A. 2011: *Etat de la gouvernance en Afrique de l'Ouest: Bénin. Projet de Suivi de la Gouvernance en Afrique de L'Ouest*. Dakar: CODESRIA & OSIWA.
- Gnanglè P.C., Egah J., Baco M.N., Gbemavo C.D., Kakaï R.G., Sokpon N. 2012: Perceptions locales du changement climatique et mesures d'adaptation dans la gestion des parcs à karité au Nord-Bénin. *International Journal of Biological and Chemical Sciences* 6, 1: 136–149.

- Gonin A. 2014: *Jeux de pouvoir pour l'accès aux ressources et devenir de l'élevage en Afrique soudanienne: Le foncier pastoral dans l'Ouest du Burkina Faso*. Thèse de Doctorat. Paris: Université Paris 1/Panthéon-Sorbonne.
- Gonin A., Tallet B. 2012: Quel avenir pour l'élevage dans le bassin cotonnier de l'Ouest du Burkina Faso ? Dynamiques agro-pastorales et recompositions territoriales. *Autrepart* 60, 1: 95–110.
- Goodchild M.F., Janelle D.G., 2004: Thinking Spatially in the Social Sciences: 3–17 in Goodchild M.F., Janelle D.G. (eds), *Spatially integrated social science*. New York: Oxford University Press.
- Goutchili E. 2008: *Idéogramme 92: Yayi Boni et la bataille de godomey (Échangeur et Changement: Même combat)*. In Babilown-Mawolè (31/12/08). Online at: <http://babilown.com/2008/12/31/yayi-boni-et-la-bataille-de-godomey/> (accessed 06/03/15).
- Government of Benin, 1965: *Loi No. 65-17 portant code de la nationalité dahoméenne*. Cotonou: Government of Benin.
- Government of Benin, 1990: *Loi No. 90-32 du 11 Décembre 1990 portant constitution de la République du Bénin*. Cotonou: Government of Benin.
- Government of Benin, 1999: *Loi No. 97-028 du 15 janvier 1999 portant organisation de l'administration territoriale de la République du Bénin*. Cotonou: Government of Benin.
- Government of Benin, 2013: *Lutte contre la transhumance anarchique à Ouinhi : Le Ministre DEGLA lance l'opération «Guépard»*. In Portail officiel du Gouvernement. Online at: <http://news.acotonou.com/h/582.html> (accessed 10/12/17).
- Grandval F. 2012: *APESS: une nouvelle dynamique est lancée*. In Inter-Réseaux Développement Rural. Online at: <http://www.inter-reseaux.org/ressources-the-matiques/les-notes-d-inter-reseaux/article/apess-une-nouvelle-dynamique-est> (accessed 19/02/15).
- Grayzel J.A. 1990: Markets and migration: A Fulbe pastoral system in Mali: 35–67 in Galaty J.G., Johnson D.L. (eds), *The world of pastoralism: herding systems in comparative perspective*. New York: The Guilford Press.
- Grémont C. 2014: Mobility in pastoral societies of Northern Mali: Perspectives on social and political rationales. *Canadian Journal of African Studies* 48, 1: 29–40.
- Guibert B., Banzhaf M., Soulé B.G., Balami D.H., Ide G. 2009: *Etude régionale sur les contextes de la commercialisation du bétail/accès aux marchés et défis d'amélioration des conditions de vie des communautés pastorales*. Paris: SNV & IRAM.
- Guichard M. 1990: L'«ethnicisation» de la société peule du Borgou (Bénin). *Cahiers d'Etudes africaines* 117, XXXI: 17–44.
- Guichard M. 1992: Réponse à Thomas Bierschenk. *Cahiers d'Etudes africaines* 127, XXXII–3: 521–522.

- Guichard M. 2000: L'étrangeté comme code de communication interethnique: les relations entre agropasteurs peuls et paysans bariba du Borgou (Nord-Bénin): 93–127 in Diallo Y., Schlee G. (eds), *L'ethnicité peule dans des contextes nouveaux: la dynamique des frontières*. Paris: Karthala.
- Hagberg S. 2000: Strangers, Citizens, Friends: Fulbe agro-pastoralists in western Burkina Faso: 159–179 in Hagberg S., Tengan A.B. (eds), *Bonds and boundaries in northern Ghana and southern Burkina Faso*. Uppsala: Acta Universitatis Upsaliensis & Uppsala Studies in Cultural Anthropology 30.
- Hagberg S. 2011: Organising Fulbe-ness: ethnicity, livelihoods and civil society in Burkina Faso: 147–162 in Schareika N., Spies E., Le Meur P.Y. (eds), *Auf dem Boden der Tatsachen: Festschrift für Thomas Bierschenk*. Köln: Rüdiger Köppe Verlag.
- Hahonou E. K. 2011: Past and present African citizenships of slave descent: lessons from Benin. *Citizenship Studies* 15, 1: 75–92.
- Hahonou E. K. 2013: Propriété, citoyennetés et héritage de l'esclavage au Nord Bénin. *Politique Africaine* 132, 4: 73–93.
- Hardin G. 1968: The tragedy of the commons. *Science* 162: 1243–1248.
- Hardin G., Baden J. 1977: *Managing the Commons*. San Francisco: Freeman.
- Harris T., Weiner D. 1996: *GIS and Society: The social implications of how people, space, and environment are represented in GIS*. Scientific Report 96–7. Santa Barbara: National Center for Geographic Information and Analysis (NC-GIA).
- Hearn J. 2007: African NGOs: the new compradors? *Development and Change* 38, 6: 1095–1110.
- Heilbroner R. 1974: *An inquiry into the human prospect*. New York: Norton.
- Heldmann M. 2009: Groupes ethniques au Bénin: 109–110 in Judex M., Thamm H-P., Röhrig J., Schulz O. (eds), *Impetus Atlas du Bénin, Résultats de Recherche 2000–2007 (Troisième édition)*. Bonn: Université de Bonn.
- Heldmann M., Mulindabigwi V., Breuer T. 2009: Bénin: Les bases socio-économiques: 5–6 in Judex M., Thamm H-P., Röhrig J., Schulz O. (eds), *Impetus Atlas du Bénin, Résultats de Recherche 2000–2007 (Troisième édition)*. Bonn: Université de Bonn.
- Helland J. 2001: Participation and governance in the development of Borana, southern Ethiopia: 56–80 in Mohamed Salih M.A., Dietz T., Ahmed A.G.M (eds), *African Pastoralism: Conflict, Institutions and Government*. London: Pluto Press.
- Hesse C., MacGregor J. 2006: *Pastoralism: drylands' invisible asset?: Developing a framework for assessing the value of pastoralism in East Africa*. IIED Issue Paper 142. London: IIED.
- Hesse C., Odhiambo M.O. 2002: *Reinforcement of pastoral civil society in East Africa: A programme of capacity building and participatory action-research*. Concept Note, IIED/RECONCILE. Online at: <http://www.eldis.org/vfile/upload/1/document/0708/DOC8875.pdf> (accessed 10/12/17).

- Hestin T. 2012: *Les stratégies de développement de l'élevage bovin au Bénin au travers de la mise en place de deux projets consécutifs: le PDE puis le PAFILAV*. Thèse de Médecine Vétérinaire 83. Lyon: Vetagro Sup/Université Claude-Bernard.
- Heywood L.M., Thornton J.K. 2009: Kongo and Dahomey, 1660–1815: African political leadership in the era of the slave trade and its impact on the formation of African identity in Brazil: 86–111 in Bailyn B., Denault P.L. (eds), *Soundings in Atlantic history: latent structures and intellectual currents, 1500–1830*. Cambridge: Harvard University Press.
- Hirschauer S. 2006: Putting things into words: Ethnographic description and the silence of the social. *Human Studies* 29, 4: 413–441.
- Hobbes T. 1968: *Leviathan*. Harmondsworth: Penguin.
- Hodgson D.L. 2000: *Rethinking pastoralism in Africa: gender, culture and the myth of the patriarchal pastoralist*. Oxford: James Currey.
- Hodgson D.L. 2001: *Once intrepid warriors: Gender, ethnicity, and the cultural politics of Maasai development*. Bloomington: Indiana University Press.
- Hodgson D.L. 2011: *Being Maasai, becoming indigenous: postcolonial politics in a neoliberal world*. Bloomington: Indiana University Press.
- Hogg R. 1983: Re-stocking the Isiolo Boran: an approach to destitution among pastoralists. *Nomadic Peoples* 14: 35–39.
- Hogg R. 1992: NGOs, pastoralists and the myth of community: three case studies of pastoral development from East Africa. *Nomadic Peoples* 30: 122–146.
- Homewood K. 2008: *Ecology of pastoralist societies*. Oxford: James Currey.
- Homewood K., Kristjanson P., Trench P.C. 2009: *Staying Maasai? Livelihoods, conservation and development in East African rangelands*. New York: Springer.
- Houedassou A.Y. 2013: Governance and self-management of cattle markets in Benin: 154–157 in IIRR (ed), *Moving herds, moving markets: making markets work for African pastoralists*. Nairobi: IIRR.
- Houéhanou T.D. 2006: *Gestion pastorale et rôle des ligneux galactogènes épargnés dans les terroirs agricoles dans la zone périphérique de la Djona (Nord-Bénin)*. Thèse d'Ingénieur Agronome. Abomey-Calavi: Faculté des Sciences Agronomiques / Université d'Abomey-Calavi.
- Houndagba C.J., Tente A.B.H., Guédou R. 2007: Dynamique des forêts classées dans le cours moyen de l'Ouémé au Bénin: Kétou, Dogo et Ouémé-Boukou: 369–380 in Fournier A., Sinsin B., Mensah G.A. (eds), *Quelles aires protégées pour l'Afrique de l'Ouest? Conservation de la biodiversité et développement*. Paris: IRD Editions.
- Houkpodote R.M. 2002a: *Revue de la mise en œuvre des orientations de Praia (Cap-Vert) sur la problématique foncière et la décentralisation au Bénin*. PGTRN/MAEP. Online at: <http://www.cilss.bf/html/praisia/Benin.pdf> (accessed 19/12/14).
- Houkpodote R.M. 2002b: Piloting the rural land-use plan in Benin: 131–139 in Toulmin C., Lavigne-Delville P., Traoré S. (eds), *The dynamics of resource tenure in West Africa*. London: IIED.

- Hughes T.P. 1983: *Networks of power: Electrification in Western society, 1880–1930*. Baltimore: John Hopkins University Press.
- Hughes T.P. 1985: Edison and electric light: 39–52 in MacKenzie D., Wajcman J. (eds), *The social shaping of technology: How the refrigerator got its hum*. Milton Keynes: Open University Press.
- Hughes T.P. 1986: The seamless web: technology, science, etcetera, etcetera. *Social Studies of Science* 16, 2: 281–292.
- Hughes T.P. 1991: From deterministic dynamos to seamless-web systems: 7–25 in Sladovich H. (ed), *Engineering as a social enterprise*. Washington: National Academies Press.
- Hughes T.P. 2012: The evolution of large technological systems: 449–482 in Bijker W.E., Hughes T., Pinch T. (eds), *The social construction of technological systems: New directions in the sociology and history of technology*. Cambridge: MIT Press.
- Idrissou A.H. 2014: Les transactions foncières à grande échelle : les études de cas au Bénin: 17–25 in Idrissou, A.H., Wennink, B., Baltissen, G. et Obura, F. (eds), *La gouvernance du foncier rural au Bénin: La société civile s'engage*. Cotonou: SNV-Bénin.
- Idrissou A.H., Wennink B., Baltissen G., Obura, F. 2014: *La gouvernance du foncier rural au Bénin. La société civile s'engage*. Cotonou: SNV-Bénin.
- Igoe J. 2003: Scaling up civil society: donor money, NGOs and the pastoralist land rights movement in Tanzania. *Development and Change* 34, 5: 863–885.
- Igoe J. 2006: Becoming indigenous peoples: difference, inequality, and the globalization of East African identity politics. *African Affairs* 105, 420: 399–420.
- Igoe J., Kelsall T. 2005: *Between a rock and a hard place: African NGOs, donors and the State*. Durham: Carolina Academic Press.
- INSAE, 2003: *Troisième Recensement Général de la Population et de l'Habitation (RGPH3)*. Rapport de synthèse. Cotonou: DED/INSAE.
- INSAE, 2013a: *Quatrième Recensement Général de la Population et de l'Habitation (RGPH4)*. Rapport provisoire. Cotonou: DED/INSAE.
- INSAE, 2013b: *Transition vers le marché du travail des jeunes femmes et hommes au Bénin*. Genève: INSAE & Bureau International du Travail (BIT).
- INSAE, 2015: *Bénin en chiffres*. Institut National de la Statistique et de l'Analyse Economique (INSAE). Online at: <http://www.insae-bj.org/>, (accessed 01/02/15).
- IRDR/SOS-Faim, 2012: *Pastoralism in Sub-Saharan Africa: know its advantages, understand its challenges, act for its sustainability*. Food Sovereignty Brief 5. Brussels: Inter-Réseaux Développement Rural (IRDR) & SOS-Faim.
- Jacob J.P., Le Meur P.Y. 2010: *Politique de la terre et de l'appartenance: droits fonciers et citoyenneté locale dans les sociétés du Sud*. Paris: Karthala.
- Jarosz L. 2001: Feminist political ecology: 5472–5475 in Smelser N.J., Baltes P.B. (eds), *International encyclopedia of the social and behavioral sciences* 8. Oxford: Elsevier.

- Johansen H.S. 2002: *Les programmes d'ajustement structurel (PAS) au Bénin: impact positif ou négatif? Une étude de cas sur les vendeuses pauvres du secteur informel à Cotonou*. Mémoire de Maîtrise. Oslo: Université d'Oslo.
- Johnston R.J. 1989: *Environmental problems: nature, economy and State*. London: Belhaven.
- Juul K. 1996: *Post drought migration and technological innovations among Fulani herders in Senegal: the triumph of the tube!*. Issue Paper 64 (July 1996). London: IIED.
- Juul K. 2005a: Transhumance, tubes and telephones: drought-related migration as a process of innovation: 112–134 in Gausset Q., Whyte M.A., Birch-Thomsen T. (eds), *Beyond territory and scarcity: exploring conflicts over natural resource management*. Stockholm: Nordiska Afrikainstitutet.
- Juul K. 2005b: *Tubes, Tenure and Turbulence: The effects of drought related migration on tenure issues and resource management in northern Senegal*. Münster: APAD & LIT Verlag.
- Kandagor D.R. 2005: *Rethinking pastoralism and African development: a case study of the Horn of Africa*. Njoro: Egerton University.
- Kassa G. 2001a: *Among the pastoral Afar in Ethiopia: Tradition, continuity and socio-economic change*. Utrecht: International Books.
- Kassa G. 2001b: Resource conflicts among the Afar of north-east Ethiopia: 145–171 in Mohamed Salih M.A., Dietz T., Ahmed A.G.M (eds), *African Pastoralism: Conflict, Institutions and Government*. London: Pluto Press.
- Katé S., Dagbenonbakin G.D., Agbangba C.E., de Souza J.F., Kpagbin G., Azontondé A., Ogouwalé E., Tinté B., Sinsin B. 2014: Perceptions locales de la manifestation des changements climatiques et mesures d'adaptation dans la gestion de la fertilité des sols dans la Commune de Banikoara au Nord-Bénin. *Journal of Applied Biosciences* 82: 7418–7435.
- Katé S., Hounmenou G.C., Amagnide A., Houndonougbo P.V., Tchobo A., Tente B., Diarra S., Sinsin B. 2015: Changement climatique, mécanisme actuel de prévention et de gestion des conflits entre agriculteurs et éleveurs en zone agro pastorale de production cotonnière au nord Bénin: cas de la commune de Banikoara. *African Crop Science Journal* 23, 1: 9–26.
- Kaufmann R.K., Kauppi H., Mann M.L., Stock J.H. 2011: Reconciling anthropogenic climate change with observed temperature 1998–2008. *Proceedings of the National Academy of Sciences* 108, 29: 11790–11793.
- Keita N. 2015: *Téléphonie et mobilité au Mali*. Leiden: Langaa & African Studies Centre.
- Kessler S., Tentaga L. 2013: *Être et avoir un assistant de recherche: Réflexions méthodologiques sur le positionnement social de l'assistant*. In Colloque international de la Société des Africanistes «Quels regards scientifiques sur l'Afrique depuis les Indépendances?», 17–18 Novembre 2011. Paris: Musée du Quai Branly.

- Kherallah M., Minot N., Kachule R., Soule B.G., Berry P. 2001: *Impact of agricultural market reforms on smallholder farmers in Benin and Malawi*. Final Report 1. Hohenheim IFPRI, GTZ & University of Hohenheim.
- Kibora L. 2009: Téléphonie mobile: L'appropriation du sms par une «société de l'oralité»: 110–124 in De Bruijn M. Nyamnjoh F.B., Brinkman I. (eds), *Mobile phones: The new talking drums of everyday Africa*. Leiden: Langaa & African Studies Centre.
- Kipuri N., Ridgewell A. 2008: *A double bind: the exclusion of pastoralist women in the East and Horn of Africa*. London: Minority Rights Group International 12.
- Kirk-Greene A.H. 1988: *Maudu laawol pulaaku: survival and symbiosis*: 40–54 in M. Adamu M., Kirk-Greene A.H.M. (eds), *Pastoralists of the West African savanna*. Manchester: Manchester University Press.
- Korbéogo G. 2013: *Pouvoir accès aux ressources naturelles au Burkina Faso: la topographie du pouvoir*. Paris: L'Harmattan.
- Kossi A. 2000: Dynamiques associatives, courtage en développement et stratégies d'insertion: L'association des ressortissants d'Enouli-Kodzo-Aza au Togo: 145–164 in Bierschenk T., Chauveau J.-P., Olivier de Sardan J.-P. (eds), *Courtiers en développement: les villages africains en quête de projets*. Paris: APAD & Karthala.
- Kossoumna Liba'a N. 2012: *Les éleveurs Mbororo du Nord-Cameroun: Une vie et un élevage en mutation*. Paris: L'harmattan.
- Kouagou J-C, 2013: *Pour promesses non tenues: le cri de cœur de l'Anoper à Yayi*. In Le Matinal (08/04/13). Online at: <http://news.acotonou.com/h/1995.html> (accessed 23/12/14).
- Kperou Gado B.O. 2006: *Impacts socio-économiques de la transhumance transfrontalière dans la zone riveraine du parc w du Bénin*. Thèse de Doctorat en Médecine Vétérinaire no.17. Dakar: EISMV.
- Krätli S., Schareika N. 2010: Living off uncertainty: the intelligent animal production of dryland pastoralists. *European Journal of Development Research* 22, 5: 605–622.
- L'Haridon C. 2012: Herders in northern Benin become more professional: 15–19 in FAO (ed), *Good practice in building innovative rural institutions to increase food security: case studies*. Rome: FAO.
- La Rovere R., Hiernaux P., Van Keulen H., Schiere J.B., Szonyi J.A. 2005: Co-evolutionary scenarios of intensification and privatization of resource use in rural communities of south-western Niger. *Agricultural Systems* 83, 3: 251–276.
- Labouret H. 1955: *La langue des Peul ou Foulbé*. Mémoire IFAN 41. Dakar: IFAN.
- Lacroix E., 2003: *Les anacardiens, les noix de cajou et la filière anacarde à Bassila et au Bénin*. Hamburg: Projet Restauration des Ressources Forestières de Bassila, GIZ & GFA Terra Systems.

- Landais E., Lhoste P. 1990: L'association agriculture élevage en Afrique intertropicale: un mythe techniciste confronté aux réalités du terrain. *Cahiers des Sciences humaines* 26, 1–2: 217–235.
- Lane C. 1994: Pastures lost: alienation of Barabaig land in the context of land policy and legislation in Tanzania. *Nomadic Peoples* 34/35: 81–94.
- Lane C. 1996: *Pastures lost: Barabaig economy, resource tenure, and the alienation of their land in Tanzania*. Nairobi: Initiatives Publishers.
- Lather P. 1988: Feminist perspectives on empowering research methodologies. *Women's Studies International Forum* 11, 6: 569–581.
- Latour B. 1986: The powers of association. *The Sociological Review* 32, S1: 264–280.
- Latour B. 1987: *Science in action: how to follow scientists and engineers through society*. Harvard: Harvard University Press.
- Latour B. 1988: Mixing humans and non-humans together: the sociology of a door-closer. *Social Problems* 35: 298–310.
- Latour B. 1990: Technology is society made durable. *The Sociological Review* 38, S1: 103–131.
- Latour B. 2005: *Reassembling the social: an introduction to actor-network theory*. Oxford: Oxford University Press.
- Lavigne Delville P. 2000: Courtiers en développement ou entrepreneurs politiques?: Les responsables d'associations villageoises de développement dans une région d'émigration internationale (Mali, Sénégal): 135–187 in Bierschenk T., Chauveau J.-P., Olivier de Sardan J.-P. (eds), *Courtiers en développement: les villages africains en quête de projets*. Paris: APAD & Karthala.
- Lavigne Delville P. 2014: *Benin: From adaptation back to replacement?*. Communication at: Annual World Bank Conference on Land and Poverty, 24–27 March, 2014. Washington: The World Bank.
- Law J. 1991: *A sociology of monsters: essays on power, technology and domination*. London: Routledge.
- Law J. 1992: Notes on the theory of the actor-network: ordering, strategy, and heterogeneity. *Systems Practice* 5, 4: 379–393.
- Law J. 2012: Technology and heterogeneous engineering: The case of Portuguese expansion: 105–128 in Bijker W.E., Hughes T.P., Pinch T.J. (eds), *The social construction of technological systems: new directions in the sociology and history of technology*. Cambridge: MIT Press.
- Law R. 1986: Dahomey and the Slave Trade: Reflections on the Historiography of the Rise of Dahomey. *The Journal of African History* 27, 2: 237–267.
- Lawin A.E., Akponikpè P.B.I., Jalloh A., Nelson G.C., Thomas T.S. 2013: Benin: 53–78 in Jalloh A., Nelson G.C., Thomas T.S., Zougmore R., Roy-Macauley H. (eds), *West African Agriculture and Climate Change: a comprehensive analysis*. Washington: IFPRI.
- Le Meur P.Y. 1996: Les Courtiers Locaux du Développement – Synthèse. *Bulletin de l'APAD* 12. Online at: <http://apad.revues.org/607> (accessed 01/12/15).

- Le Meur P.Y. 1998: Empilements et chevauchements: pouvoirs et histoire à Ahouannozoun (Atlantique): 191–235 in Bierschenk T., Olivier de Sardan J.-P. (eds), *Les pouvoirs au village: le Bénin rural entre démocratisation et décentralisation*. Paris: Karthala.
- Le Meur P.Y. 2000: Logiques paysannes au Bénin: courtage, associations, réseaux et marchés. *Autrepart* 13: 91–108.
- Leloup S. 2006: Investing in maintaining mobility in pastoral systems of the arid and semi-arid regions of Sub-Saharan Africa. Policy Note. Nairobi: Partnership for Livestock Development, Poverty Alleviation and Sustainable Growth (ALIVE) & AU-IBAR.
- Lesorogol C.K. 2005: Privatizing pastoral lands: economic and normative outcomes in Kenya. *World Development* 33, 11: 1959–1978.
- Lesse P.D.A.A. 2009: *Evaluation des effets des variations climatiques sur la dynamique des pâturages bovins de la zone d'accueil des transhumants dans le département de l'Alibori*. Thèse d'Ingénieur Agronome. Abomey-Calavi: Faculté des Sciences Agronomiques / Université d'Abomey-Calavi.
- Lesse P.D.A.A. 2011: *Analyse de la gestion pastorale et de l'adaptation des éleveurs transhumants face aux variabilités climatiques dans les communes riveraines de la Réserve de Biosphère Transfrontalière du W (Bénin)*. Mémoire de Diplôme d'Etudes Approfondies (DEA). Abomey-Calavi: Faculté des Sciences Agronomiques / Université d'Abomey-Calavi.
- Lie M., Sørensen K.H. 1996: *Making technology our own?: domesticating technology into everyday life*. Oslo: Scandinavian University Press.
- Ligan-Topanou O., Okou C., Boko M. 2015: Durabilité agro-écologique des exploitations agricoles dans la commune de Gogounou au Bénin. *Afrique Science* 11, 3: 129–137.
- Little P.D. 1992: *The elusive granary: herder, farmer, and State in northern Kenya*. Cambridge: Cambridge University Press.
- Little P.D. 1994: Maidens and milk markets: the sociology of dairy marketing in southern Somalia: 165–184 in Fratkin E., Galvin K.A., Roth E.A. (eds), *African pastoralist systems: an integrated approach*. Boulder: Lynne Rienner.
- Little P.D. 2001: *Income diversification among East African pastoralists*. Global livestock CRSP/Research Brief 01-08-PARIMA (December 2001). Online at: <http://crsps.net/wp-content/downloads/Global%20Livestock/Inventoried%207.12/2-2001-2-116.pdf> (accessed 11/05/15).
- Little P.D. 2013: Reflections on the future of pastoralism in the Horn of Africa: 243–249 in Catley A., Lind J., Scoones I. (eds), *Pastoralism and development in Africa: dynamic change at the margins*. London: Routledge.
- Little P.D., Behnke R., McPeak J., Gebru G. 2010: *Future scenarios for pastoral development in Ethiopia, 2010–2025*. Report no. 2. London: Pastoral Economic Growth and Development Policy Assessment & DFID.

- Little P.D., Smith K., Cellarius B.A., Coppock D.L., Barrett C. 2001: Avoiding disaster: diversification and risk management among East African herders. *Development and Change* 32, 3: 401–433.
- Liverman D., Moran E.F., Rindfuss R.R., Stern P.C. 1998: *People and pixels: linking remote sensing and social science*. Washington: National Academy Press.
- Lombard J. 1957: Quelques notes sur les Peuls du Dahomey. *Notes Africaines* 13: 4–7.
- Lombard J. 1960: La vie politique dans une ancienne société de type féodal: les Bariba du Dahomey. *Cahiers d'Etudes africaines* 1, 3: 5–45.
- Lombard J. 1965: *Structures de type «féodal» en Afrique Noire. Études des dynamismes internes et des relations sociales chez les Bariba du Dahomey*. Paris: Mouton & EPHE.
- Lombard J. 1967: *Autorités traditionnelles et pouvoirs européens en Afrique Noire: Le déclin d'une aristocratie sous le régime colonial*. Paris: Armand Colin.
- Long N. 1994: Du paradigme perdu au paradigme retrouvé? Pour une sociologie du développement orientée vers les acteurs. *Bulletin de l'APAD* 7: 11–34.
- Long N., Villarreal M. 1993: Exploring development interfaces: from the transfer of knowledge to the transformation of meaning: 140–168 in F. Schurman (ed), *Beyond the Impasse: new directions in development theory*. London: Zed.
- Lund C. 2011a: *Land rights and citizenship in Africa*. Discussion Paper 65. Uppsala: Nordiska Afrikainstitutet.
- Lund C. 2011b: Property and citizenship: Conceptually connecting land rights and belonging in Africa. *Africa Spectrum* 3: 71–75.
- Ly B. 1998: *Connaître les fondements de l'APESS pour comprendre et soutenir son évolution*. Dori: APSS.
- Mackay H., Gillespie G. 1992: Extending the social shaping of technology approach: ideology and appropriation. *Social Studies of Science* 22, 4: 685–716.
- MacKenzie D., Wajcman J. 1985: Introductory essay: 2–25 in MacKenzie D., Wajcman J. (eds), *The Social Shaping of Technology: how the refrigerator got its hum*. Milton Keynes: Open University Press.
- MAEP, 2009: *Rapport annuel 2008*. Direction de l'Élevage/Ministère de l'Agriculture, de l'Élevage et de la Pêche (MAEP). Cotonou: MAEP.
- MAEP, 2010: *Rapport annuel 2009*. Direction de l'Élevage/Ministère de l'Agriculture, de l'Élevage et de la Pêche (MAEP). Cotonou: MAEP.
- MAEP, 2011: *Rapport annuel 2010*. Direction de l'Élevage/Ministère de l'Agriculture, de l'Élevage et de la Pêche (MAEP). Cotonou: MAEP.
- MAEP, 2012: *Rapport annuel 2011*. Direction de l'Élevage/Ministère de l'Agriculture, de l'Élevage et de la Pêche (MAEP). Cotonou: MAEP.
- MAEP, 2013: *Rapport annuel 2012*. Direction de l'Élevage/Ministère de l'Agriculture, de l'Élevage et de la Pêche (MAEP). Cotonou: MAEP.

- MAEP/REP, 2008: *Rapport d'évaluation de la République du Bénin*. Rapport d'Evaluation Pays (REP) 6. Mécanisme Africain d'Evaluation par les Pairs (MAEP). Online at: <http://www.paris21.org/sites/default/files/3336.pdf> (accessed 02/02/15).
- Maifarth R. 1989: *Zur oralen Tradition bei Fulbe in Nordbenin*. Exkursionsbericht. Berlin: Institut für Ethnologie/Freie Universität zu Berlin.
- Malthus T. 1798: *An essay on the principle of population*. London: Electronic Scholarly Publishing, Foundations of Classical Genetics.
- Mama Sambo A. 2013: *Etude relative à la formulation du programme d'actions détaillé de développement de la filière lait en zone UEMOA, Annexe 1: Rapport Bénin*. Dakar: UEMOA & CIRAD.
- Marfaing L. 2014: Quelles mobilités pour quelles ressources?. *Revue Canadienne des Etudes africaines* 48, 1: 41–57.
- Markakis J. 1993: *Conflict and the decline of pastoralism in the Horn of Africa*. Houndsmills: Macmillan Press.
- Marnotte P. 1994: L'utilisation des herbicides en milieu paysan des zones soudanaises et sahéliennes: contraintes, alternatives et perspectives: 134–145 in CIRAD-CA (ed), *Rapport Réunion Phytosanitaire de Coordination Cultures Annuelles – Afrique Centrale, 26–29 janvier 1994, Maroua, Cameroun*. Montpellier: CIRAD-CA.
- Maroowo, 2007: *Bulletin d'information de l'UDOPER*. Parution no. 001 (Juin 2007). Online at: <http://partners.cta.int/UDOPER/Documents/Dynamique%20Paysanne.pdf> (accessed 28/03/15).*
- Maroowo, 2008: *Dewtere habaruuji Maroobe*. Dewtere Maroowo Lamba 004. Online at: <http://partners.cta.int/UDOPER/Documents/BEYDAARI%20%20MAROUBE.pdf> (accessed 28/03/15).*
- Martin G.J. 1995: Collecting and identifying plants: 28–59 in Martin G.J. (ed), *Ethnobotany: A method manual*. Dordrecht: Springer Science & Business Media.
- Marty A. 1990: Les organisations coopératives en milieu pastoral: héritage et enjeux. *Cahiers des Sciences humaines* 26, 1–2: 121–135.
- Marty A., Bonnet B., Guibert B. 2006: *La mobilité pastorale et sa viabilité: entre atouts et défis*. Note thématique 3. Montpellier: IRAM. Online at: http://www.museum.agropolis.fr/pages/savoirs/mobilite_pastorale/note_thematique_iram_03.pdf (accessed 12/10/17).
- Marty P. 1926: *Etude su l'Islam au Dahomey: le Bas-Dahomey et le Haut-Dahomey*. Paris: Ernest Leroux.
- MCA-Benin, 2008: *Sélection des villages PFR des dix premières communes*. Rapport de synthèse. Cotonou: Projet Accès au Foncier (PAF)/MCA-Bénin.

- MCA-Benin, 2011: *Actualités – Réalisation de 300 Plans Fonciers Ruraux par MCA-Bénin: Les premiers PFR et CFR remis aux populations bénéficiaires*. Online at: <https://web.archive.org/web/20110221112324/http://www.mcabenin.bj/actualites/r%C3%A9alisation-de-300-plans-fonciers-ruraux-par-mca-b%C3%A9nin-les-premiers-pfr-et-cfr-remis-aux-> (accessed 10/12/17).
- McCusker B., Weiner D. 2003: GIS representations of nature, political ecology, and the study of land use and land cover change in South Africa: 201–218 in Zimmerer K.S., Bassett T.J. (eds), *Political ecology: an integrative approach to geography and environment-development studies*. New York: The Guilford Press.
- MCRI, 2009: *Charte des Organisations de la Société Civile du Bénin*. Programme Organisations de la Société Civile Appuyées et Renforcées (OSCAR). Cotonou: Ministère en Charge des Relations avec les Institutions (MCRI).
- Meenink H.J.W. 2013a: Un contexte de changements institutionnels: 17–29 in Wennink B., Meenink H., Djihoun M. (eds), *La filière coton tisse sa toile au Bénin. Les organisations de producteurs étoffent leurs services aux exploitations agricoles familiales*. Amsterdam: SNV/KIT.
- Meenink H.J.W. 2013b: Faire pression pour une politique agricole et une gouvernance de la filière coton propices aux exploitations familiales: 67–77 in Wennink B., Meenink H., Djihoun M. (eds), *La filière coton tisse sa toile au Bénin. Les organisations de producteurs étoffent leurs services aux exploitations agricoles familiales*. Amsterdam: SNV/KIT.
- MEF, 2010: *Evaluation ex-ante de la mise en œuvre des stratégies de relance du pôle coton-textile au Bénin*. Rapport final. Cotonou: Ministère de l'Économie et des Finance (MEF).
- MEHU, 2012: *Conférence des Nations Unies sur le Développement Durable (RIO+20): Document d'information sur le développement durable au Bénin*. Cotonou: Ministère de l'Environnement, de l'Habitat et de l'Urbanisme (MEHU).
- Menbere G., Skjerdal T.S. 2008: The potential of *dagu* communication in north-eastern Ethiopia. *Media Development* 1: 19–21.
- Mendras H. 1976: *Sociétés paysannes: Éléments pour une théorie de la paysannerie*. Paris Armand Colin.
- MEPN, 2010a: *Plan d'aménagement participatif de la forêt classée de l'Alibori Supérieur 2010–2019: Volume I (Description du plan & Manuel des procédures)*. Cotonou: MEPN/PGFTR.
- MEPN, 2010b: *Plan d'Aménagement Participatif de la forêt classée des Trois Rivières 2010–2019: Volume I (Description du plan & Manuel des procédures)*. Cotonou: MEPN/PGFTR.
- Mestre C., Tomety S.-N. 2004: *Etat des lieux de la situation de la société civile au Bénin et orientations pour le renforcement de ses capacités*. Lyon: Centre International d'Études pour le Développement Local (CIEDEL).

- Minch M. 2011: Political ecology: 863–865 in Chatterjee D.K. (ed), *Encyclopedia of global justice*. Dordrecht: Springer.
- Mohamed Salih M.A. 1995: Pastoralist Migration to Small Towns in Africa: 181–196 in Baker J., Aina T.A. (eds), *The migration experience in Africa*. Uppsala: Nordiska Afrikainstitutet.
- Molony T. 2006: 'I don't trust the phone; it always lies': trust and information and communication technologies in Tanzanian micro-and small enterprises. *Information Technologies and International Development* 3, 4: 67–83.
- Molony T. 2009: Trading places in Tanzania: Mobility and marginalization at a time of travel-saving technologies: 92–109 in De Bruijn M., Nyamnjoh F.B., Brinkman I. (eds), *Mobile phones: the new talking drums of everyday Africa*. Leiden: Langaa & African Studies Centre.
- Monde, P. H. M. 2008: Evaluation des besoins en information agricole dans les Etats du Groupe Afrique-Caraïbes-Pacifique (ACP): Etude sur Bénin. Wageningen: CTA. Online at: <http://hdl.handle.net/10568/58353> (accessed 10/12/17).
- Mongbo R.L. 2000: Le développement local et les courtiers: Concepts et réalités d'un phénomène social au Bénin: 217–240 in Bierschenk T., Chauveau J.-P., Olivier de Sardan J.-P. (eds), *Courtiers en développement: les villages africains en quête de projets*. Paris: APAD & Karthala.
- Moritz M. 2003: *Commoditization and the pursuit of piety: the transformation of an African pastoral system*. Doctoral Dissertation. Los Angeles: University of California.
- Moritz M., Kyle B.R., Nolan K.C., Patrick S., Shaffer M.F., Thampy G. 2009: Too many people and too few livestock in West Africa? An evaluation of Sandford's thesis. *The Journal of Development Studies* 45, 7: 1113–1133.
- Mortimore M. 2003: Is there a new paradigm of dryland development? *Annals of Arid Zones* 42, 3–4: 459–481.
- Mortimore M. 2005: Dryland development: success stories from West Africa. *Environment* 47, 1: 10–21.
- Mortimore M., Adams W.M. 1998: Farming intensification and its implications for pastoralism in northern Nigeria: 262–273 in Hoffmann I. (ed), *Prospects of pastoralism in West Africa*. Giessen: Wissenschaftliches Zentrum Tropeninstitut Giessen/Förderverein Tropeninstitut Giessen.
- Mortimore M., Adams W.M. 1999: *Working the Sabel: environment and society in northern Nigeria*. London: Routledge.
- Morton J. 2006: Conceptualising the links between HIV/AIDS and pastoralist livelihoods. *The European Journal of Development Research* 18, 2: 235–254.
- Mounier E. 2007: *L'éveil de l'Afrique noire (1948)*. Paris: Presses de la Renaissance.
- MTEFP-OIT, 2010: *Programme pays pour la promotion du travail décent au Bénin 2010–2015*. OIT/Ministère du Travail et de la Fonction Publique. Online at: http://www.ilo.org/wcmsp5/groups/public/---africa/---ro-addis_ababa/documents/publication/wcms_461893.pdf (accessed 10/12/17).

- Muto M., Yamano T. 2009: The impact of mobile phone coverage expansion on market participation: Panel data evidence from Uganda. *World Development* 37, 12: 1887–1896.
- Neubert D. 2000: Le rôle des courtiers locaux dans le système du développement: quelques expériences de «projets d'autopromotion» en Afrique de l'Est: 241–257 in Bierschenk T., Chauveau J.-P., Olivier de Sardan J.-P. (eds), *Courtiers en développement: les villages africains en quête de projets*. Paris: APAD & Karthala.
- Niamir-Fuller M. 1999: *Managing mobility in African rangelands, the legitimization of transhumance*. London: Intermediate Technology Publications.
- NICHE-Benin, 2014: *Atelier de diagnostic des exploitations agricoles et de l'analyse des besoins de formation des cadres du secteur agricole pour prendre en compte les enjeux de sécurité alimentaire dans un contexte de changement climatique*. Rapport Projet NICHE/BEN/196. Parakou: Université de Parakou.
- Nilsson J., Salazar N.B. 2015: Embedded and re-purposed technologies: Human mobility practices in Maasailand. *Mobilities* 2015: 1–17.
- Nouatin G., Amouzouvi H.D. Dedjan J. 2014a: Climate change and farmer's perception of climatic evolution in Alibori department in Benin. *International Journal of Research in Earth & Environmental Sciences* 1, 4: 1–9.
- Nouatin G., Moumouni I., Baco M.N., Edja H., Dedjan J. 2014b: Climate changes and progression of Agricultural practices in North Benin. *International Journal of Agricultural Economics, Extension and Rural Development* 2, 1: 17–26.
- Noudegbessi F.G. 2011: *Le livre blanc de politique foncière et domaniale*. Cotonou: Ministère de l'Urbanisme, de l'Habitat, de la Réforme Foncière et de la Lutte contre l'Erosion Côtière (MUHRFLEC).
- Nouvelle Expression, 2015: *Positionnement sur la liste FCBE dans la 2ème circonscription électorale: Yayi crée un nouveau foyer de tension à Gogounou*. In Nouvelle Expression (09/03/15). Online at: <https://web.archive.org/web/20150317023955/http://nouvelle-expression.org/article-524.html> (accessed 10/12/17).
- Okabe A. 2006: *GIS-based studies in the humanities and social sciences*. London: Taylor & Francis.
- Olenasha W. 2004: Pastoral Parliamentary Groups in Eastern Africa (PPG's): A new means of policy advocacy is born. *Programme on Reinforcement of Pastoral Civil Society in East Africa/Quarterly Newsletter of RECONCILE/ IIED* 7: 6–7.
- Olivier de Sardan J.-P. 1995: La politique du terrain. Sur la production des données en anthropologie, *Enquête* 1: 71–112.
- Olivier de Sardan J.-P. 2003: *L'enquête socio-anthropologique de terrain: synthèse méthodologique et recommandations à usage des étudiants*. Etudes et Travaux 13. Niamey: LASDEL.

- Olivier de Sardan J.-P. 2008: *La rigueur du qualitatif: Les contraintes empiriques de l'interprétation socio-anthropologique*. Louvain La Neuve: Academia Bruylant.
- Olivier de Sardan J.-P. 2015: *Epistemology, fieldwork, and anthropology/translated by Antoinette Tidjani Alou*. New York: Palgrave Macmillan.
- Olivier de Sardan J.-P., Bierschenk T. 1993: Les courtiers locaux du développement. *Bulletin de l'APAD* 5. Online at: <http://apad.revues.org/3233> (accessed 01/12/15).
- Olson M. 1978: *The logic of collective action: public goods and the theory of the group*. Cambridge: Harvard University Press.
- Onibon P. 2004: *Capitalisation et évaluation des marchés à bétail autogérés au nord du Bénin: Articulation avec le développement local*. Forum «Accès au marché des produits agricoles», 12–13 octobre 2004. Cotonou: Inter-Réseaux Développement Rural & Centre Technique de coopération Agricole et rurale (CTA).
- Orou Guetido M.D. 2012: *Les marchés à bétail autogérés: le cas du RLMS-Bénin/ ANOPER*. Communication PowerPoint ANOPER, Sixième Sommet Africités Dakar, 4–8 Décembre 2012.
- Ostrom E. 1990: *Governing the commons: the evolution of institutions for collective action*. Cambridge: Cambridge University Press.
- Ostrom E., Dietz T., Dolsak N., Stern P. 2002: *The drama of the commons*. Washington: National Academy Press.
- Oumarou-Ibrahim H. 2011: Using Mbororo herders' traditional knowledge: Research summary. *Joto Africa* 7, August 2011.
- Paavola J., Adger W.N. 2006: Fair adaptation to climate change. *Ecological Economics* 56, 4: 594–609.
- PAC, 2009: *Evolution du trafic marchandises: période 1999 à 2008*. Cotonou: Port Autonome de Cotonou (PAC).
- PAFILAV, 2014: *Etude des filières lait et viande*. Rapport synthèse définitif/Septembre, 2014. Cotonou: Projet d'Appui aux Filières Lait et Viande (PAFILAV)/ MAEP.
- PANA-Benin, 2008: *Programme d'Action National d'Adaptation aux Changements Climatiques du Bénin (PANA)*. Cotonou: CCNUCC, PNUD & MEPN.
- Parker R.N., Asencio E.K. 2009: *GIS and spatial analysis for the social sciences: coding, mapping and modeling*. London: Routledge.
- PDC1 Gogounou, 2004: *Plan de Développement Communal de Gogounou: 2005–2009*. Gogounou: Mairie de Gogounou.
- PDC2 Gogounou, 2010: *Gogounou, pôle sous-régional du commerce de bétail. Plan de Développement Communal de Gogounou, deuxième génération – 2011–2015*. Gogounou: Mairie de Gogounou.
- Peet R., Watts M. 1996: *Liberation ecologies: environment, development and social movements*. London: Routledge.

- Pelckmans L. 2009: Phoning anthropologists: The mobile phone's (re-)shaping of anthropological research: 23–49 in De Bruijn M. Nyamnjoh F.B., Brinkman I. (eds), *Mobile phones: the new talking drums of everyday Africa*. Leiden: Langaa & African Studies Centre.
- Pelican M. 2009: Complexities of indigeneity and autochthony: an African example. *American Ethnologist* 36, 1: 52–65.
- Peluso N.L. 1992: *Rich forests, poor people: resource control and resistance in Java*. Berkeley: University of California Press.
- Peluso N.L. 2005: Seeing property in land use: Local territorializations in West Kalimantan, Indonesia. *Geografisk Tidsskrift – Danish Journal of Geography* 105, 1: 1–15.
- Peluso N.L., Lund C. 2011: New frontiers of land control: Introduction. *The Journal of Peasant Studies* 38, 4: 667–681.
- Peluso N.L., Watts M. 2001: *Violent environments*. New York: Cornell University Press.
- Pesche D., Barbedette L. 2004: *Formations professionnelles rurales en Afrique subsaharienne: Prendre en compte les modes d'apprentissages paysans*. Paris: Inter-Réseaux Développement Rural.
- Pfaff J. 2009: The mobility of a mobile phone: Examining 'Swahiliness' through an object's biography: 134–150 in De Bruijn M. Nyamnjoh F.B., Brinkman I. (eds), *Mobile phones: the new talking drums of everyday Africa*. Leiden: Langaa & African Studies Centre.
- Pfaffenberger B. 1992: Social Anthropology of Technology. *Annual Review of Anthropology* 21: 491–516.
- Pinch T.J., Bijker W.E. 1984: The social construction of facts and artefacts: or how the sociology of science and the sociology of technology might benefit each other. *Social Studies of Science* 14, 3: 399–441.
- Pinch T.J., Bijker W.E. 1986: Science, relativism and the new sociology of technology: reply to Russell. *Social Studies of Science* 16, 2: 347–360.
- Pirotte G., Poncelet M. 2003: Société civile et nouvelle gouvernance au Bénin: quelques réflexions illustrées à partir de l'analyse du nouveau secteur ONG à Cotonou. *Bulletin de l'APAD* 26. Online at: <http://apad.revues.org/3573> (accessed 23/08/15).
- Piven F.F., Cloward, R.A. 1979: *Poor people's movements: Why they succeed, how they fail*. New York: Vintage.
- Plagbeto C.U. 2015: *Lancement des activités académiques de l'ENSAP: un centre universitaire agro-pastoral ouvre ses portes à Gogounou*. In La Nation (24/03/15). Online at: <https://www.lanationbenin.info/index.php/societe-2/146-societe/8292-lancement-des-activites-academiques-de-l-ensap-un-centre-universitaire-agro-pastoral-ouvre-ses-portes-a-gogounou> (accessed 10/12/17).
- Pochet F. 2014: Discourse analysis of nature conservation policies in Africa: a Beninese case study. *EchoGéo* 29. Online at: <http://echogeo.revues.org/13964> (accessed 25/11/15).

- Poortinga W., Spence A., Whitmarsh L., Capstick S., Pidgeon N. F. 2011: Uncertain climate: An investigation into public scepticism about anthropogenic climate change. *Global Environmental Change* 21, 3: 1015–1024.
- Pourtier R. 2005. Les âges de la territorialité: 39–46 in Antheaume B., Giraut F. (eds), *Le territoire est mort, Vive les territoires! Une re(fabrication) au nom du développement*. Paris: IRD Editions.
- Powdermaker H. 1966: *Stranger and Friend: the way of an Anthropologist*. New York: Norton & Company.
- PSRSA/MAEP, 2011: *Plan Stratégique de Relance du Secteur Agricole (PSRSA)*. Cotonou: Ministère de l'Agriculture, de l'Élevage et de la Pêche (MAEP).
- Purnomo M. 2011: *Governing Resources in a Changing Environment: Local Responses in Contemporary Rural East Java, Indonesia*. Göttingen: Universitätsverlag Göttingen.
- Quarles van Ufford P. 1999: *Trade and traders: the making of the cattle market in Benin*. Amsterdam: Thela Thesis.
- Quinlan M. 2005: Considerations for collecting freelists in the field: examples from ethobotany. *Field Methods* 17, 3: 219–234.
- Ramisch J. 1996: *The "new pastoralism" and other paradigms: agricultural, ecological and social implications of changing livestock ownership in the Sahel*. Norwich: School of Development Studies/University of East Anglia.
- Ramisch J. 1998: *Cattle, carts and cotton: livestock and agricultural intensification in southern Mali*. Doctoral Dissertation. Norwich: University of East Anglia.
- Ramisch J. 1999: *The long dry season: crop–livestock linkages in southern Mali*. IIED/ Drylands Issue Paper E88. Online at: <http://pubs.iied.org/pdfs/7413IIED.pdf> (accessed 05/05/15).
- Rass N. 2006: *Policies and strategies to address the vulnerability of pastoralists in sub-Saharan Africa*. Working Paper Series 37. Rome: FAO/PPLPI.
- RBM, 2010: *Rapport général du forum sous régional sur la transhumance transfrontalière*. Atelier Régional du Réseau Billital Maroobe (RBM), Gogounou, 14–16 Avril, 2010. Rapport version finale. Niamey: RBM.
- RBM, 2015: *Réseau des organisations d'éleveurs et pasteurs de l'Afrique de l'Ouest – Réseau Billital Maroobe: Historique-Vision-Mission-Objectif*. Online at: <http://www.maroobe.com/> (accessed 10/12/17).
- Republic of Chad, 2013: *Plateforme des acteurs du développement pastoral au Tchad*. Online at: <http://www.pplateforme-pastorale-tchad.org/classified/Plaquette-4.pdf> (accessed, 21/07/15).
- Ribot J.C. 1998: Theorizing access: forest profits along Senegal's charcoal commodity chain. *Development and change* 29: 207–341.
- Ribot J.C., Peluso N.L. 2003: A theory of access. *Rural Sociology* 68, 2: 153–181.
- Rip A., Schot J.W. 2002: Identifying loci for influencing the dynamics of technological development: 155–172 in Sørensen K.H. Williams R. (eds), *Shaping technology, guiding policy: concepts, spaces and tools*. Cheltenham: Edward Elgar Publishing.

- Robbins P. 2012: *Political ecology: critical introduction to geography (Second Edition)*. Oxford: Wiley-Blackwell.
- Rosier B. 2009: Des couloirs pastoraux pour la paix. *Monde-L'Information Agricole* 831: 36–37.
- Rouillé d'Orfeuil H. 1984: *Coopérer autrement: l'engagement des organisations non gouvernementales aujourd'hui*. Paris: L'Harmattan.
- Russell S., Williams R. 2002: Social Shaping of Technology: frameworks, findings and implications for policy, with glossary of social shaping concepts: 35–112 in Sørensen K.H. Williams R. (eds), *Shaping technology, guiding policy: concepts, spaces and tools*. Cheltenham: Edward Elgar Publishing.
- Sahlins M.D. 1963: Poor man, rich man, big-man, chief: political types in Melanesia and Polynesia. *Comparative Studies in Society and History* 5, 3: 285–303.
- Saizonou J. 2009: Quand l'Etat motorise des exploitations agricoles... *Grain de Sel* 48: 28–29.
- Saleh O.M. 2011: L'Élevage transhumant au Tchad: Contraintes et actions en cours pour la sécurisation des systèmes pastoraux: 39–44 in Alfaroukh I.O., Avella N., Grimaud P. (eds), *La politique sectorielle du pastoralisme au Tchad: Quelles orientations?: Actes du colloque national*. N'Djaména: AFD, EU & République du Tchad.
- Salzmann U., Hoelzmann P. 2005: The Dahomey Gap: an abrupt climatically induced rain forest fragmentation in West Africa during the late Holocene. *The Holocene* 15:190–199.
- Sandford S. 2006: *Too many people, too few livestock: the crisis affecting pastoralists in the Greater Horn of Africa*. Future Agricultures Consortium debate. Brighton: Institute of Development Studies (IDS)/University of Sussex.
- Sandford S. 2011: *Pastoralists and irrigation in the Horn of Africa: Time for a rethink?* Paper presented at the International Conference on the Future of Pastoralism 21–23 March 2011.
- Sangare B. 2010: *Peuls et mobilité dans le cercle de Douentza: l'espace social et la téléphonie mobile en question*. Mémoire de Maîtrise. Bamako: FLASH/Université de Bamako.
- Santoir C. 1994: Décadence et résistance du pastoralisme. Les Peuls de la vallée du fleuve Sénégal. *Cahiers d'Etudes africaines* 133–135, XXXIV–1–3: 231–263.
- Sargent C., Bass S. 1992: *Plantation politics: forest plantations in development*. London: Earthscan.
- Schareika N. 2001a: Environmental knowledge and pastoral migration among the Wodaabe of South-Eastern Niger. *Nomadic Peoples* 5, 1: 65–88.
- Schareika N. 2001b: *Seasonal livestock migration and grazing potentials in south-east Niger*. Special Research Program 308, Atlas of Natural and Agronomic Resources of Niger and Benin. Hohenheim: University of Hohenheim.
- Schareika N. 2004: Bush for beasts. Lake Chad from the nomadic Wodaabe point of view: 171–190 in Krings M., Platte E. (eds), *Living with the Lake*. Köln: Rüdiger Köppe Verlag.

- Schareika N., Graef F., Moser M., Becker K. 2000: Pastoral migration as a method of goal-oriented and site-specific animal nutrition among the Wodaabe of south-eastern Niger. *Die Erde* 131, 4: 311–329.
- Schein L. 2000: *Minority rules: the Miao and the feminine in China's cultural politics*. Durham: Duke University Press.
- Schepp S. 1989: *Technische und konsumtive Innovationen bei den Fulbe Nordbenins*. Exkursionsbericht. Berlin: Institut für Ethnologie/Freie Universität Berlin.
- Schlee G. 2000: Introduction: Une ethnicité dans des contextes nouveaux: 7–14 in Diallo Y., Schlee G. (eds), *L'ethnicité peule dans des contextes nouveaux: la dynamique des frontières*. Paris: Karthala.
- Schmitz J. 1999: Préface (II), Joutes de langue et figures de style: 19–31 in Botte R., Boutrais J., Schmitz J. (eds), *Figures peules*. Paris: Karthala.
- Schönegg G., Martel P., Sano B., Noufou S., Zeh M. 2006: *Les conflits liés à la transhumance transfrontalière entre le Niger, le Burkina Faso et le Bénin*. Bonn: Service Allemand de Développement (DED).
- Schritt J. 2015: The “protests against Charlie Hebdo” in Niger: A background analysis. *Africa Spectrum* 50, 1: 49–64.
- Scoones I., Graham O. 1994: New directions for pastoral development in Africa. *Development in Practice* 4, 3: 188–198.
- Scott J.C. 1990: *Domination and the arts of resistance: hidden transcripts*. New Haven: Yale University Press.
- SCRIP, 2010: *Stratégie de croissance pour la réduction de la pauvreté (SCRIP 2011–2015)*. Cotonou: République du Bénin.
- Sedjro M.M.A., Sanni-Agata, L. 2002: *Analyse du secteur de l'anacarde: situation actuelle et perspective de développement*. Cotonou: Centre du Commerce International (CCI), CNUCED & OMC.
- Shengli Z. 2012: *Coopération entre la Chine et le Bénin: Tao Weiguang retrace les grands axes de 40 ans d'amitié*. In *Le Matinal* (31/12/12). Online at: <http://www.beninsite.net/spip.php?article8957> (accessed 06/03/15).*
- Sife S.A., Kiondo E., Lyimo-Macha G.J. 2010: Contribution of mobile phones to rural livelihoods and poverty reduction in Morogoro Region, Tanzania. *The Electronic Journal of Information Systems in Developing Countries* 42, 3: 1–15.
- Sihm P. 1989: *Pastoral associations in West-Africa: experience and future strategy*. Washington: The World Bank.
- Sikor T., Lund C. 2009: Access and property: A question of power and authority. *Development and Change* 40, 1: 1–22.
- SIMPROMEAT-Benin, 2014: *Revue documentaire sur la filière bétail-viande et la chaîne de valeur viande*. Abomey-Calavi: USAID, CORAF-WECARD & FSA-UAC.
- Singbo A., Savi A., Sodjinou E. 2004: *Etude du système de commercialisation des noix d'anacarde dans le département des Collines au Bénin*. Rapport technique final. Cotonou: Institut National des Recherches Agricoles du Bénin (INRAB).

- Sinzogan C. 2000: *Evaluation du taux de change réel du Bénin*. Document de travail no. 99/003. Cotonou: Cellule d'Analyse de Politique Economique (CAPE).
- Sismondo S. 2010: *An introduction to science and technology studies*. Oxford: John Wiley & Sons.
- Slate Afrique, 2012: *Bénin: Pourquoi la coopération avec la Chine est impopulaire*. In Slate Afrique (22/06/12). Online at: <http://www.slateafrique.com/89711/benin-la-chine-sur-la-sellette-cooperation> (accessed 06/03/15).
- Smith M.G. 1966: The Jihad of Shefu dan Fodio: Some problems: 408–424 in Lewis I.M. (ed), *Islam in Tropical Africa*. London: Oxford University Press for IAI.
- Snow D.A., Rochford Jr.E.B., Worden S.K., Benford R.D. 1986: Frame alignment processes, micromobilization, and movement participation. *American Sociological Review* 51, 4: 464–481.
- SNU-Benin, 2014: *Plan Cadre des Nations Unies pour l'Assistance au Développement UNDAF 2014–2018/Bénin*. Cotonou: Système des Nations Unies (SNU).
- Sonon B. 2011: *Les organisations de la société civile et le renforcement démocratique: le cas du Bénin*. In Afrique Gouvernance, Fiche BIP no.906, 6ème séance du forum multi-acteurs sur la gouvernance au Mali (23/01/11). Online at: http://base.afrique-gouvernance.net/docs/les_osc_et_le_renforcement_de_la_d_mocratie_le_cas_du_b_nin2.pdf (accessed 29/09/15).
- SOS-Faim, 2006: Les marchés de bétail autogérés: un exemple béninois. *Dynamiques Paysannes* 10, juillet 2006.
- SOS-Faim, 2014: *L'expérience tournée vers le futur*. Rapport d'activités 2013, SOS-Faim Belgique/SOS Faim Luxembourg. Online at: <https://www.sosfaim.lu/wp-content/uploads/2014/09/ssf-ra-20141.pdf> (accessed 10/12/17).
- Sounon K., Ickowicz A., Lesnoff M., Messad S., Houinato M. 2013: Production bovine dans le bassin de la Donga (nord Bénin) dans un contexte de changements multiples. *Rencontres autour des recherches sur les ruminants* 20: 297.
- Sperling L., Galaty J.G. 1990: Cattle, culture, and economy: dynamics in East African pastoralism: 69–98 in Galaty J.G., Johnson D.L. (eds), *The world of pastoralism: herding systems in comparative perspective*. New York: The Guilford Press.
- Spier R. 1970: *From the hand of man: primitive and preindustrial technologies*. Boston: Houghton-Mifflin.
- Squires V.R., Sidahmed A.E. 1998: *Drylands: sustainable use of rangelands into the Twenty-First Century*. Technical Report Series. Rome: IFAD.
- Stenning D.J. 1957: Transhumance, migratory drift, migration; patterns of pastoral Fulani nomadism. *Journal of the Anthropological Institute of Great Britain and Ireland* 87, 1: 57–73.
- Stenning D.J. 1959: *Savannah Nomads: A Study of the Wodaabe Pastoral Fulani of Western Bornu Province, Northern Region, Nigeria*. Oxford: Oxford University Press.

- Stockton G. 2012: Sugar for the tea: assistance and the State of pastoralism in the Horn of Africa. *Pastoralism: Research, Policy and Practice* 2, 6.
- Stonich S. 1996: Integrating socioeconomic and geographic information systems: A methodology for rural development and agricultural policy design: 78–96 in Alderderfer M.S., Maschner H.D.G. (eds), *Anthropology, space, and geographic information systems*. New York: Oxford University Press.
- Stonich S.C. 1993: “*I am destroying the land!*”: *The political ecology of poverty and environmental destruction in Honduras*. Boulder: Westview Press.
- Sutter J.W. 1987: Cattle and inequality: herd size differences and pastoral production among the Fulani of northeastern Senegal. *Africa* 57, 2: 196–218.
- Suttie J.M. 2000: *Hay and straw conservation for small-scale farming and pastoral conditions*. Plant Production and Protection Series 29. Rome: FAO.
- SWAC-OECD/ECOWAS, 2008: *Livestock and regional market in the Sabel and West Africa: Potentials and challenges*. Paris: SWAC, OECD & ECOWAS.
- Swift J. 2006: *Edito: Les défis de la sécurisation de la mobilité pastorale*. Note thématique 3 (July 2006). Montpellier: IRAM. Online at: http://www.museum.agropolis.fr/pages/savoirs/mobilite_pastorale/note_thematique_iram_03.pdf (accessed 10/12/17).
- Swift J., Hamilton K. 2001: Household food and livelihood security: 67–92 in Devereux S., Maxwell S. (eds), *Food security in Sub-Saharan Africa*. London: ITDG Publishing.
- Swift J., Maliki A. 1984: *A cooperative development experiment among nomadic herders in Niger*. London: Overseas Development Institute.
- Syll O. 2005: *La décentralisation en Afrique de l’Ouest: Bénin*. Mémoire de Master, Cercoop/Université de Franche-Comté. Online at: http://www.cercoop.org/IMG/pdf/Fiche_decentr_Benin.pdf (accessed 31/03/15).
- Sylla D. 1989: *The experience of pastoral organizations in African countries*. IIED/ Drylands Programme Issues Envelope no. 3. London: IIED.
- Sylla D. 1999: Les organisations pastorales dans des environnements incertains: 235–264 in Scoones I. (ed), *Nouvelles orientations du développement pastoral en Afrique: vivre dans un environnement incertain*. Paris: Karthala & CTA.
- Tafere K., Teklu G. 2013: From traditional dagu to mobile and media technologies: communication and livelihood change among the afar pastoralists of Ethiopia. *Wudpecker Journal of Sociology and Anthropology* 1, 3: 35–40.
- Takpara A., Moudachirou B.E.-K. 2012: *Diagnostic foncier de la Zone d’Occupation Contrôlée (ZOC) du parc national de la Pendjari en prélude aux opérations de sécurisation*. Rapport technique définitif de mission. Cotonou: FI-ProAgri.
- Talle A. 1987: Women as heads of houses: the organization of production and the role of women among pastoral Maasai in Kenya. *Ethnos* 52, 1–2: 50–80.
- Talle A. 1988: *Women at a loss: changes in Maasai pastoralism and their effects on gender relations*. Stockholm Studies in Social Anthropology 19. Stockholm: University of Stockholm.

- Talle A. 1999: Pastoralists on the border: Maasai poverty and the development discourse in Tanzania: 106–124 in Anderson D.M., Broch-Due V. (eds), *The poor are not us: poverty and pastoralism in Eastern Africa*. Oxford: James Currey.
- Tandjiekpon A.M. 2010: *Analyse de la chaîne de valeur du secteur anacarde du Bénin: Initiative du Cajou Africain (iCA)*. Eschborn: GIZ.
- Tchiwanou M. 2003: *Plan Forestier National du Bénin: Benin National Report. Fourth Session of the United Nations Forum on Forests (08/08/03)*. Online at: http://www.un.org/esa/forests/pdf/national_reports/unff4/benin.pdf (accessed 21/11/14).
- Tenté B.H.A, Toko Imorou I., Lougbegnon T., Boni M.Y., 2013: *Elaboration des cartes nationales et départementales de transhumance au Bénin*. Rapport final. Cotonou: Ministère de l'Intérieur, de la Sécurité Publique et des Cultes (MISPC).
- The Ecologist, 1993: *Whose common future? Reclaiming the commons*. London: Earthscan.
- The Economist, 2015: *The Horn of Africa livestock market system: lessons from elsewhere*. London: The Economist Intelligence Unit & MercyCorps.
- Thébaud B., 1988: *Élevage et développement au Niger: quel avenir pour les éleveurs au Sahel?*. Genève: Bureau International du Travail (BIT).
- Thone F. 1935: Nature rambling: we fight for grass. *The Science Newsletter* 27: 717.
- Tidjani Alou M. 2000: Courtiers malgré eux: Trajectoires de reconversion dans l'association Timidria au Niger: 279–304 in Bierschenk T., Chauveau J.-P., Olivier de Sardan J.-P. (eds), *Courtiers en développement: les villages africains en quête de projets*. Paris: APAD & Karthala.
- Tidjani M.A., Akponikpè P.B.I. 2012: Évaluation des stratégies paysannes d'adaptation aux changements climatiques: cas de la production du maïs au Nord-Bénin. *African Crop Science Journal* 20, 2: 425–441.
- Tiomoko D. 2014: *Gestion de la réserve de biosphère de la Pendjari: modes de gestion et proposition d'un modèle conceptuel de durabilité*. Thèse de Doctorat Unique. Abomey-Calavi: Université d'Abomey-Calavi.
- Tomaselli K.G., Dyll L., Francis M. 2008: ““Self” and “Other”: Auto-Reflexive and Indigenous Ethnography”: 347–372 in Denzin N.K., Lincoln Y.S., Smith L.T. (eds), *Handbook of critical and indigenous methodologies*. Los Angeles: Sage.
- Tonah S. 2003: Integration or exclusion of Fulbe pastoralists in West Africa: a comparative analysis of interethnic relations, state and local policies in Ghana and Côte d'Ivoire. *The Journal of Modern African Studies* 41, 1: 91–114.
- Toulmin C. 1983: *Herders and farmers or farmer-herders and herder-farmers?*. Pastoral Development Network Paper. London: Overseas Development Institute.
- Touré A. 1985: *Les petits métiers à Abidjan: l'imagination au secours de la conjoncture*. Paris: Karthala.

- Toutain B., Marty A., Bourgeot A., Ickowicz A., Lhoste P., Ancey V., Begni G., Bellefontaine R., Bied-Charreton M., Bonnet B., Chassany J.P., Cornet A., Dutilly-Diane C., Malagnoux M., Wane A. 2012: *Pastoralisme en zone sèche: Le cas de l'Afrique subsaharienne*. Les Dossiers Thématiques 9. Montpellier: CSFD.
- Triaud J-L., Robinson D. 2000: *La Tijâniyya: une confrérie musulmane à la conquête de l'Afrique*. Paris: Karthala.
- TSE, 2012: *Innovation technologique: Système innovant d'information et de collecte de données sur les marchés agricoles au Niger*. Rapport Annuel 2012. Pau: Télécoms Sans Frontières (TSF).
- Tuck R. 1979: Is there a free-rider problem, and if so, what is it?: 147–156 in Harrison R. (ed), *Rational action: studies in philosophy and social science*. Cambridge: Cambridge University Press.
- Tuck R. 2008: *Free riding*. Cambridge: Harvard University Press.
- UCOPER-Banikoara, 2014: *Rapport annuel de progrès de l'Ucoper-Banikoara*. Banikoara: UCOPER-Banikoara.
- UCOPER-Gogounou, 2006: *Charte de partenariat entre la commune de Gogounou, l'UCOPER et l'ALGMB*. Gogounou: UCOPER-Gogounou.
- UCOPER-Gogounou, 2013: *Rapport annuel*. Gogounou: UCOPER-Gogounou.
- UDOPER B/A, 2007: *L'UDOPER: une OP construite sur la base des marchés à bétail autogérés*. Communication UDOPER, Atelier de Cotonou, 20–22 février 2007. Cotonou: UDOPER Borgou/Alibori.
- UDOPER B/A, 2014: *Rapport annuel de l'UDOPER Borgou-Alibori sur les activités menées dans son POA 2013*. Gogounou: UDOPER Borgou/Alibori.
- UNDP, 2014: *Sustaining human progress: Reducing vulnerabilities and building resilience*. Human Development Report 2014. Online at: <http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf> (accessed 01/02/15).
- UNESCO, 2007: *Making a difference: effective practices in literacy in Africa*. Hamburg: Institute for Lifelong Learning (UIL)/UNESCO.
- UNESCO, 2008: *Histoire de l'humanité: Volume V (1492–1789)*. Paris: Editions UNESCO.
- UNICEF, 2010: *Etude de faisabilité des forages manuels: identification des zones potentiellement favorables*. Practica Foundation-EnterpriseWorks/Vita-Unicef. Online at: [http://www.unicef.org/wash/files/Rapport_final_Forages_manuels_Unicef_\(final\).pdf](http://www.unicef.org/wash/files/Rapport_final_Forages_manuels_Unicef_(final).pdf) (accessed 13/05/15).
- University of Wageningen, 2010: *Capacity Development in Higher Education: Five years involvement of Wageningen UR with NPT and NFP*. Online at: http://www.wereldinwoorden.nl/upload/WUR_capdev.pdf (accessed 29/07/15).
- UNOCHA-PCI, 2007: *The future of pastoralism in Ethiopia*. Addis Ababa: UNOCHA-Pastoralist Communication Initiative (PCI).
- URPA B/A, 2015: *Bonnes pratiques de récoltes et post récolte des noix de cajou*. Rapport de formation des producteurs. Parakou: Union Régionale des Producteurs d'Anacarde (URPA) Borgou/Alibori.

- USCIRF, 2013: *Benin 2013 international religious freedom report*. Washington: United States Commission on International Religious Freedom (USCIRF)/United States Department of State, Bureau of Democracy, Human Rights and Labor. Online at: <http://www.state.gov/documents/organization/222231.pdf> (accessed 01/02/14).
- Van Driel A. 1997: Relations entre agriculteurs et éleveurs: Cohabitation et problèmes majeurs: 127–148 in De Haan L.J. (eds), *Agriculteurs et éleveurs au Nord-Bénin*. Paris: Karthala.
- Van Driel A. 1999: The end of the herding contract: decreasing complementarity between Fulbe pastoralists and Dendi agriculturalists in northern Benin: 191–209 in Azarya V., Breedveld A., De Bruijn M., Van Dijk H. (eds), *Pastoralists under Pressure?: Fulbe Societies Confronting Change in West Africa*. Leiden: Brill.
- Van Driel A. 2002: *Sharing a valley: The changing relations between agriculturalists and pastoralists in the Niger Valley of Benin*. Research Report 64. Leiden: African Studies Centre.
- Van Santen J. 2000: Garder du bétail, c'est aussi un travail: Les relations entre pasteurs peuls et agriculteurs du centre du Bénin et du Nord-Cameroun: 129–159 in Diallo Y., Schlee G. (eds), *L'ethnicité peule dans des contextes nouveaux: la dynamique des frontières*. Paris: Karthala.
- Vandergeest P., Peluso N.L. 1995. Territorialization and state power in Thailand. *Theory and Society* 24, 3: 385–426.
- Vigne M., Blanfort V., Vayssières J., Lecomte P., Steinmetz P. 2015: Contraintes sur l'élevage dans les pays du Sud: les ruminants entre adaptation et atténuation: 123–135 in Torquebiau E. (ed), *Changement climatique et agricultures du monde*. Versailles: Editions Quae.
- Vinck D. 2012: Manières de penser l'innovation: 125–148 in Miège B., Vinck D. (eds), *Les masques de la convergence: enquêtes sur sciences, industries et aménagements*. Paris: Editions des Archives Contemporaines.
- Vinck D., Rivera I., Penz B. 2004: Des bonnes raisons d'échouer dans un projet technique: La construction sociale de l'impact. *Sciences de la Société* 61: 123–138.
- Wajcman J. 2000: Reflections on gender and technology studies: In what state is the art? *Social Studies of Science* 30, 3: 447–464.
- Wandera B. 2011: Livestock insurance in northern Kenya: Case study. *Joto Africa* 7, August 2011.
- Wane A., Ancey V., Grosdidier B. 2006: Les unités pastorales du Sahel sénégalais, outils de gestion de l'élevage et des espaces pastoraux. Projet durable ou projet de développement durable? *Développement durable et territoires*, Dossier 8. Online at: <http://developpementdurable.revues.org/3292> (accessed 04/01/13).
- Waters-Bayer A. 1986: Modernizing milk production in Nigeria: Who benefits? *Ceres* 19, 5: 34–39.

- Waters-Bayer A. 1994: Studying pastoral women's knowledge in milk processing and marketing—for whose empowerment? *Agriculture and Human Values* 11, 2/3: 85–95.
- Waters-Bayer A., Bayer W. 1994a: Coming to terms: interactions between immigrant Fulani cattle-keepers and indigenous farmers in Nigeria's subhumid zone. *Cahiers d'Etudes africaines* 133–135, XXXIV–1–3: 213–229.
- Waters-Bayer A., Bayer W. 1994b: *Planning with pastoralists: PRA and more. A review of methods focused on Africa*. Eschborn: GTZ.
- Watts M.J. 1983: *Silent violence: food, famine and peasantry in northern Nigeria*. Berkeley: University of California Press.
- Watts M.J. 2000: Political ecology: 257–274 in Sheppard E., Barnes T.J. (eds), *A companion to economic geography*. Oxford: Blackwell.
- White L. 1990: *Comforts at home: prostitution in colonial Nairobi*. Chicago: The University of Chicago Press.
- Winner L. 2009: Do artifacts have politics?: 251–263 in Kaplan D.M. (ed), *Readings in the philosophy of technology*. Washington: Rowman & Littlefield Publishers.
- Wolf E. 1972: Ownership and Political Ecology. *Anthropological Quarterly* 45, 3: 201–205.
- World Bank, 2005: *Directions in Development: Agricultural growth for the poor: An agenda for development*. Washington: The World Bank.
- World Bank, 2009: *Minding the stock bringing public policy to bear on livestock sector development*. Report no. 44010-GLB. Washington: The World Bank.
- Yabi I., Boko M., Sinsin B. 2010: Cultivated plants in Benin: Growing cashew trees: 216–221 in Sinsin B., Kanpman D. (eds), *Biodiversity Atlas of West Africa, Volume I: Benin*. Cotonou & Frankfurt am Main: BIOTA.
- Yegbemey R.N., Yabi J.A., Boris G., Paraïso A. 2014: Modélisation simultanée de la perception et de l'adaptation au changement climatique: cas des producteurs de maïs du Nord Bénin (Afrique de l'Ouest). *Cahiers Agricultures* 23, 3: 177–187.
- Yembilah R., Grant M. 2014: The political ecology of territoriality: territorialities in farmer–herder relationships in Northern Ghana. *GeoJournal* 79, 3: 385–400.
- Zakari S., Tente B.A.H., Yabi I., Toko Imorou I., Tabou T., Afouda F., N'Bessa B. 2015: Vulnérabilité des troupeaux transhumants aux mutations climatiques: analyse des perceptions et adaptations locales dans le bassin de la Sota à Malanville. *Afrique Science* 11, 3: 211–228.
- Zampaligré N. 2012: *The role of ligneous vegetation for livestock nutrition in the sub-Saharan and Sudanian zones of West Africa: Potential effects of climate change*. Göttingen: Cuvillier Verlag.
- Zampaligré N., Dossa L.H., Schlecht E. 2013: Contribution of browse to ruminant nutrition across three agro-ecological zones of Burkina Faso. *Journal of Arid Environments* 95: 55–64.

Zerah D., Fontaine L. 2012: *Evaluation à mi-parcours du plan décennal de développement du secteur de l'éducation du Bénin (PDDSE 2006–2015)*. Cotonou: DANIDA & AFD.

Zimmerer K.S., Bassett T.J. 2003: *Political ecology: an integrative approach to geography and environment-development studies*. New York: The Guilford Press.

* References marked with an asterisk are no longer available on the internet. Please contact Göttingen University Press for records.

11 Appendix

11.1 Abbreviations and Acronyms

°C	degree Celsius
ACCFP	African Climate Change Fellowship Program
ACCPA	Agent Communal pour le Contrôle des Produits d'origine Animale
ACP	African, Caribbean and Pacific
ADMA	Agence de Développement de la Mécanisation Agricole
AEV	Adduction d'Eau Villageoise
AFD	Agence Française de Développement
AfDB	African Development Bank
AFDI	Agriculteurs Français et Développement International
AFU	Alliance Force dans l'Unité
AIC	Association Interprofessionnelle de Coton
ALGMB	Association Locale de Gestion du Marché à Bétail Autogéré de Gogounou
ALIVE	Partnership for Livestock Development, Poverty Alleviation and Sustainable Growth
ANCB	Association Nationale des Communes du Bénin
ANOPER	Association Nationale des Organisations Professionnelles des Eleveurs de Ruminants
ANR/ECLiS	Agence Nationale de la Recherche / Projet Elevage-Climat- Société
APDA	Afar Pastoralist Development Association
APESS	Association pour la Promotion de l'Elevage en Savane et au Sahel
APIC	Action pour la Promotion des Initiatives Communautaires
APIDEV	Association pour la Promotion des Initiatives de Développe- ment Durable
ARELIMOK.....	Poverty Reduction and Livestock Modernization in Kara- moja
ASECNA	Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar
ASPEB	Action pour la Sauvegarde et la Promotion de l'Elevage au Bénin
ATA	Alpha Tidjani Aboubakar
AU-IBAR.....	African Union Interafrican Bureau for Animal Resources
AVSF	Association de solidarité internationale – Agronomes et Vétérinaires Sans Frontières
B/A	Borgou and Alibori Provinces
BAA.....	Bureau d'Appui aux Artisans
BCEAO	Banque Centrale des Etats de l'Afrique de l'Ouest

BF	Borne Fontaine
BIT	Bureau International du Travail
CAADP	Comprehensive Africa Agriculture Development Program
CAIA	Centrale d'Achat des Intrants Agricoles
CAPE	Cellule d'Analyse de Politique Economique
CARDER	Centre Agricole Régional pour le Développement Rural
CCI	Centre du Commerce International
CD	Compact Disc
CENAGREF	Centre National de Gestion des Réserves de Faunes
CENATEL	Centre National de Télédétection et de Suivi Ecologique
CES	Conseil Economique et Social
Cf.	confer
CFA franc	Franc of the African Financial Community (XOF)
CFR.....	Certificat Foncier Rural
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CNMA	Conseil National de Mécanisation Agricole
CNUCED	Conférence des Nations Unies sur le Commerce et le Développement
CODESRIA	Council for the Development of Social Science Research in Africa
CONORET	Confédération Nationale des Organisations des Eleveurs du Tchad
CORAF/WECARD .	Conseil Ouest et centre Africain pour la Recherche et le développement agricoles / West and Central African Council for Agricultural Research and Development
CTA	Technical Centre for Agricultural and Rural Co-operation
CTAF	Cellule Technique d'Aménagement Forestier
CUMA	Coopérative d'Utilisation des Machines Agricoles
DANIDA	Danish International Development Agency
DDC	Swiss Agency for Development and Cooperation
DED	Deutscher Entwicklungsdienst
DERANA	DERANA-ONG "Groupe Solidarité"
DGDGL.....	Direction Générale de la Décentralisation et de la Gouvernance Locale
DGFRN	Direction Générale des Forêts et des Ressources Naturelles
DOS	Document d'Orientation Stratégique
DSNMA	Document de la Stratégie Nationale de Mécanisation Agricole
DVD	Digital Versatile Disc
ECOWAS	Economic Community of West African States
EISMV	Ecole Inter Etats des Sciences et Médecine Vétérinaires de Dakar

ENSAP	Ecole Nationale Supérieure Agro-Pastorale de Gogounou
EU	European Union
f.	<i>folio</i> (on the next page)
FA	Faculty of Agronomy
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FARM	Fondation pour l'Agriculture et la Ruralité dans le Monde
FCBE	Force Cauris pour un Bénin Emergent
ff.	<i>folios</i> (on the next pages)
FLASH	Faculté des Lettres, Arts et Sciences Humaines
FPM	Forage de Pompes Modernes
FSA	Faculty of Agricultural Sciences
GDP	Gross Domestic Product
GERED	Groupe d'Etudes et de Recherches sur l'Environnement et le Développement
GHA	Greater Horn of Africa
GIS	Geographic Information Systems
GITPA.....	Groupe International de Travail pour les Peuples Autochtones
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (former GTZ)
GPER	Groupement Professionnel des Eleveurs de Ruminants
GPFER	Groupement Professionnel des Femmes Eleveuses de Ruminants).
GPS	Global Positioning Systems
GSM	Global System for Mobile Communications
ha	hectare
HDI	Human Development Index
<i>ibid</i>	<i>ibidem</i> (in the same place)
iCA	Initiative du Cajou Africain
IDP	Internally Displaced Persons
IDRC	International Development Research Centre
IDS.....	Institute of Development Studies
IEMVT	Institut d'Elevage et de Médecine Vétérinaire des Pays Tropicaux
IFPRI	International Food Policy Research Institute
IGN.....	Institut Géographique National
IIED	International Institute for Environment and Development
IITA	International Institute of Tropical Agriculture
INSAE	Institut National de la Statistique et de l'Analyse Economique
IPNC.....	Inspection de la Protection de la Nature et de la Chasse

IRAM	Institut de Recherches et d'Applications des Méthodes de développement
IRD	Institut de Recherche pour le Développement
IRDR	Inter-Réseaux Développement Rural
KAPEPS	Karamoja Peace and Environmental Protection Services
KAWUO	Karamoja Women Umbrella Organization
kg	kilogram
KIT	Royal Tropical Institute
km	kilometer
LEAD	FAO Livestock, Environment and Development initiative
LGCP	Local Government Capacity Programme
<i>loc. cit.</i>	<i>loco citato</i> (in the place cited)
MAA	Inyuat-e-Maa
MADEFO	Matheniko Development Forum
MAEP	Ministère de l'Agriculture, de l'Élevage et de la Pêche
MBA	Marché à Bétail Autogéré
MCA	Millennium Challenge Account
MCRI	Ministère Chargé des Relations avec les Institutions
MDG	Millennium Development Goals
MDGLAAT	Ministère de la Décentralisation, de la Gouvernance Locale, de l'Administration et de l'Aménagement du Territoire
MEF	Ministère de l'Économie et des Finances
MEHU	Ministère de l'Environnement, de l'Habitat et de l'Urbanisme
MEPN	Ministère de l'Environnement et de la Protection de la Nature
MISPC	Ministère de l'Intérieur, de la Sécurité Publique et des Cultes
MP	Member of Parliament
MTFP	Ministère du Travail et de la Fonction Publique
MUHRFLEC	Ministère de l'Urbanisme, de l'Habitat, de la Réforme Foncière et de la Lutte contre l'Erosion Côtière
NGO	Non-Governmental Organization
NICHE	Netherlands Initiative for Capacity development in Higher Education
NPK	Nitrogen, Phosphorus, Potassium (fertilizer)
NPT	Netherlands Programme for Institutional Strengthening of Post-Secondary Education and Training Capacity
NTIC	Nouvelles Technologies de l'Information et de la Communication
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development

OIT /ILO	Organisation Internationale du Travail/ International Labour Organization
OMC	Organisation Mondiale du Commerce
<i>op. cit.</i>	<i>opere citato</i> (in the work cited)
ORTB	Office de Radiodiffusion et Télévision du Bénin
OSD	Orientations Stratégiques de Développement
OSIWA.....	Open Society Initiative for West Africa
PA.....	Programme Annuel
PAC	Port Autonome de Cotonou
PAF	Projet Accès au Foncier
PAFILAV	Programme d'Appui aux Filières Lait et Viande
PANA	Programme d'Action National d'Adaptation aux Changements Climatiques
PAPA	Programme d'Analyse de la Politique Agricole
PAS	Structural Adjustment Program
PASC	Pastoral Affairs Standing Committee
PASDeR	Programme d'Appui au Développement du Secteur Rural
PCI	Pastoralist Communication Initiative
PDC	Plan de Développement Communal
PDDSE	Plan Décennal de Développement du Secteur de l'Education
PDE	Programme de Développement de l'Elevage
PE.....	Political Ecology
PFR	Plan Foncier Rural
PGTRN.....	Projet de Gestion des Terroirs et des Ressources Naturelles
PhD	Philosophiæ Doctor (Doctor of Philosophy)
Plur.	Plural
PNOPPA	Plateforme Nationale des Organisations Paysannes et de Producteurs Agricoles du Bénin
PPA	Pastoral Parliamentary Association
PPAB	Programme de Professionnalisation de l'Agriculture Béninoise
PPG.....	Pastoral Parliamentary Group
PPLPI	FAO Pro-poor Livestock Policy Initiative
PPMA.....	Programme de Promotion de la Mécanisation Agricole
PRESAO	West Africa Food Security Capacity Strengthening and Research Program
PSIJA.....	Programme Spécial d'Insertion des Jeunes dans l'Agriculture
PSRSA	Plan Stratégique de Relance du Secteur Agricole
RBM	Réseau Billital Maroobe – des Organisations d'Eleveurs et Pasteurs de l'Afrique de l'Ouest
RDR	Responsable du Développement Rural
RGPH	Recensement Général de la Population et de l'Habitation

RIPIECSA	Recherche Interdisciplinaire et Participative sur les Interactions entre Ecosystème, Climat et Société en Afrique de l'Ouest
RLMS	Réseau <i>Luumondji Mareefuji Sago</i>
ROPPA	Réseau des Organisations Paysannes et de Producteurs de l'Afrique de l'ouest
SCDA	Secteur Communal de Développement Agricole
SCEPN	Section Communale de l'Environnement et de la Protection de la Nature
SCRP	Stratégie de Croissance pour la Réduction de la Pauvreté
SDA	Spatial Data Analysis
SERHAU-SEM	Society d'Etudes Régionales d'Habitat et d'Aménagement Urbain
SFER	Société Française d'Economie Rurale
SIM	Subscriber Identity Module
SIMPROMEAT	Sustainable Improvement of the Productivity of Meat value chain for food security in West Africa
Sing.	Singular
SNU	Système des Nations Unies
SNV	Netherlands Development Organization
SOCOLAIG	Société Coopérative Laitière de Gogounou
SONAPRA	Société Nationale pour la Promotion Agricole
SOS	Save Our Souls
SRAI	Strengthening Regional Agricultural Integration in West Africa
STS	Science and Technology Studies
SWAC	Sahel and West Africa Club
TCP	Technical Cooperation Programme
TLU	Tropical Livestock Units
TSF	Télécoms Sans Frontières
TV	Television
UAC	University of Abomey-Calavi
UAGPER	Union d'Arrondissement des Groupements Professionnels des Eleveurs de Ruminants
UCOPER	Union Communale des Organisations Professionnelles des Eleveurs de Ruminants
UDOPER	Union Départementale des Organisations Professionnelles des Eleveurs de Ruminants
UGP	Unité de Gestion des Partenariats
UIL	Institute for Lifelong Learning
UIOPE	Union Inter africaine des Organisations Professionnelles d'Eleveurs
UNDP	United Nations Development Programme

UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UP	University of Parakou
URCUMA	Union Régionale des Coopératives d'Utilisation des Machines Agricoles
URPA	Union Régionale des Producteurs d'Anacarde
USCIRF	United States Commission on International Religious Freedom
Vb.	verb
WAEMU	West African Economic and Monetary Union
WAMIP	World Alliance of Mobile Indigenous People
WFP	World Food Programme
WHC	World Herders Council
WU	Wageningen University
WWW	World Wide Web (internet)
ZAE	Zone Agro-Ecologique
ZFD	Civil Peace Service of German Development Cooperation
ZOC	Zone d'Occupation Contrôlée

11.2 Forage species most used by pastoralists in Gogounou²⁶⁰

Formerly used forage species

Fulfulde name	Scientific name
<i>Babusahi</i>	<i>Lonchocarpus laxiflorus</i>
<i>Banuhi/Banuje</i>	<i>Pterocarpus erinaceus</i>
<i>Barkehi/Barkeeje</i>	<i>Piliostigma thonningii</i>
<i>Boboli</i>	<i>Sterculia setigera</i>
<i>Buluude</i>	<i>Pennisetum (pedicellatum, polystachion)</i>
<i>Cakkate</i>	<i>Brachiaria falcifera</i>
<i>Cengelehi</i>	<i>Prosopis africana</i>
<i>Dakorori</i>	<i>Hyperthelia dissoluta</i>
<i>Dilomahi</i>	<i>Stereospermum kunthianum</i>
<i>Dumbaru</i>	<i>Desmodium velutinum</i>
<i>Dumdehi</i>	<i>Ficus platyphylla</i>
<i>Fafalooji</i>	<i>Andropogon tectorum</i>
<i>Feyinare</i>	<i>Hyparrhenia hirta</i>
<i>Gangorowi</i>	<i>Ficus pilosa</i>
<i>Giyehi</i>	<i>Acacia sieberiana</i>
<i>Gumehi/Gumeeje</i>	<i>Vitex doniana</i>
<i>Ibe</i>	<i>Ficus abutilifolia</i>
<i>Ibi</i>	<i>Ficus vallis-choudae</i>
<i>Jokuru</i>	<i>Hyparrhenia involucrata</i>
<i>Kaalayi</i>	<i>Daniellia oliveri</i>
<i>Kahi</i>	<i>Khaya senegalensis</i>
<i>Kekehi/Kekeeje</i>	<i>Ficus glumosa</i>
<i>Koli</i>	<i>Cassia sieberiana</i>
<i>Kuruhi</i>	<i>Bombax costatum</i>
<i>Kuuka</i>	<i>Adansonia digitata</i>
<i>Narukeri</i>	<i>Loxodera ledermannii</i>
<i>Nyankawre</i>	<i>Pupalia lappacea</i>
<i>Nyantari</i>	<i>Andropogon chinensis</i>
<i>Senoore</i>	<i>Andropogon gayanus</i>
<i>Taramantahi</i>	<i>Digitaria horizontalis</i>
<i>Teerina</i>	<i>Alternanthera nodiflora</i>
<i>Warnyanhi</i>	<i>Azzeria africana</i>
<i>Warure</i>	<i>Hyparrhenia rufa</i>

²⁶⁰ This freelist was validated by a Fulani ecologist: Yacoubou Boni of APIDEV-NGO (cf. Chapter 5).

Newly used forage species

Fulfulde name	Scientific name
<i>Batahi</i>	<i>Isberlina doka</i>
<i>Burdabehi</i>	<i>Bridelia ferruginea</i>
<i>Buyki/Buyde</i>	<i>Combretum (collinum, nigricans)</i>
<i>Gogehi</i>	<i>Combretum sericeum</i>
<i>Kaju/Iriboje</i>	<i>Anacardium occidentale (leaves and apples)</i>
<i>Karehi/Kareeje</i>	<i>Vitellaria paradoxa</i>
<i>Konkehi</i>	<i>Detarium microcarpum</i>
<i>Legele</i>	<i>Azadirachta indica</i>
<i>Lekko</i>	<i>Eucalyptus camaldulensis</i>
<i>Lubuyan</i>	<i>Hyptis suaveolens</i>
<i>Mangohi</i>	<i>Mangifera indica</i>
<i>Marbatanahi</i>	<i>Strychnos spinosa</i>
<i>Narehi/Nareeje</i>	<i>Parkia biglobosa</i>

11.3 Glossary

Fulfulde terms

<i>Akayuuje</i> (sing. <i>akayuy</i>)	Cashew (referring to the trees)
<i>Alankaliibe</i> (sing. <i>alankaliijo</i>)	Legal advisor, judicial counselor
<i>Attal</i>	Paths
<i>Azawak</i>	Cattle breed
<i>Baba</i>	Father
<i>Banjibanji</i>	Logging (In the sense of an abuse in tree felling)
<i>Batiiru</i>	Transhumance
<i>Batuure</i>	White people
<i>Blondu dakiten</i>	French cattle breed <i>Blonde d'Aquitaine</i>
<i>Buditol ledde</i>	Woodcutting
<i>Bunaji</i>	Cattle breed
<i>Buto</i>	Keys of mobile phone
<i>Ceede</i>	Money / fund
<i>Ceedodi</i> (sing. <i>ceedol</i>)	Long-range transhumance practiced in dry season
<i>Cirboobe</i> (sing. <i>Sirboowo</i>)	Judge, referee, mediator, umpire
<i>Dagu</i>	Indigenous information system among Afar pastoralists in northeast Ethiopia
<i>Dakume</i>	Dahomey (now Benin) / South Benin / Abomey plateau (depending on the case)
<i>Dakumejo</i>	Dahomey (now Benin) nationals / Benin southerners / Abomey plateau locals (depending on the case)
<i>Danki fudo</i>	Fodder shelf
<i>Danki nyadu nai</i>	Cattle feed shelf
<i>Daribe gite</i>	Awakened or modern Fulani
<i>Dummodi</i> (sing. <i>dummol</i>)	Short-range transhumance practiced in rainy season
<i>Duroobe</i> (sing. <i>duroowo</i>)	Mobile livestock farmers / pastoralists
<i>Egirollegiru</i> (sing. <i>egugo</i> ; vb. <i>egi</i>) .	Long-range migration with intention to return back
<i>Egube</i> (sing. <i>egowo</i>)	Practitioners of <i>egirol</i> migration
<i>Faaba Men</i>	Our blossoming / our development
<i>Fadama</i>	Lowland
<i>Fore</i>	Forest
<i>Fuddo</i>	Forage / fodder, grass, weed, bush
<i>Fulbe</i> (sing. <i>Pullo</i>)	Fulani in Fulfulde
<i>Fulfulde</i>	Language of Fulani/Way of Fulani
<i>Gannukeebe</i> (sing. <i>Gannukeejo</i>) .	Descendants of slaves

<i>Garso</i> (plur. <i>Garsoobe</i>)	Head of transhumance mobility in a given area
<i>Gure</i>	Hamlet
<i>Guyka na'i</i>	Livestock rustling
<i>Haabe</i> (sing. <i>kaado</i>)	Non-Fulani people
<i>Haala Fulbe</i>	Talk of Fulani / secrecy of Fulani
<i>Habbanaaye/ habbana'e</i>	Solidarity institution characterized by a heifer loan between Fulani
<i>Haccabe wuro</i>	Farm-keepers/sedentary Fulani Household
(sing. <i>haccado wuro</i>)	made of elderly people and emptied of able-bodied people
<i>Hakkune Fulbe</i>	Space between Fulani/ secrecy of Fulani
<i>Hoore haala</i>	Editorial
<i>Horejo</i>	Authority / Chief
<i>Horiibe wuro</i>	Sedentary Fulani Household with
(sing. <i>horiido wuro</i>)	able-bodied people
<i>Iriboje</i> (sing. <i>kaju</i>)	Cashew (referring to the leaves and the apples)
<i>Jatigi</i>	Host of Fulani in their new migration areas (also written <i>Jategui</i> , <i>diategui</i> , <i>Jatigui</i> , etc.)
<i>Jihad</i>	Holy war in connection with Islamic faith
<i>Kaborde</i> (sing. <i>haborde</i>)	Herds/or gathering sites of many herds of cattle
<i>Kiisoowel</i>	Chainsaw
<i>Kossam</i>	Milk
<i>Laadi na'i</i>	Livestock passageway
<i>Laamu leydi</i>	Paramount chief / Father of the Nation
<i>Laawol</i>	Way
<i>Laawol Fulfulde</i>	Way of Fulani
<i>Ledde</i> (sing. <i>leggal</i>)	Wood / timber
<i>Lekki fuddo</i>	Herbicide
<i>Luumo</i>	Market
<i>Maroobe</i> (sing. <i>maroowo</i>)	Cattle owners / Non-mobile livestock farmers
<i>Mawdo</i>	Chief
<i>Mawdo leydi</i>	Land chief / highest authority
<i>Na'i</i>	Cattle
<i>Na'i batuure</i>	Western cattle breeds/exotic breeds
<i>Narehi</i>	<i>Parkia biglobosa</i>
<i>Nyinijo</i>	Chief
<i>Pasijo</i>	Friend
<i>Peroll ferol</i> (sing. <i>ferugo</i>)	Permanent and irreversible migration
<i>Perube</i> (sing. <i>perudo</i>) / <i>ferube</i>	Land refugees / practitioners of <i>perol</i> or (sing. <i>ferudo</i>) <i>ferol</i> migration
<i>Potabu</i>	Mobile phone
<i>Potal men</i>	Our assembly / our association

<i>Pulaaku</i>	Way of Fulani
<i>Pular</i>	Language of Fulani
<i>Regi-regi</i>	Chainsaw (referring to the ‘frustrating’ noise of the machine)
<i>Sedeebe</i>	Witness of livestock transactions within an autonomous livestock market
<i>Seenuyon wuro</i>	Fragmented, broken or scattered household
<i>Senteene</i>	Sense of honor (included in the <i>Pulaaku</i>)
<i>Suudu</i>	Houses
<i>Takkore</i> (sing. <i>takkido</i>)	Something / somebody in the vicinity of something or in the neighborhood of somebody (coded language among pastoralists to mean a herd within a forest)
<i>Tampiri</i>	Tant pis (adapted from French language)
<i>Teetere leydi</i>	Land grabbing
<i>Toolon tirol</i> (vb. <i>tolaago</i>)	Jokes / laughable matters
<i>Wagashi</i>	Local cheese of Fulani
<i>Walde men</i>	Our community / our association
<i>Wuro</i>	Farm / household
<i>Yaha yeeso</i>	Fulani tradition is moving forward

Batonu terms

<i>Batonu</i>	Language of Batoumbu or Bariba
<i>Bogoumbo</i>	Herbicide having industrial names of Amino-force, Atraforce and the like
<i>Boro</i>	Friend
<i>Dahume</i>	Dahomey (now Benin) / South Benin / Abomey plateau (depending on the case)
<i>Dahumegi</i>	Dahomey (now Benin) nationals / Benin southerners / Abomey plateau locals (depending on the case)
<i>Dame</i>	Selective or non-selective herbicide having compacting effect on soil
<i>Danirawo</i>	Friend
<i>Gando</i>	Descendants of slaves
<i>Kpake</i>	Non-selective herbicide
<i>Logoligi</i>	Coded language among forest people for “business” (manipulation of forest laws to extort money from herders “found” guilty of violating these laws).
<i>Seko</i>	Blacksmiths

<i>Somboure</i>	Herbicide with the industrial name of Bic and the like
<i>Sunon bi</i>	Prince
<i>Tangi</i>	Selective pre-emergence herbicide
<i>Tem</i>	Land / soil
<i>Tem bamsu tereru</i>	Land certificate / land title
<i>Tem kpa</i>	New land
<i>Tem toko</i>	Old land
<i>Wasangari</i>	Batoumbu princes / warriors
<i>Yangatime</i>	Selective pre-emergence herbicide

Arabic and Hausa terms

<i>Azawak</i>	Cattle breed
<i>Dillali</i>	Trade brokers within traditional livestock market
<i>Id-al-Adha</i>	Muslim celebration in which rams are sacrificed (in Arabic / also called Tabaski or Aïd al-Kabîr)
<i>Rahaji</i>	Cattle breed
<i>Sadaqa</i>	Voluntary donation in Muslim societies
<i>Wadara</i>	Cattle breed
<i>Zakat</i>	Compulsory donation in Muslim society

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11.7 Abstract / Zusammenfassung / Résumé

Abstract

The main objective of this research is to analyze the socio-technological transformations in the Fulani communities in northern Benin. Regardless of their length of stay in Benin, the Fulani pastoralists are often regarded as strangers, having practically no rights to land and natural resources. This marginalization has taken various forms since the pre-colonial period, during the French colonization and the postcolonial nation-state with its various governance regimes. Within a context of technological breakthrough and globalization, many changes have occurred, tending to challenge the sustainability of pastoralist livelihoods. Meanwhile, several grassroots organizations have also emerged to defend the rights of pastoralists in order to ensure them greater political inclusion and socio-economic wellbeing.

The study was carried out in Gogounou District located in the Benin northeastern province of Alibori, where pastoral activity remains the second most important way of life after crop farming. The fieldwork was spread over a total period of ten months between July 2013 and October 2014. An ethnographic approach has been adopted which focused on the uses of various technologies and collective action. Participant observation, a key data collection tool, was carried out together with open-ended and semi-structured interviews and focus group discussions with various stakeholders.

One main result of the study is that the overlapping state policies in relation to agriculture, environment and land tenure have allowed several technologies (e.g. tractors, pesticides, chainsaws, plant seedlings and rural land title) to be widely spread. These technologies, however, have contributed to reinforcing inequalities in power relations between rural actors. Those crop farmers, who have better access to these technologies, have adopted them – changing their meanings in some cases – and have used them to increase their control over land and natural resources. This has led to the eviction of Fulani pastoralists from lands with adverse consequences on the cooperative relationships between rural actors and a more conflictive coexistence.

Facing this ‘crisis’, Fulani households respond with multiple and varied strategies. The study reveals that pastoralists – according to their socio-economic and technological capital – rely on geographical, social and technological strategies of mobility to deal with and sustain threats. Livelihood diversification has proven to be the more promising strategy among Fulani pastoralists. The study has identified extroversion strategies and development brokerage as examples for collective action that aim at the socio-economic and political inclusion of pastoralists. Fulani association leaders embrace a diversity of actions oriented towards fulfilling international donors’ agendas and aligning with government policies in order to achieve their own goals. Fulani civil society organizations have thereby contributed significantly to the transforma-

tion of pastoralism without however resolving the main issues of local pastoralists, which include long-standing land rights and fair access to resources.

Keywords: Pastoralism, Fulani herders, Technologies, Livelihood diversification, Collective action

Zusammenfassung

Hauptziel dieser Arbeit ist es, die Zusammenhänge zwischen sozialem und technologischem Wandel in Fulbe-Gemeinschaften in Nordbenin zu analysieren. Fulbe wurden und werden – ungeachtet der Dauer ihrer Anwesenheit in der jeweiligen Region – in Benin als Fremde konzeptualisiert. In der vorkolonialen, kolonialen und postkolonialen Periode nahm diese Konzeptualisierung jeweils unterschiedliche Formen an. Im Kontext von Globalisierung und technologischen Neuerungen entstanden neue Herausforderungen für Viehhalter. In der jüngeren Vergangenheit gründete zivilgesellschaftliche Organisationen hatten unter anderem zum Ziel, die Rechte von Viehhaltern zu vertreten, ihre politische Teilnahme zu ermöglichen und ihr soziales und wirtschaftliches Wohlergehen zu sichern.

Die insgesamt zehnmonatige Feldforschung zwischen Juli 2013 und Oktober 2014 fand im Bezirk Gogounou im nordöstlichen Département Alibori statt. In diesem Département stellt Viehhaltung die zweitwichtigste Lebensgrundlage nach dem Feldbau dar. Die ethnologische Forschung fokussierte auf die Nutzung verschiedener Technologien und das kollektive Handeln der erforschten Gruppen. Darin wurde teilnehmende Beobachtung als wichtigstes Instrument zur Datenerhebung mit offenen und halbstrukturierten Interviews sowie Gruppendiskussionen kombiniert.

Die der Arbeit zugrunde liegenden Forschungsergebnisse zeigen eine weite Verbreitung von strategisch eingesetzten Technologien, zum Beispiel die Nutzung von Traktoren und Kettensägen, den Einsatz von Pestiziden, die Nutzung von Pflanzensprösslingen oder den Nachweis von Privateigentum an Land. Jedoch haben diese Technologien die asymmetrischen Machtverhältnisse zwischen den verschiedenen Akteuren in ländlichen Gebieten verstärkt. Die Gruppen von Landwirten, die besseren Zugang zu solchen Technologien hatten, nahmen diese an und verhandelten teilweise ihre Bedeutung und Benutzung neu, um ihren Zugang zu Land und natürlichen Ressourcen zu festigen. Aufgrund steigender Landknappheit mussten Viehhalter das Land der Bauern verlassen, was Konflikte verstärkt und die Kooperation zwischen diesen Akteuren gemindert hat.

Auf diese Entwicklungen reagierten Fulbe-Haushalte mit unterschiedlichen Strategien. Sie setzten, je nach sozialen, wirtschaftlichen und technologischen Möglichkeiten, auf geographische, soziale und technologische Mobilitätsstrategien, um mit Einschränkungen umzugehen und ihnen standzuhalten. Diversifikation der Lebensgrundlage erwies sich in dieser Hinsicht als die aussichtsreichste Strategie. Im Hinblick auf kollektives Handeln konnten insbesondere Extraversionsstrategien

und ‚brokerage‘ beobachtet werden. Vorsitzende von Fulbe-Vereinigungen wandten eine Reihe von Maßnahmen an, um die durch internationale Geldgeber gestellten Vorgaben zu erfüllen und sich nach den Programmen der Regierung auszurichten, um ihre eigenen Ziele zu erreichen. Zivilgesellschaftliche Organisationen der Fulbe haben in diesem Zusammenhang einen bedeutenden Beitrag zum Wandel ihres Lebensstils geleistet, jedoch ohne eine Lösung für ihre wichtigsten Probleme wie prekären Zugang zu Ressourcen und unklares Recht auf Landbesitz und Landnutzung zu finden.

Schlüsselwörter: Pastoralismus, Fulani Tierhalter, Technologien, Diversifizierung der Lebensgrundlage, kollektives Handeln

Résumé

L'objectif principal de cette recherche est d'analyser les transformations socio-technologiques dans les communautés Peules du Nord-Bénin. Quelle que soit la durée de leur séjour au Bénin, les éleveurs Peuls sont souvent considérés comme des étrangers, n'ayant pratiquement pas de droits d'accès à la terre et aux ressources naturelles. Cette marginalisation a pris diverses formes durant la période pré-coloniale, pendant la colonisation française et à l'avènement de l'État-nation postcolonial avec ses différents régimes de gouvernance. Dans un contexte de percée technologique et de mondialisation, de nombreux changements ont eu lieu, tendant à remettre en cause la durabilité des moyens d'existence pastoraux. Pendant ce temps, plusieurs organisations locales ont également vu le jour pour défendre les droits des pastoralistes afin de leur assurer une plus grande intégration politique et un bien-être socio-économique.

L'étude a été menée dans la commune de Gogounou, située dans le département de l'Alibori au Nord-est du Bénin, où l'activité pastorale reste le deuxième moyen d'existence le plus important après la production végétale. Les travaux de terrain ont été conduits sur une période totale de dix mois entre Juillet 2013 et Octobre 2014. Une approche ethnographique a été adoptée, et s'est focalisée sur l'utilisation de différentes technologies ainsi que la mise en œuvre d'actions collectives. L'observation participante, comme outil clé de collecte de données, a été conjointement réalisée avec des entretiens ouverts et semi-structurés et des discussions de groupe avec divers acteurs.

L'un des principaux résultats de l'étude révèle que plusieurs politiques étatiques en lien avec l'agriculture, l'environnement et la propriété foncière ont permis le développement de plusieurs technologies (Ex: tracteurs, pesticides, tronçonneuses, plants et certificats fonciers ruraux). Ces technologies, cependant, ont contribué à renforcer les inégalités dans les relations de pouvoir entre les acteurs ruraux. Les agriculteurs ayant le plus accès à ces technologies, les adoptent – en leur changeant de signification dans certains cas – et les utilisent pour accroître leur contrôle sur les terres et les ressources naturelles. Cela conduit à l'expulsion des éleveurs Peuls des terres, avec

des conséquences négatives sur les relations de coopération entre les acteurs ruraux, et donc une coexistence plus conflictuelle.

Face à cette 'crise', les ménages Peuls recourent à des stratégies multiples et variées. L'étude a révélé que les éleveurs – selon leur capital socio-économique et technologique – mobilisent des stratégies de mobilité géographique, sociale et technologique pour faire face aux menaces. La diversification des moyens d'existence s'est révélée comme la stratégie la plus pertinente parmi les éleveurs Peuls. L'étude a aussi identifié les stratégies d'extraversion et de courtage en développement comme des formes d'action collective visant l'inclusion socio-économique et politique des éleveurs. Les leaders d'associations pastorales embrassent une diversité d'actions orientées vers la réalisation d'agendas de bailleurs internationaux et l'alignement avec des politiques gouvernementales, en vue d'atteindre leurs propres objectifs. Les organisations de la société civile pastorale ont ainsi contribué de manière significative à la transformation du pastoralisme, sans pour autant résoudre les principaux problèmes des éleveurs locaux, à savoir l'acquisition de droit foncier et l'accès équitable aux ressources.

Mots-clés: Pastoralisme, Eleveurs Peuls, Technologies, Diversification des moyens d'existence, Action collective

Pastoralists throughout Africa face increasing pressures. In Benin, governmental development policies and programmes in crop farming are changing power relations between herders and farmers to favour the latter. How are the Fulani pastoralists responding to these threats to their existence? Georges Djohy explores the dynamics in local use of natural resources and in inter-ethnic relations resulting from development interventions. He combines the approaches of science and technology studies – looking at the co-construction of society and technology – and political ecology – looking at the power relations shaping the dynamics of economic, environmental and social change – so as to throw light on the forces of marginalisation, adaptation and innovation at work in northern Benin. Having worked there for many years, Djohy has been able to uncover gradual processes of socio-technological change that are happening “behind the scenes” of agricultural development involving mechanisation, herbicide use, tree planting, land registration and natural resource conservation. He reveals how farmers are using these interventions as “weapons” in order to gain more rights over larger areas of land, in other words, to support indigenous land grabbing from herders who had been using the land since decades for grazing. He documents how the Fulani are innovating to ensure their survival, e.g. by using new technologies for transport and communication, developing new strategies of livestock feeding and herd movement, and developing complementary sources of household income. The Fulani are organising themselves from local to national level to provide technological and socio-cultural services, manage conflicts and gain a stronger political voice, e.g. to be able to achieve demarcation of corridors for moving livestock through cultivated areas. They even use non-functioning mini-dairies – another example of development intervention – to demonstrate their modernity and to open up other opportunities to transform their pastoral systems. This book provides insights into normally hidden technical and social dynamics that are unexpected outcomes of development interventions.

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