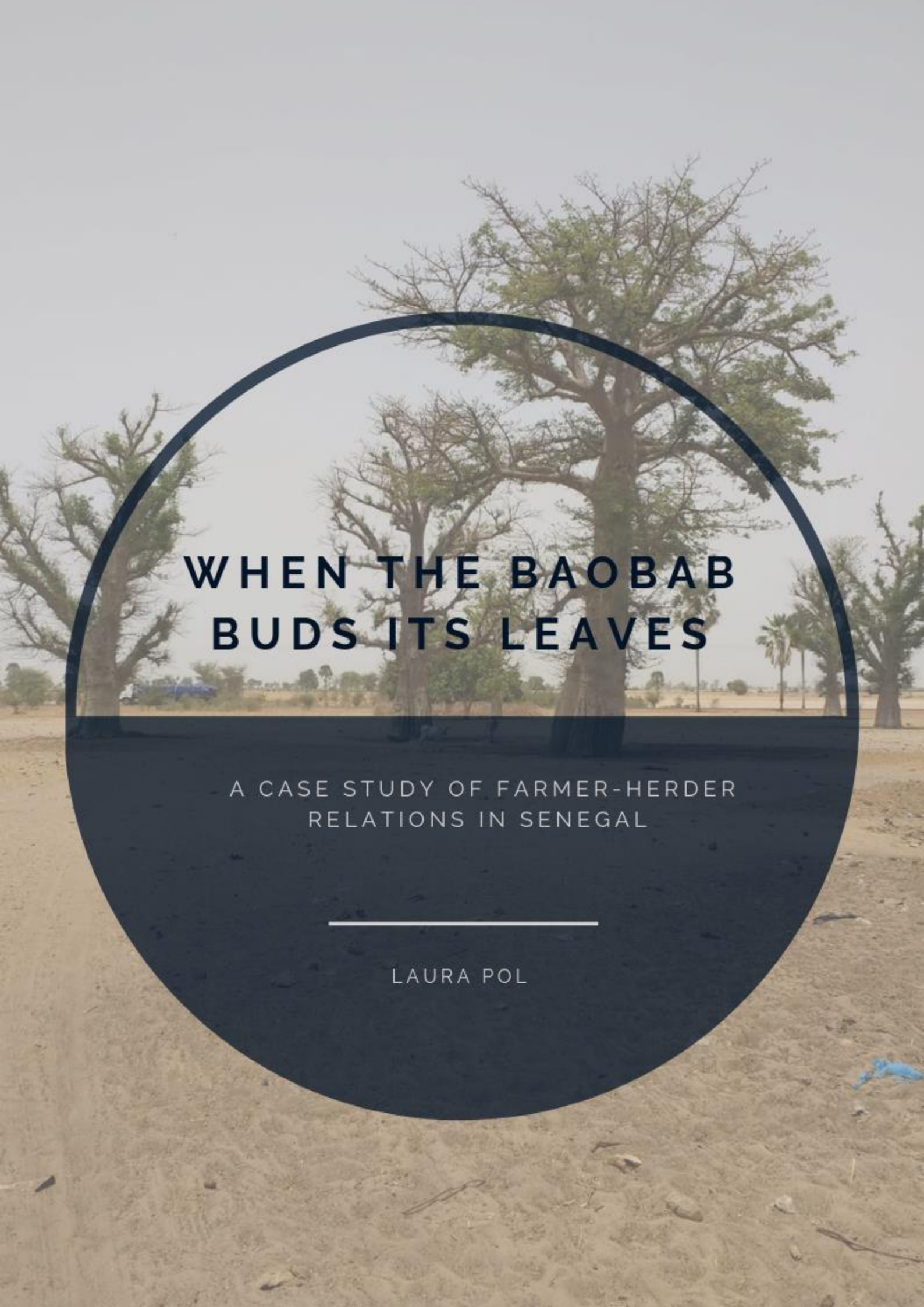

WHEN THE BAOBAB BUDS ITS LEAVES

A CASE STUDY OF FARMER-HERDER RELATIONS IN SENEGAL

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When the Baobab buds its leaves

A case study of farmer-herder relations in Senegal

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Cover photo Baobab trees in the region of Kaffrine, getting their leaves before the start of the rainy season (June, 2019).

“Where the teeth and tongue live together, the teeth sometimes bite the tongue.”

- Pastoralist Kaffrine, June 2019 -

Abstract

Increased conflicts between farmers and herders in West Africa have led to explanations of such conflicts as related to a decreased availability of resources as a consequence of climate change. Although farmer-herder conflicts in the Sahel fit perfectly well within popular climate-security narratives, it is necessary to understand farmer-herder conflicts in the Sahel in relation to its embeddedness in social relations between groups. This research aimed at understanding the dynamics of relations between farmers and herders in Kaffrine, Senegal and its embeddedness in environmental, socio-economic and political processes of change. Furthermore, it assessed how access to resources is mediated through both legal mechanisms as well as structural and relational mechanisms. Finally, the role of institutions in settling conflicts has been studied. Data collection was done in the period between May-July 2019 through semi-structured interviews, observation and document analysis. Farmer-herder relations in the research area are embedded in processes of change which are mainly related to the expansion of the Peanut Basin, which brought about alterations in socio-economic, political and environmental realities. A persistent negative narrative concerning pastoralist up to today contributes to institutionalized disadvantage of especially pastoralists. Despite the occurrence of conflicts however, relations between farmers and herders in the research do reflect a dynamic relation of interchanging cooperative and conflictive interactions.

Key words: farmer-herder relations; Senegal; institutions; access to resources; conflict settlement

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Table of Contents

Chapter 1. Introduction

The resurgence of conflicts between farmers and herders in the drylands of west-Africa has ignited a wave of attention by policymakers and academics, concerned with the socio-economic and political stability in the Sahel region. In several countries, such as in Nigeria, Mali and Burkina Faso, these conflicts have led to devastating events of murder and rape. A recent report of the International Crisis Group (ICG) stated that in Nigeria, so-called farmer-herder conflicts have become the greatest threat to peace and stability in the country (ICG, 2018). In an attempt to explain the occurrence and perceived increase of farmer-herder conflicts in the Sahel, environmental degradation and climate change have increasingly been presented as causal explanations for the increase of both violent and non-violent conflicts. Along with the civil war in Syria and the Darfur conflict (see Gleick, 2014; Kelley et al., 2015; Ban, 2007), farmer-herder conflicts in the Sahel are mentioned as manifestations of the linkages between climate change, environmental degradation and violent conflict (Benjaminsen et al., 2012). In his speech at the awarding ceremony of the Nobel Peace Prize, the chair of the committee described conflicts in the Sahel region as "climate wars" (Mjøs, 2007). Moreover, the framing of the conflicts was one in which antagonistic groups of people fight over a dwindling stock of resources, where the chair said:

> *"[..] we have already had the first "climate war". The wind that blows the sand off the Sahara sets people and camels moving towards more fertile areas. The outcome is that nomads and peasants, Arabs and Africans, Christians and Muslims from many different tribes clash in a series of conflicts."*

The above is a reflection of a wider narrative in which resource scarcity and environmental degradation are linked to the outburst of violent conflicts. Based within a neo-Malthusian framework in which overpopulation is perceived as a major cause of resource scarcity, this debate is reinforced by and intertwined with climate change narratives (Benjaminsen et al., 2012; Turner et al., 2011).

However, such notions of climate change and resource scarcity as a source for social conflict have been criticised by others both in past and present researches, as presenting a rather simplified explanation of complex and dynamic relations (Breusers et al., 1998; Turner, 2004; Turner et al., 2011). Moreover, it creates images of "primitive mobility and primitive wars" (Korf, 2011:38; Turner, 2004), in which different groups are involved in a Darwinian, here-and-now struggle over a dwindling resource (de Bruijn & van Dijk, 2005; Turner et al., 2011). As such, relations between different groups of people and their natural environments are presented as following a linear line, where conflict is the only option out in times of a diminishing pool of resources.

A number of scholars has therefore argued that conflicts between farmers and herders in the west-African Sahel region should rather be understood from a wider, structural perspective of how social relations, rooted in and constructed by social and political processes,

shape the access to and use of resources (Turner et al., 2011; De Bruijn and Van Dijk, 2005). Others have argued for developing a processual conflict analysis into studies on farmer-herder conflicts, as to understand the role of individuals and authorities in gaining or losing in specific conflict situations, where individuals can benefit from protracted conflict situations (Moritz, 2006a). This may contribute to understanding why under the same environmental conditions, in one area violent conflicts erupt, while in other places conflicts are settled peacefully.

This thesis aims to contribute to understanding farmer-herder relations through a case study in Senegal. The next section of this chapter includes the problem statement, the research objectives and the research questions guiding the research.

1.1. Problem statement

Although farmer-herder conflicts in the Sahel fit perfectly well within popular climate-security narratives, it is necessary to understand farmer-herder conflicts in the Sahel in relation to its embeddedness in social relations between groups (Turner, 2004). As such, it is important to study how mechanism of negotiation about access to resources, cooperation and mechanisms for dispute settlement are existing among farmer-herder communities and whether and how such patterns change in relation to environmental as well as socio-economic and political processes. Moreover, without a contextual analysis of how historical and present-day ecological, socio-economic and political processes influence the ability to access and control over natural resources, interventions may lead to enhancing conflicts between groups. It is therefore important to understand how competition for land and water resources is produced by these contextual factors and how that in turn can explain patterns of conflict and cooperation between farmers and herders and vice versa. Therefore, the relations of farmers and herders need to be studied in a contextual analysis of ecological, socio-economic and political changes. As, following De Bruijn & Van Dijk (2005), “the relationships people have with those whom they regard as their own kind and with other groups always affect access to and the use of resources” (De Bruijn & van Dijk, 2005:71).

1.2. Research objectives

Within the scope of this MSc thesis research, I aim to contribute to the understanding of changing farmer-herder relations, through a case study in Senegal. In terms of environmental conditions, Senegal is similar to its neighbouring countries, with highly temporal and spatial variability in rainfall patterns. Pastoralism has been a part of society for a long time and farmers and herders have co-existed and developed host-stranger relationships. However, unlike some other countries in the Sahel, violent escalation of conflict between both groups seems to be absent. This raises questions on how farmer-herder relationships have been developed, how access to natural resources is negotiated and how conflicts are settled. Few studies have focussed on Senegal in terms of farmer-herder relations, although relatively old (see Gueye, 1994; Freudenberger & Freudenberger, 1993), while the study on pastoral livelihoods has been a bit more extensive (Adriansen, 2002; Adriansen, 2008).

The overall aim of the research is to contribute to a deeper understanding of how relationships between farmers and herders in the Sahel are constituted and how they are embedded in changing environmental, socio-economic, political and institutional conditions, through studying conflict and cooperation amongst farmers and herders in central Senegal. Through studying historical processes of change and present-day interactions between farmers and herders, I aim to contribute a contextual analysis of how farmers and herders respond to change and how that influences their interactions.

1.3. Research questions

To direct the research, a main research question (MRQ) is formulated, build up of three sub research questions (SRQ).

MRQ
How have farmer-herder relations developed in response to environmental, socio-economic and political processes in Kaffrine, Senegal?

SRQ 1
How have environmental, socio-economic and political processes in Senegal influenced competition over resources between farmers and herders in Kaffrine?

SRQ 2
What are the dynamics farmer-herder relations in Kaffrine?

SRQ 3
What is the role of institutions in mediating access to resources?

SRQ 4
What is the role of institutions in conflict management?

1.4. Thesis outline

In the following chapters of the thesis, the methodology, results and conclusions of the study are presented. Chapter 2 provides a theoretical framework by discussing the existing literature on farmer-herder relations in the Sahel region. It discusses the different factors contributing to relations between farmers and herders, with a specific reference to those factors found in studies conducted in West Africa. Furthermore, it provides a conceptual understanding of conflict and cooperation. Chapter 3 includes the methodology of the study, where a background on the research area is presented and the methods used to scrutinize the research question are discussed. Furthermore, it provides a reflection of the challenges faced in the field and my position as a researcher. Chapter 4 provides insight in the context of farmer-herder relations by discussing environmental, socio-economic and political processes in a historical perspective. Chapter 5 discusses the perceptions of farmers and herders about conflict and cooperation with one another. Chapter 6 then provides the role of institutions in

conflict prevention and conflict settlement. With a discussion of the results and a concluding answer to the central research question, chapter 7 concludes the thesis.

Chapter 2. Theoretical framework

A fast-growing body of literature is dealing with conflicts between farmers and herders in the Sahel and includes a variety of different theoretical approaches in understanding farmer-herder relations and the causes and course of conflicts. The aim of this chapter is to provide a theoretical background to the study and to position this research in a broader framework, through synthesizing and analysing the existing literature. Therefore, this chapter provides an overview of the different dimensions identified in literature which are said to contribute to farmer-herder relations. The second part of the chapter focusses on defining the concepts of conflict, cooperation and institutions.

2.1. Farmer-herder relations: a synthesis of existing literature

Although within the literature farmers and herders are often presented as two homogeneous groups with opposing and competing resource claims, the reality is far more complex, whereas both groups are not necessarily antagonistic and dynamics within and between farmer and herder communities have changed over time (Breusers et al., 1998; Moritz, 2006a). An unequivocal description of what constitutes farmer-herder relations would be undesirable, as the relationships between farmer and herder communities are dynamic, multi-dimensional and differ in time and space (Turner et al., 2006; Hussein et al., 1999). Moreover, referring to the relations as necessarily "farmer-herder", which is commonly applied, may be misleading in understanding situations of conflict and cooperation in the Sahelian context, as farmers are increasingly involved in livestock rearing and herders are more and more involved in crop farming (Hussein, 1998; Turner et al., 2006). Although acknowledging these complexities of who is a farmer and who is a herder, within this thesis the terms "farmer-herder" is applied to refer to a predominant occupation. Hence, in the context of farmer-herder relations in the Sahel, the term herder or pastoralist refers to those people predominantly concerned with the extensive grazing of livestock on grasslands and open woodlands. On the contrary, farmers are presented as primarily being occupied with the production of crops.

Analyses of relations between farmers and herders generally emphasise how varying occupations of production strategies of both groups have complemented each other in order to make optimal use of the resources available (e.g. Davidheiser & Luna, 2008; Tonah, 2006). Farmers benefit from the seasonal return of herders, as it provides them with low-cost manure for their fields and milk for consumption and hence, the movement of pastoralists is seen as a catalyst for sustaining agricultural livelihoods (Turner, 1999). In turn, herders benefit from crop residues and water for animals and opportunities to market milk products (van Dijk, 1995). As such, farmers and herders' complementary strategies are a means for both in coping with the harsh ecological conditions of the Sahelian drylands, by co-management of resources and sustaining good relations (De Bruijn & van Dijk, 2003). Transhumance and the exchange of benefits are socially mediated and enabled through friendship and kinship ties between groups as well as individuals (Turner, 1999; de Bruijn & van Dijk, 2003). This complementarity

between farmers and herders and the related social contracts have often contributed to relatively well integrated communities.

However, although this need for exchanging benefits has led some scholars to conclude that relations between both groups have been symbiotic, Breusers et al. (1998) have convincingly set out that this does not allow for the conclusion that conflict has been absent. Contrary, relationships between farmers and herders have always included patterns of conflict and cooperation, which are part of the day-to-day interactions of pastoral and farmer communities (Breusers et al., 1998; de Bruijn & van Dijk, 2003; Turner et al., 2011). Hussein et al. (1999) note that likewise, farmers and herders themselves emphasize that 'this mutual dependence coexists with tension' (Hussein et al., 1999:409).

In addition to these seemingly apolitical descriptions of relationships that are based on mutual dependence of production strategies, a growing number of scholars has highlighted the importance of studying how politics are at play on a national, local and individual level and have advocated for the inclusion of socio-economic and political processes in studying the dynamics and evolution of farmer and herder relations. Changes in national legislation, which influence the livelihoods of both farmers and herders and their access to and control over compatible resources is one of those points of attention. For example, changing legislation on land tenure and use of natural resources are of significant relevance to agro-pastoral communities (Dafinger & Pelican, 2006). Furthermore, processes in which one group is favoured over the other, can be detrimental to relations between farmers and herders, such as which has occurred in the drive for fast agricultural developments in the region, favouring farmers over herders (Benjaminsen et al., 2012; Soeters et al., 2017). Including processes with a political or socio-economic dimension, allows to understand how the role of power and inequalities of access to power play a role in conflict and cooperation patterns. It determines who holds power, and in turn who gains access to resources and decision-making.

Relations between farmers and herders are thus shaped on multiple levels and within multiple arenas in time and space, including spatial-ecological, socio-economic (through amongst others production strategies) and political arenas. Furthermore, a difference can be made between internal and external dimensions contributing to farmer-herder relations. On the one hand, internal processes shape relations from the primary dynamics between farmers and herders, such as the mutual exchange of benefits. On the other hand, external processes shape these relations through active and passive processes that influence the availability and access to resources, such as land tenure policies or changing weather conditions. Internal and external dimension are not mutually exclusive, au contraire can reinforce one another. In what follows, these different elements are described more in-depth.

2.1.1. Mobility and territory

Spatial dimensions, specifically the role of mobility and territory, are of primary concern in understanding the dynamics underlying the relations of farmers and herders. As the

availability of pastures and water depends on spatial and temporal fluctuations in rainfall patterns, mobility has functioned as a fundamental adaptive strategy for pastoral communities. Hence, pastoralists use mobility in the arid and semi-arid environments of west-Africa as a tool in search of water points, low-cost fodder and markets to sell milk and meat products (Diop et al., 2003; Niamir-Fuller, 1999). As such, mobility allows herders to use resources in an opportunistic manner, in which uncertainty and risk of arid environments are being managed (Niamir-Fuller, 1999). Although a majority of pastoralists in the Sahel have become semi-sedentary to a certain extent nowadays, movement of livestock is still an important strategy in keeping livestock production viable (Adriansen, 2008). Besides serving as an adaptive strategy to cope with highly variable environmental, socio-economic and political conditions, the mobility of pastoralists has played a crucial role in the development of relationships with sedentary (farmer) communities, which resulted in institutions regulating the relations between host and stranger communities (de Bruijn & van Dijk, 2003; Moritz, 2010). Therefore, understanding of mobility and changing mobility patterns is a prerequisite for understanding the development of farmer-herder relationships in both time and space.

Mobility of pastoralist has long been associated with overgrazing, mismanagement and environmental degradation, amongst others as a result of the upcoming paradigm of the tragedy of the commons in the 1960s. Hence, policies and interventions focussed on decreasing this mobility, through the creation of for example commercial ranches and settling pastoral communities in villages (Ayantunde et al., 2011; FAO, 2018). However, this created misperceptions about pastoral communities as being irrational and backwards and contributed to marginalization of these communities (Adriansen, 1999; FAO, 2018). In the early 1990s, Behnke & Scoones introduced the new rangeland paradigm, which marked a shift in pastoral development thinking. Onwards, mobility and flexibility of livestock have been considered critical in landscapes with temporal and spatial heterogeneous resource availabilities, allowing herders to make optimal use of and contribute to balanced dryland ecosystems (Behnke & Scoones, 1993; Scoones & Graham, 1994).

However, traditional grazing routes and hence mobility patterns, are becoming increasingly under pressure as a result of fast expanding populations, encroachment of agricultural land on traditional grazing routes and the formalization of land tenure through linking land rights to rigid borders and the concept of *mise en valeur*[1] (Adriansen, 1999; Adriansen, 2008).

2.1.2. Livelihood strategies

A second element playing a role in the relations between farmers and herders are the distinct livelihood strategies and the changing nature of those over time. As mentioned earlier, these production strategies are not exclusively reserved for either one of the groups and have become increasingly intertwined. Following Hussein et al. (1999), the terms farmer and herder are still applied in this research as referring broadly to historically distinct modes of

[1] *Mise en valeur* is the concept in which the obligation for ensuring land productivity is linked to access to land rights.

production. Furthermore, although livestock husbandry and crop production have become increasingly become intertwined, the specialization of livestock rearing through mobility is still mainly represented through pastoralism (Turner, 1999).

Farmers and herders have benefitted from complementary livelihood strategies, in which pastoralists focussed on mobility and herd diversification to sustain production levels, while farmers were engaged in crop production and soil fertility management (van Dijk, 1995). On a seasonal basis, farmers and herders benefitted from each other, as the arrival of pastoralists provided their host communities with low-cost manure and the marketing of milk, while at the same time herders benefitted from crop residues for their livestock.

However, in response to ecological, political and social changes both pastoralist and farmers rely more on the diversification of livelihoods (Van Dijk, 1995). Moreover, lines between farmers and herders have increasingly become blurred and farmers rely more and more on livestock rearing and remittances from migrant labour and herders are more dependent on crop production and migrant labour and hired herders (Turner et al., 2011; Basset, 1994). Consequently, there is less interdependence on the basis of livelihood production strategies and competition for the use of similar resources increases. Turner et al. (2011) have discussed that livelihood transitions in which there is higher convergence of livelihood practices, leads to increased conflict triggers due to higher competition for land-use, while the potential for "socially-degenerative conflict" is lower as a result of shared interest and higher levels of cooperation (Turner et al., 2011:203).

2.1.3. Livestock ownership, hired herders and herd management

A third element playing a role in the constructed and mediated relationships between farmers and herders is related to livestock ownership and management of livestock. The question which is relevant in this respect, is about who *owns* livestock and who *manages or herds* livestock. We can indicate roughly two processes here.

First of all, as discussed in the previous paragraph, farmers are increasingly keeping livestock in addition to crop production in order to diversify their livelihoods and mitigate environmental and economic risks. Within the literature, one can both notice a decline as well as enhancement of farmer-herder relationships as a result of a blurring line in livelihood specializations between the both of them. On the one hand, livestock ownership by farmers has been and continues to be one of the "most common social relationships of production involving multiple ethnic groups in the Sahel" (Turner et al., 2011:196). With reference to the historically embedded specialization of herders as grazing managers, farmers entrust their cattle to herders and are highly dependent on their knowledge, skills and availability of labour (Turner et al., 2006; Turner et al., 2011; Breusers et al., 1998; Bassett, 1994). In the case of Mossi farmers and Fulani herders in Burkina Faso, Breusers et al. (1998) describe how the entrustment of cattle is embedded in "institutionalised friendship relationships", based on mutual trust (Breusers et al., 1998:368). Not only are cattle entrusted to herders, vice versa herders do entrust millet to farmers to be stocked, they are involved in cultural ceremonies such as naming and marriages and farmers and herders become family friends of each other

(Breusers et al., 1998:369). While on a public stage, farmers with entrusted cattle narrate the conflictive relationship with herders, privately close friendships and alliances exist between farmers and herders (Breusers et al., 1998:372). On the other hand, increased livestock ownership by farmers has been noticed as a source of competition of feed and fodder, as farmers tend to keep the crop residues for their own livestock (Thébaud & Batterbury, 2001; Turner et al., 2011; Breusers et al., 1998) and in some cases even get involved in mobile livestock management themselves (Bassett, 2009).

A second aspect related to livestock ownership, is the increased trend among herders to employ hired herders for herd management (Moritz et al., 2011). Like cattle entrustment, livestock owners have a herding contract with the herders to care for the herd. However, the difference between entrustment and hired herding is embedded in the nature of the contract. Whereas entrustment is a leasing contract, hired herding is a labour contract in which a herder is being compensated through wages and herding tools (Moritz et al., 2011:265). Some have argued that the increased employment of hired herders has a negative influence on herd and range management, as a result of struggles over class, working conditions and salaries (Bassett, 1994). Others have argued that there is no such evidence and that hired herders are equally taking responsibility (Moritz et al., 2011).

The changing dynamics of who *owns* and who *herds* livestock is important in understanding farmer-herder relationships as it influences the agreements made between host and strangers. Long build trust and agreement between both can be altered as a result of these changes.

2.1.4. Decentralization

Processes of decentralization matter to the study of interactions between farmers and herders in the Sahel region, as decentralization concerns how power and access to resources are distributed. Decentralization has been one of the central processes in enabling citizen-government interactions and enhancing democratization (Hesseling & van Dijk, 2005). Central in these processes is the transformation of responsibilities for decision-making and control over natural resources from state level towards local authorities, including the movement of "powers, duties, resources and decision-making powers" (Hesseling & van Dijk, 2005:172). The objectives of decentralization are multiple, but often aim to reach good governance as a conflict management tool (O'Bannon, 2006) and a reduction of conflict through reducing socio-economic, ethnic and geographical heterogeneity at local levels (Hesseling & van Dijk, 2005). Hence, it may lead to strengthening formal and informal institutions at the local level with increased equity of resources distribution and decreased (potential for) conflict. However, decentralization likewise can result in increased potential for conflict, when, if not implemented properly, restructured distribution of power may reinforce inequalities and marginalization of minorities (Hesseling & van Dijk, 2005). Furthermore, O'Bannon points out that transformation in processes of decentralization disempower those acting according to the old rules, through a neglect of what was meant with proper political and economic relations – often based on patronage (O'Bannon, 2006; Moritz, 2006a). As a result, it has

become increasingly difficult for rural dwellers to know “legitimate power and effective authority” (O’Bannon 2006:79). Similar cases of lack of local authority were found by Benjaminsen et al. (2012) in which the authors relate the effects of decentralization in Mali to increased farmer-herder tensions through the lack of authorities following a political vacuum after decentralization took place in 1991.

It is thus relevant to take processes of decentralization into account when studying farmer-herder conflicts and be aware of shifting or reinforced power relations and inequalities.

2.1.5. Law and the role of state legislation

Several studies have touched upon the role of legislation and the role of the state in creating an environment in which often one of both groups is favoured over the other or in which policies, legislation and other external intervention decrease the room for physical as well as political manoeuvre. Therefore, a contextual analysis of the ecological, political and socio-economic changes is not complete without considering these processes.

Developments and rules implemented both under colonial and post-colonial powers play a role in how competition between farmers and herders increased. Davidheiser & Luna (2008) for example show how under colonial rule Western models of formal and rigid land laws have interfered in the “sophisticated and complex” customary land tenure systems (Davidheiser & Luna, 2008:82). A result has been that informal mechanisms to settle disputes on land conflicts were not considered functional anymore. Other examples of policy processes are the privatisation of land, diminishing flexible property rights (ibid) and a biased focus on agricultural investments and development (see Soeters et al., 2017), resulting in expansion of agricultural land on traditional grazing routes.

In response to critiques of pastoralist marginalization and exclusion, in the late 1990s and 2000s several west-African countries adopted pastoral legislation, the *Chartres Pastorales*. Compared to previous pastoral legislation or the very absence of it, these pastoral codes are major steps forward as pastoralism is being recognized as a viable livelihood with its own characteristics. Furthermore, most of these legislations include provisions for pastoral rights and recognition of customary arrangements (Hesse & Thébaud, 2006). Despite this progress, many of the regulations provided in these pastoral codes are representing assumptions which are based on and embedded in rigid, technocratic reflections of pastoralism, represented by the top-down establishment of grazing reserves and the application of the *mise en valeur* notion (ibid). This does not reflect the social and political networks underlying the pastoralists way of life and their connections to other social and ethnic groups.

A second body of legislation relevant are the legislations regarding forest management and access, as forest areas provide for many pastoralist groups havens of grazing and water resources for their pastures. However, forests are also increasingly turned into farming land or national conservation parks, displacing herders from their grazing routes into other areas (see Lane, 1998; Roba & Witsenburg, 2004). This creates a potential for increasing pressures

on resources in other areas, while also taking away one of the diversification opportunities for pastoral livelihoods. Regulations regarding forest management are therefore directly and indirectly influencing relationships between farmers and herders.

2.2. Competition, conflict & cooperation

The concepts of competition, conflict and cooperation are central in the research questions and therefore, the following focusses on defining and clarifying these concepts in the context of farmer-herder relations. Changing environmental, socio-economic and political processes of change are studied to understand the historical context of the development and changing farmer-herder relationships. An explanation of whether and how these processes lead to increased competition and turn into conflict or cooperation, is embedded in a conceptual understanding of these three concepts.

2.2.1. Competition

In studies on relations between farmers and herders, increasing competition over resources between both is one of the central explanations of conflicts. Within the literature on competition over resources and conflict roughly two schools of thought can be distinguished.

A prominent paradigm is the one in which competition can be explained by an increased scarcity of resources, in which scarcity is referred to as physical insufficient availability of natural resources. The rationale behind these claims is embedded in a neo-Malthusian line of thinking, in which the traditional Malthusian idea of overpopulations as a cause of resource scarcity and environmental degradation is more and more being linked to conflicts over natural resources. Homer-Dixon played a lead role in the development and dissemination of this school of thought. Although acknowledging the role of political and social unrest in contributing to the outbreak of violent conflicts, Homer-Dixon et al. (1993) note that scarcities of renewable resources can lead to conflict and are only to increase as a result of population growth and environmental change. This notion of 'scarcity leads to conflict' is further reinforced by and intertwined with climate change narratives (Benjaminsen et al., 2012; Turner et al., 2011). Examples of such notions include the study of Gleick (2014) on the relation between climate change and the outbreak of civil unrest prior to the Syrian war, as well as the representations of the civil war in Darfur as a climate crisis (see for example Sachs, 2006; Ki-moon, 2007). However, such notions of resource scarcity as a source for social conflict have been criticised by others (Breusers et al., 1998; Turner, 2004; Turner et al., 2011), as conflicts over natural resources are not just about the use and availability of scarce resources, but are rather socially, politically and historically constructed and require an understanding of access to resources (Turner et al., 2011). Furthermore, the notion of environmental security tells a rather daunting picture of a linear relationship between resource scarcity and human relationships with the environment and one another, sketching images of "primitive mobility and primitive wars" (Korf, 2011:38; Turner, 2004), in which different groups are involved in a

Darwinian, here-and-now struggle over a dwindling resource (de Bruijn & van Dijk, 2005; Turner et al., 2011).

A second school of thought explains competition as embedded in social and political structures of access to resources. Competition over resources is referred to by Hussein (1998) as the "competitive relationship between two or more parties to acquire access to or control over a resource" (Hussein, 1998:24). Competition in this sense does not just refer to the physical availability of a resource, but rather refers to a socially and politically constructed competition through being able to access and control resources. Such notion is further elaborated upon by Turner (2004), who notes that the due to the spatial and temporal heterogeneity, competition over resources cannot be linked to "spatial fixity" (Turner, 2004:877). It is further argued that conflicts are more likely to derive from strategic contests over access to spatially fixed resources such as routes to water points and are thus embedded in long-term political and social struggles (Turner, 2004; Moritz, 2006a). This in essence reflects the critiques on the scarcity-driven explanation of farmer-herder conflicts, which relate the resource scarcity to conflict through competition. However, different actors are able to manage limited resource availability and analysing competition should therefore be scrutinized within its embeddedness in "geographical, social and historical contexts and that are converging at different points in time leading either toward cooperation or conflict" (Lind, 2003). The understanding of conflict and cooperation in this thesis research is thus embedded in this contextual analysis of competition.

2.2.2. Conflict

In the literature on farmer-herder conflicts in west-Africa, reference to existing and increased conflict is often made without providing an adequate definition of what is meant by conflict. Most studies however do implicitly refer to violent and destructive conflicts (Hussein et al., 1999), while some acknowledge conflicts as essential to social life and constructive (see Breusers et al., 1998; Turner et al., 2004; Hussein, 1998). It is relevant to delineate what is meant by conflict, as it helps us to assess and interpret farmer-herder relations. Conflicts manifest at multiple scales, in consecutive phases and in different levels of intensity. Furthermore, the nature of the causes leading to conflict and its outcomes play a role in how conflicts manifest.

A broad definition of conflict was given by Mitchell, stating that conflict is "any situation in which two or more social entities or 'parties' perceive that they possess mutually incompatible goals" (Mitchell 1981:17, cited in Moritz 2010). This is more or less what Hussein calls the conflicts of interest, which "refer to the normal, sometimes oppositional, relationship between actors who have different objectives and interests in the use of resources" (Hussein, 1998:23). Conflicts of interest do not necessarily lead to violent conflicts, to which is often referred in studies on farmer-herder conflicts. Although conflict is often associated with outbreaks of violence and situations of non-cooperation, conflicts should rather be placed on a continuum of mild tensions to the use of violence (Bavinck et al., 2014:4). This aligns with the successive phases of conflict, as used in conflict study theories. These include phases in

which there is no conflict, existence of non-compatible goals (incipient phase), recognition of conflicting interests (latent phase) and the engagement of different stakeholders into conflict behaviour (manifest phase), which may result in the escalation of conflict where conflicts increase in the severity of manifestations (see Mitchell, 1981; Moritz, 2010). Literature on farmer-herder conflicts in the Sahel, focus predominantly on situations in which conflicts have escalated, focussing on violent attacks and killings (for example Moritz, 2010; Tonah, 2006). This allows to include processual factors in the explanation of violent escalations of conflict and as such explore the role of individuals and sometimes even the interest of individuals to protract a conflict situation (Moritz, 2010; Moritz, 2006a; Benjaminsen & Ba, 2009). However, studying conflicts before violent escalation needs to be studied equally, whereas this provides to understand how competitive interest are mediated.

In studying farmer-herder conflicts, it is particularly important to pay attention to the articulation of conflicts. It is thus important to see how different people attach meaning to a situation of conflict and what they perceive as causes of conflict amongst each other. Conflicts in the context of farmers and herders often articulate along ethnic or religious lines, as being a farmer or herder is often linked to specific religious or ethnic groups (Moritz, 2006b; Breusers et al., 1998). However, we should be careful with describing a conflict as one along ethnic lines, as borders between ethnic groups have been blurred (Breusers et al., 1998).

When talking about conflicts in this research, I talk about conflicts in line with what amongst others Bavinck et al. (2014) and Ratner et al. (2017) have called a continuum. This continuum entails the interactions between different resource users which may vary from non-violent confrontations to a situation in which conflicts are escalated to a violent outbreak (Ratner et al., 2017). I will describe them as such in their respective contexts by formulating answers to questions such as: what have been triggers for the conflict, who are involved (two individuals, groups, communities), and how are conflicts articulated?

2.2.3. Cooperation

Cooperation is less explicitly studied as part of studies on farmer-herder conflicts, but is mentioned as part of the symbiotic relationships, as described earlier. Cooperation is often perceived as the opposite of conflict, illustrating how in situations of conflict cooperation is absent and vice versa. However, both processes are not mutually exclusive, as parties may work together on minor issues, while not engaging to address root causes of conflict (Bavinck et al., 2014). Both patterns of conflict and cooperation are embedded in the complexities of relationships between farmers and herders.

2.3. The role of institutions

A mere historical and present-day analysis of farmer-herder relations in the face of environmental, socio-economic and political change, is not complete without an assessment of the institutional responses. Institutions play a significant role in human processes and governance and have been and continue to be crucial in farmer-herder relations. First of all,

they play an important role in negotiating access to resources. Negotiation of resources is a matter of constant matter for conflicts to be avoided (Hesse & Thébaud, 2006). Negotiation of access to pastures and water points are the most common examples in which institutions play a role. Secondly, institutions both on state as well as community level play a role in settling disputes and prevent escalation of conflicts. Following Moritz (2006b) in this, "understanding the institutional context is particularly important if we want to explain the dynamics of farmer-herder conflicts, for example, why some small-scale conflicts over natural resources are peacefully resolved and why others escalate" (Moritz, 2006b:16). Before delving into the role of this institutional context in accessing resources and settling disputes, it is necessary to delimitate what we understand as institutions in this particular context.

2.3.1. Institutions: formal and informal

The term 'institutions' is somewhat confusing, whereas it is often used to refer to organisations as well. Based in New Institutional Economic (NIE) theories, institutions are often referred to as 'the rules of the game'. North, a leading institutionalist thinker, described institutions as the "humanly devised constraints that structure political, economic and social interaction [..] to create order and reduce uncertainty" (North, 1991:97). In this regard, institutions are shaped as to achieve a certain state of order. Contrarily, one can conclude that a lack of order indicates a lack of properly functioning institutions. This has in turn influenced the development of common property resource management theories, which is concerned with a strong focus on the design of institutions (Cleaver, 2001). From this perspective, failing institutions are often identified as major drivers of farmer-herder conflicts in the Sahel, which is than addressed through proposing "clarifying rules of access and in doing so, replacing spheres of political contestation [..], with legalistic, formal rules of access to spatially bounded units of land" (Turner, 2004:643). Others however criticised this rather rigid approach towards institutions and emphasise the role of agency in shaping and reshaping institutions (e.g. Cleaver, 2001). Furthermore, it is argued that institutions are embedded in and the product of social and political interaction, negotiation and contestation (Mehta et al., 1999). In this perspective, institutions are not just about what the rules of the game are, but what people *do* and *how* they behave, hence institutions are social practices (Mehta et al., 1999).

Within the literature, a distinction is often made between formal and informal institutions. Formal institutions refer to bureaucratic or written, legal and formalized rules, regulations and laws, imposed often from an external actor (North, 1991; Cleaver, 2002). Informal institutions are rather embedded in social norms, taboos, beliefs, culture and customs (ibid). In uncertain environments, such as the arid and semi-arid Sahel regions, informal institutions serve the purpose of mediating porous and contested access to resources (Turner, 2004; Mehta et al., 1999). With her study on institutional bricolage, Cleaver (2001) argues that both consciously and unconsciously, people draw on social and cultural rules to shape institutions in such changing environments. Institutions are then not as much seen as dichotomies of formal vs. informal institutions, but are rather a mix of both. Within this research, this perspective is taken to look at the institutions shaping access to resources and

prevention of conflicts. Rather than seeing institutions as subject of breakdown, I approach them as being subject to change and negotiation. As Hesse & Thébaud (2006) note: "rights of access constantly need to be re-negotiated with different groups at different times of [the] year, partly in response to the seasonal and inter-annual availability of resources but also due to the fact that high value land (e.g. wetlands, forests) are used by a diversity of actors for different purposes at different times of the year" (Hesse & Thébaud, 2006:16).

2.3.2. Access to resources

The approach of institutions being embedded in social practices and social relationships, is reflected in the theorizing of access to resources as done by Ribot and Peluso (2003). In defining access to resources, the authors build upon the notion of access as "the ability to benefit from things – including material objects, persons, institutions and symbols" (Ribot & Peluso, 2003:153). Central to access then become the social relations enabling or constraining people to benefit from (natural) resources and hence allows to understand the role of social power in accessing resources. Consequently, it enables us to explore *who* benefits, through which *mechanisms* and *why* (ibid). Although a thorough analysis of access to resources as proposed by Ribot and Peluso is not feasible within the time frame of this research, we will explain access to resources as it helps us understand how natural resources are related to competition (Turner et al., 2004). Moreover, it helps to understand structural processes of power distribution in relation to farmer-herder conflicts.

Within their theory on access, Ribot and Peluso distinguish between rights-based access and structural and relational mechanisms of access. In the case or rights-based access, people can benefit from resources based on the right that is granted them through law or customary, social acceptance (Ribot & Peluso, 2003). In addition to legal access, the authors also include illegal access – such as theft – among rights-based access because it is a form of direct access to resources. On the other hand, structural and relational ways to gain an maintain access are embedded in the political economy and cultural contexts within which people are to benefit from resources. It includes access *to* technology, markets, labour, knowledge and access *through* authority and social identity and *via* negotiation of other social relations (ibid). The access to resources and thus the ability to benefit from the resources can strongly vary both in space and time, as social relations are a constant subject to change.

2.4. Application of theoretical framework

The described concepts are central to studies on farmer-herder relations and therefore play an important role in this research. As part of data collection, these concepts were pivotal in developing and applying the research methods described in the next chapter. The focus of the research on farmer-herder relations and the constellation of factors contributing to such relations, helps to understand the dynamics of these relations and their actual and potential response to changing conditions in their natural and social environments. Therefore, during data collection I have aimed at discussing and understanding how farmers and herders relate

to each other, and especially how they express such relations. As a starting point, I discussed with farmers and herders what their livelihoods consist of and from there started to discuss the use of and access to different resources and how this was shaped by and shaped the relations with other resource users. Although some of the described factors are crucial in the way farmers and herders relate to those within and outside the group of who they consider "theirs", it is difficult to address topics such as herd ownership and the actual effect of decentralization, as it involves a complex set of power and interest relations that are impossible to assess in a limited amount of time as a complete outsider. Hence, the focus has been on understanding the livelihoods of farmers and herders, the challenges they face in using and accessing resources, patterns of conflicts and cooperation and the different institutions. In contexts where people may have opposing interests in the use of resources, the way that they present their relations with one another can be used to serve the purpose of accessing that same resource. Consequently, people will tell their own version, their own narratives of a (conflict) situation to pursue their interest. Therefore, analysis on conflicts is done from the perspective of these narratives. The more there a conclusion on the causes of conflicts are difficult to make based on a short-term basis as the relations that people have with one another are embedded in long-term and multi-dimensional processes. The following chapter sets out the specific methodology applied to study these dynamics in farmer-herder relations in Senegal.

Chapter 3. Methodology

To scrutinize farmer-herder relations in Senegal within a socio-economic, environmental and political context, a combination of qualitative research methods has been applied. Embedding the study in a qualitative research approach enabled to capture and understand the complexity of farmer-herder relations in their specific contexts, where a qualitative research approach allows for understanding how and why these relations have been shaped. Furthermore, it allowed to gain insight into the different narratives which are applied both amongst farmers and herders, as well is by representatives of governmental organizations. A combination of analysing existing material as well as gathering new materials has been applied to gain a comprehensive understanding of both historical and present-day farmer-herder relations in the research area in Senegal.

This chapter presents the research area and discusses the research methods used, as well as the process of identifying research participants. A brief section is included to provide a reflection upon the methods used, limitations faced and which strategies have been used to mitigate these challenges.

3.1. Research area

The area selected for the study is situated in the administrative region of Kaffrine (Figure 1), which is one of the fourteen administrative zones of Senegal. Previously being part of the Kaolack region, Kaffrine became an independent region as per decree (Loi n° 2008/14, 2008). The region of Kaffrine is subdivided into four departments – Birkelane, Kaffrine, Konghuel and Malem Hodar –, which are concerned with the promotion and implementation of development plans (Loi n° 2013/20, 2013). Due to logistical reasons, the research has been limited to the villages surrounding the town of Kaffrine and the village of Nawel in the department of Birkelane.

Kaffrine is part of de sudano-sahelian zone of Senegal, characterised by semi-arid climate conditions. Rainfall is limited to the wet season between June and October, in which average precipitation varies annually between 400 and 860 mm, with an average of 650 mm (ANSD, 2019). Agriculture in the area is predominantly rain-fed, hence agricultural activities are limited to specific months of the year. Furthermore, Kaffrine is part of the triangle between Kaffrine, Tambacounda and Linguere, which constitutes the main receiving area for pastoralists from the northern Ferlo region (Oumar, 2011; Diop et al., 2003). Consequently, land-use in the area consists of a mix pattern of croplands, grassland, forests and shrubs (Sijmons et al., 2013). As part of the semi-arid zone, Kaffrine faces the consequences of changing climatic conditions. Erratic rainfall conditions, characterised by late rains and short, but intense periods of rain have had and are expected to continue having consequences for livelihoods in the agro-pastoral zone. At the one hand, floods have resulted in losses of harvest for farmers, while on the other hand the early drying up of pools has had consequences for pastoralists (ANSD, 2019). Furthermore, the current length of the growing period for

agriculture ranges between 50-150 days per year in this part of Senegal, while projections for 2050 show a decrease of 20% in the length of the growing period (Sijmons et al., 2013).

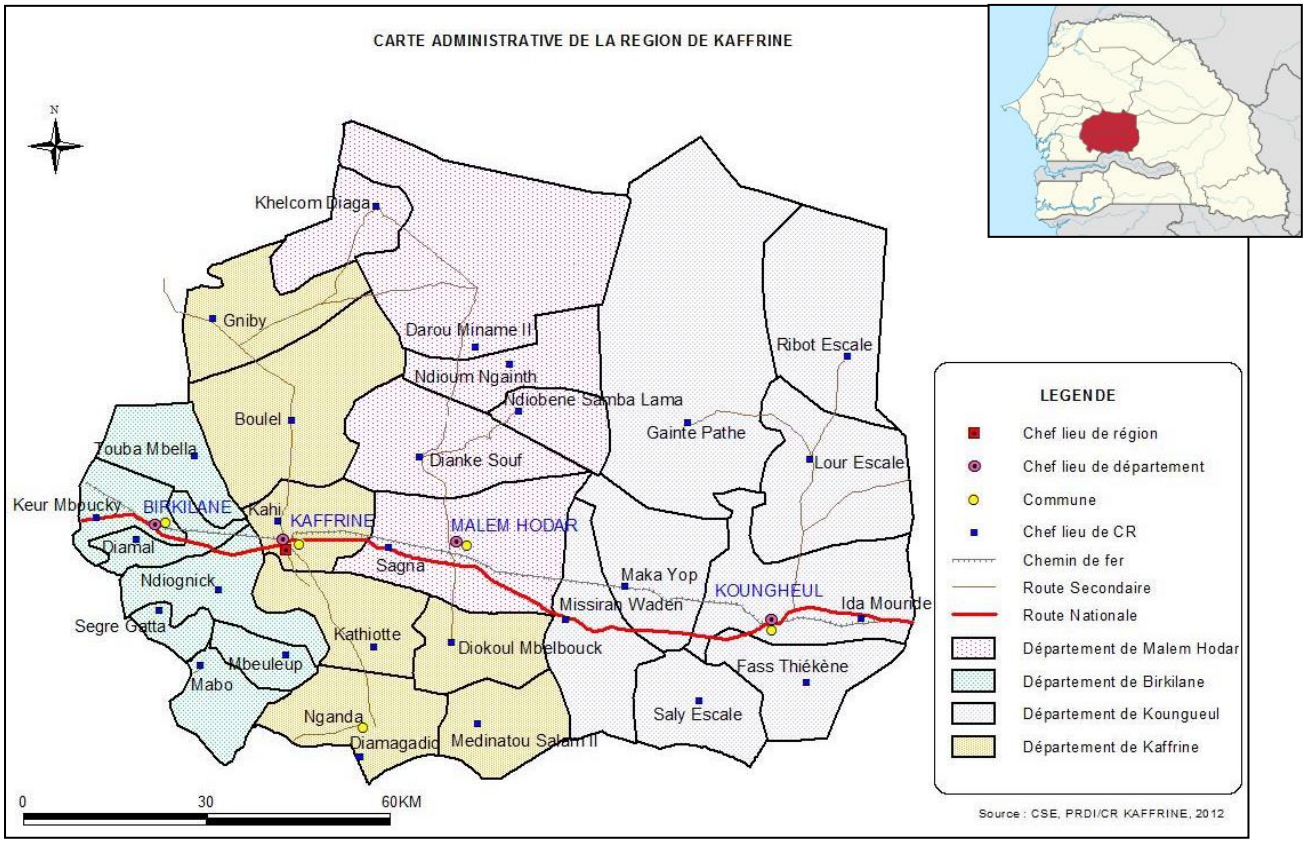

Figure 1. Region of Kaffrine, showing the four departments and location of Kaffrine within Senegal (top right picture). Source: ANSD, 2019.

Located in the Peanut Basin[2] , Kaffrine is part of the main agricultural production zone of Senegal, where peanut, millet and sorghum are the most commonly grown crops (ANSD, 2019; Bignebat & Sakho-Jimbira, 2013). Under the rule of French colonial powers, large areas of land were being cleared to produce peanuts for the international market (Freudenberger & Freudenberger, 1993; Pires, 2012). The development of and investment in the production of peanut continued in the period following Independence in 1960, with its production building up to 60% of national agricultural revenues and 80% of export revenues (Bignebat & Sakho-Jimbira, 2013). The rapid expansion of agricultural lands contributed to deforestation of forests, one of the main domains for extensive cattle breeding (Pires, 2012). In response, sylvo-pastoral zones have been established to protect grazing areas for pastoralists, two of which are found in the northern part of the Kaffrine district: the Mbégué and Sine-Saloum forests. The Mbégué forest has been home to around 6,000 pastoralists in different communities, while it also serves the needs for pastoralists from other regions in Senegal (Lane, 1998). The background of this developments in land-use make it an interesting area for a case study on relations between farmers and herders, as it constitutes a major area for

[2] Often referred to in French as *Le Bassin Arachidier*

interactions between both. In the following chapter a more extensive exploration of the socio-economic, political and environmental developments of the Peanut Basin is provided.

3.2. Research methods

Data collection was done in different phases and with the use of different research methods, which were aimed at complementing each other in scrutinizing the topic under study. Observations and semi-structured interviews were done to understand present-day relations between farmers and herders. Furthermore, a document analysis was undertaken to be able to place these relations in a historical perspective.

3.2.1. Observation

A continuous form of research was done through observations both through participating in the daily life of a Senegalese family as well as observations during field trips and discussions with research participants. The type of observations can be described as a natural observation method, whereas I studied the behaviour of people within their own environments. The observations helped me to understand the cultural context in which the research took place, as well as to understand my own position as a researcher in this context. Moreover, it enabled me to understand attitudes of different people towards the topic and the research. Furthermore, noticing small remarks in conversations, body language and cultural habits in small-talk and daily life, helped to reveal attitudes that otherwise might not be noticed. My translator was a key informant in helping me to interpret and explain some of these observations. Speaking both Wolof and Fula, he was able to translate and explain minor remarks and jokes, which help to understand specific cultural setting in which the research is done. Moreover, being of a Fulani background, he was able to give his perspective on issues discussed.

As part of the wider process of observation during fieldwork, informal conversations contributed significantly to understanding farmer-herder relations. Both with people within the farmer and herder communities' informal talks helped to understand the modes of live, the interactions and perceptions towards the causes and settlements of conflicts. Furthermore, occasional conversations with people outside these communities also helped to shed light on 'other' people's perceptions about the topic researched. The lines between farmer and herder communities and 'others' is however blurred. As a majority of the population is employed in agriculture or livestock rearing, most people are in one way or another affiliated to the subject. It is therefore questionable whether outside perspectives are not as well inside perspectives.

3.2.2. Semi-structured interviews

To gather more in-depth information on conflict and cooperation between farmers and pastoralists in Kaffrine, semi-structured interviews have been conducted. The semi-structured interviews were used to gain information on individual views on relationships between

farmers and herders, while also information was collected about the ways and institutions through which disputes are being settled.

A diverse group of people has been interviewed, including village members with different livelihood occupations, village leaders, religious leaders and organizations involved in the broad range of farmer-herder relations. These organizations range from regional and departmental organizations for farmers and livestock breeders, to the local police and court and the international PRAPS project (*Projet Régional d'Appui au Pastoralisme au Sahel*). Semi-structured interviews were chosen as a research method, because of its structure. An interview guide was prepared with questions revolving around the main topics of the research (Annex I. List of questions for semi-structured interviews). The structure was however not rigid and has been responsive to the answers provided by informants. Semi-structured interviews offer the opportunity to build a relation of reciprocity between both interviewer and informant, give room to participants to express their own experiences, beliefs and opinions and allow the researcher to adapt questions to the response of participants (Kallio et al., 2016; Gill et al., 2008). It offers "a flexible and powerful tool to capture the voices and the ways people make meaning of their experiences" (Rabionet, 2009:203).

The selection of participants for interviews was done through snow-ball sampling. Initially, purposive sampling was part of the research design, as it provides the researcher with tools to control the type of participants by making use of selection criteria such as gender and socio-economic status. However, the reality of Senegalese (rural) life is that people deeply value their network relations. Introduction to interviewees by someone else therefore added value to the selection of research participants. The disadvantage of snow-ball sampling is the risk of bias of a specific group of participants and hence, a lack of representation. This risk was mitigated as much as possible through selecting different primary participants.

3.2.3. Document analysis

A third method of data collection has been document analysis of both historical as well as contemporary writings. Document analysis is aimed at giving meaning, understand and develop empirical knowledge, based in a "systemic procedure for reviewing or evaluating documents" (Bowen, 2009:27). The objective of the document analysis was to track changes in developments in environmental, socio-economic and political processes related to farmer-herder relations and as such provide additional research data, context data and triangulation of interviews and observations.

The main source of information came from the national archives of Senegal, *Les Archives Nationales du Sénégal*, based in the capital Dakar. These archives constitute one of the richest archives in west-Africa, documenting both colonial period documents (1816-1958), *Afrique Occidentale Française* (1895-1958) as well as post-independence Senegal (1958-present). Secondly, contemporary documents have been used, including laws related to the access and use of resources by farmers and herders, policies on land rights, and policy documents provided by governmental and non-governmental organizations.

3.3. Challenges and limitations

Before and during the collection of data, several challenges and limitations were identified, which may have influenced the research in one way or another. In this section, I would like to reflect upon these challenges and which strategies I have chosen to mitigate the consequences as much as possible.

First of all, the amount of time used for the research was limited to a maximum of three months. In combination with not being affiliated to an existing programme or building upon previous researches in this area, the limited amount of time was one of the main challenges in data collection. This meant that a lot of time was taken in understanding the region and identifying the different actors. Furthermore, as a result of starting a new research process in a new region, one of the main objectives of the research process was building trust with the people which I interviewed. A first basis for starting a network in Kaffrine, was laid by the supervisor of the university in Kaffrine, who had indicated and informed some people of my research. These people included the president of a cooperative for herders in Kaffrine (*Maison des Eleveurs*) and the principal of one of the high schools.

Although there was a foundation for building a network, one of the biggest challenges was building trust with the people within the villages. Initially people were often sceptical towards a *toubab*[3]*,* which was expressed by asking questions about the 'real' purpose of the research and whether I would be able to bring money, seeds, Dutch Holstein cows or machines. Moreover, people often asked if I was there on behalf of the government. In most cases, it was satisfactory to explain the research again and emphasize that I was not able to make any promises regarding material or financial support.

In one case, the trust issue got more extreme. After an initial visit to the village and a discussion with the village leader in which the purpose of the research was discussed, it was agreed with him that I would come back for a focus group discussion with around eight people. After we sat down, the research was explained and I asked permission for recording the discussion for study purposes, we started the discussion. However, after only three minutes, I was stopped by the village leader who questioned the real purpose of my visit and the recording. A majority of the participants then joined him in questioning my presence in their village. It took more than one hour to discuss and convince the people of my true objectives. The next time I visited the village to discuss with people individually, there was still a certain level of distrust. However, by going to the field with some of them and taking time to sit down and learn for example languages, people got slowly less sceptical. Consequently, I decided that recording interviews would not serve the data collection, as people would be less open, especially on topics about conflicts with others. I realize that this influences the precision of the written interview data.

A final challenge has been the language barrier with the research participants. Most of the farmers and herders do not speak French, but either Wolof or Fula. As a result, I depended on working with a translator. The translator was found through a local high school of which

[3] Used to describe a white person in Senegal, Gambia and Mali

the translator had been a student. During the interviews, the translator would translate my questions into the spoken language – Wolof or Fula. The general topic of the interview was discussed before, but due to the semi-structured character, questions did evolve during the interview, which sometimes gave disturbance as clarification was needed in some cases. Furthermore, in several cases the interviewee had indicated to my translator that he or she did not want him to translate the specifics of what was told. This brought along ethical dilemmas of choosing between knowing what is being said to serve the purpose of the research or respecting the wish of the informant. In most of these cases we decided to stay with a general indication of the topic that the person would not want to be discussed. This was mainly related to cases of paying a bribe to officials or the use of mystical powers.

Chapter 4. A historical perspective

Conflicts between farmers and herders embedded in competition between both is not a new phenomenon in Senegal, illustrated by for example Paul Pélissier (1966) in his dissertation on farming in Senegal. He describes how the conquest of land by farmers led to conflicts between farmers and herders (Pélissier, 1966:206). Furthermore, during several interviews with governmental organizations, farmers and herders in Kaffrine as well as during informal conversations with the wider public, conflicts between farmers and herders was often referred to as "an ancient conflict" or being there "since I was born". Understanding patterns of conflict and cooperation of present-day relations between farmers and herders, requires an understanding of the various processes that have contributed to these dynamics. Therefore, this chapter looks at socio-economic, environmental and political developments that have contributed to increased competition between farmers and herders.

4.1. Developments in the Peanut Basin

Socio-economic developments in the area of Kaffrine within a historical perspective, should be understood within its historical context of the expansion of peanut production in the region. This has caused major changes to the social, economic, political and the environmental structures in which communities in the area have been embedded.

4.1.1. Agricultural expansion in the Peanut Basin under colonial rule

As briefly mentioned in the area description, the department of Kaffrine is part of the Senegalese Peanut Basin, which is one of the main agricultural production zones of the country. During the time of French colonial rule, peanut production was one of the main commodities produced for the international market. Starting in the more western Louga, Thiès and Diourbel regions, the area for peanut cultivation over time has been expanded towards the eastern zones in the interior as a result of high population densities, land degradation and declining agricultural productivity in the western areas of the basin (Pires, 2012). As a result, 'new' land was being cleared and led to the Peanut Basin covering a large part of Senegalese territory (Figure 2). This 'march to the east' (Pélissier, 1966:302) was marked by a strong influence of the Mouride brotherhood, one of Senegal's most powerful religious groups (Freudenberg & Freudenberger, 1993). The system of Mouride leaders (*marabouts*) functioned as a patronage-client relation in which their disciples (*talibés)* were more or less slaves and were giving the profits of their labour to their leader. The emphasis on virtues of "discipline, the sanctity of labour, and a communal sense of mission" helped the Mouride leaders to establish villages with followers of the Mouride brotherhood and hence could enhance a fast expansion of peanut cultivation (ibid:14). This was especially apparent after the end of World War I, when the French colonial powers started cooperating with the Mouride leadership (Pires, 2012). Together with an effective commercial promotion of peanut production during the colonial period and the construction of infrastructure, such as the Dakar-Niger railway, the expansion of the area for peanut production was able to occur at a fast pace (ibid). Until today, the importance of the Peanut Basin is of significant value in local

rural economies as well as for the national economy of Senegal, constituting around 60% of international exports.

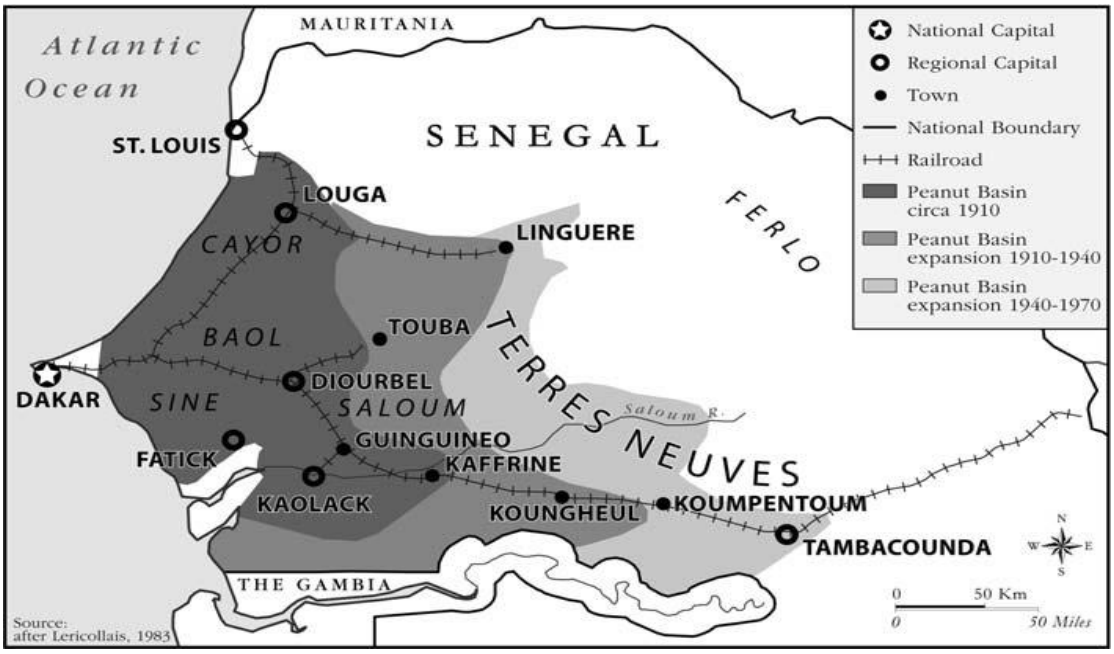

Figure 2. A map showing the expansion of the Peanut Basin until 1970 (source: Pires, 2012)

The fast and vast expansion of the peanut zone brought along changes in the socio-economic, political and environmental structures of the local societies. The pioneers perceived lands to be cleared for peanut production as underdeveloped and not in productive use (Freudenberger & Freudenberger, 1993). However, this land was being used mainly by Fulani pastoralists for grazing their livestock. Furthermore, these pastoralists were using small plots of land to grow crops for subsistence (ibid). As trees were not considered supportive in the new land use system – peanut is a light-intensive crop – trees were being cut and hence one of the main resources for pastoralists was removed: "at sunrise, the talibés [disciples] place themselves in line and begin to cut down the trees and clear the ground with frenetic zeal. Usually the Fulani [Fulbé] immediately leave their villages and move off. The Mourides advance, already they have cut down all the trees, even the useful ones: dye trees, calabash [sic] trees, baobabs, etc." (Belvert, 1937, cited in Pires, 2012). Moreover, forests were cut down to create space for agricultural fields, hence limiting the space for pastoralists who used the forests to graze their animals. Although referring to them as unusual, Pélissier notes that violence between farmers and pastoralists occurred as the Fulani pastoralists saw it as "*an invasion of agricultural space in an area reserved for the pastoral life in secular rights*" (Pélissier, 1966:89). In addition to clearing of land and forest for agricultural production, boreholes played a crucial role in the agricultural expansion, whereas water points created by pastoralists to provide them with water during transhumance were one of the first to be occupied by Mouride pioneers, who then built villages around these wells (Pélissier 1966; Freudenberger & Freudenberger, 1993). As a result, land that was previously used by and 'belonged' to pastoralists, was now taken over mainly by Mouride leadership. Consequently,

the movement of new people into the area is not only to be considered to have socio-economic consequences, but also political.

Although the strong organizational structure of the Mouride brotherhood and its emphasis on their virtues were definitely playing a supportive role in the expansion of agricultural production and hence in the existing societal structures, the support of colonial authorities to the Mourides has played a pivotal role in its success. The acquisition of land by the Mouride brotherhood was condoned and even promoted by the French. In the first place because peanut production was regarded as more economically viable than the pastoral land use systems and secondly, because the authorities saw the advantage of the increase in religious followers of the Mouride brotherhood to the enhancement of agricultural expansion and as such could buy the allegiance of Mouride leaders to mobilize farmers for the commercial expansion of peanut production (Freudenberger & Freudenberger, 1993; Pires, 2012). Hence, under colonial rule power patterns shifted, with an increasing power being held by Islamic leaders. Although not specifically mentioning the role of religious leaders in shifting power patterns, one of the pastoralists illustrated a general sense of diminishing powers owned by herders as "*in the past, the farmers (Wolof) were not really powerful. They were poor and didn't have animals. The Fulani had power and they were having kingdoms. But when the white people came, they brought democracy and they divided the powers. The Wolof became more powerful and the Fulani started to live in the forest. That is where the conflicts started"* (Pastoralist B, interview, June 8, 2019). Up until today Mouride leaders play an important role in the area both in everyday life as well as in disputes between farmers and herders, as we will see in the next chapters.

Despite the interest of the colonial powers to enhance control over land for a specific group of people, they acknowledged that the manner in which this was done was disadvantaging the environment and caused conflicts with pastoralists (Freudenberger & Freudenberger, 1993). As trees were considered as limiting light for the light-intensive peanut crop, trees were cut from fields, resulting to a disturbance in the ecological balance and enhancing water and wind erosion on the fields (Mbow et al., 2008). Soil degradation was further enhanced by the cultivation method itself, whereas peanuts are uprooted fully without leaving residues for organic matter in the soil (Freudenberger & Freudenberger, 1993). Hence, the colonial government developed policies to classify land for sylvo-pastoral use, such as the Mbégué forest in the northern part of the department of Kaffrine, one of the main havens for pastoralists during the rainy season (ibid). However, these reserved forests have been subject to political agreements for land acquisition, one of the clearest examples given by the Mbégué forest. In 1991 an agreement was signed between the government of president Abdou Diouf and the leader (*khalif*) of the Mouride brotherhood to allow peanut production on 45,000 hectares of the 73,000-hectare forest reserve (Schoonmaker, 1991). This practice further limited the space and availability of water points for pastoralists, some of whom consequently started to move out of the area (Davidheiser & Luna, 2008).

4.1.2. Agricultural investments after Independence

The attention for agricultural development in the Peanut Basin continued after the Independence of Senegal in 1960. Based on the politics of socialism, the State of Senegal considered itself as the only intervening partner for the rural areas and as such aimed to organize rural life and guarantee farm income and food security. Moreover, the government aimed to control the farmers to ensure their political votes (Lombard, 1993). This high involvement of the state in rural life, is amongst others reflected in the Law on the National Domain[4], developed in 1964 in which the State was acknowledged as the sole owner of land. Post-independence governments continued in the political structures of favouring agricultural development over pastoral development as well as making land deals with powerful religious leaders. One of these examples has been described above in the case of the Mbégué forest, north of Kaffrine. Furthermore, pastoralism continued to be surrounded with negative images of backward and wandering pastoralists, degrading the natural environment. Attempts were made to settle pastoralists and create ranches. At the same time investments in the agricultural sector grew, where the State subsidized amongst others seeds and fertilizers.

In addition to land being distributed along lines of powerful religious leaders, an increasing trend has been noticed of land deals with international investors to promote agribusinesses in Senegal. President Abdoulaye Wade founded an organization to boost food production in response to the global food crisis in 2008, which in reality however promoted elite farming (Koopman, 2012). The government distributed land amongst Senegalese elites, such as ministers and businessman to promote investments in agriculture (ibid). Consequently, under the rule of Wade about 16% of land belonging to local farmers was given to elites and agribusinesses (Koopman, 2012; Faye et al., 2011). Moreover, Faye et al. (2011) noticed that about 30% of Senegal's arable land was subject to large land acquisitions. Whether all this land is effectively in use or is whether it is only sold is however unclear (ibid). Although in the study area, these international 'land grabs' have not been mentioned in relation to land or conflicts, these deals do play a role in the national quest for land, impacting the availability of land in a wider part of the country. One of the informants at a renowned research institute told us that land provided to international investors contributes to most disputes around land in Senegal (IPAR, informal conversation, April 25, 2019). We could further argue that an increased acquisition of land from local peasants, increases the pressures on land and hence might contribute to competition between different resource users, including pastoralists.

4.2. Political and economic reforms

Following the structural adjustment programs, the Senegalese government went through a number of changes to decrease State involvement and liberalize markets. One of the main changes in government structures was the decentralization of governance responsibilities, in which a transfer of decision-making power took place from the national towards the local

[4] Loi relative au Domaine National (Loi n° 64-46 du 17 juin 1964)

level. Under the adage of *moins d'Etat, mieux d'Etat*[5] economic and political disengagement of the state were being enhanced through this decentralization process. Hence, local authorities had to deal with local problems. In 1996 Senegal passed a decentralization law[6], which transferred amongst other land allocation and natural resource management to local authorities. In general, Senegal is perceived as one of the success stories of decentralization in sub-Saharan Africa. However, several remarks should be made regarding the role of decentralization for the allocation of land, as well as for natural resource management in the broader sense. Firstly, since the passing of the decentralization law, the rural councils in charge of local governance were now being elected instead of appointed by the national government (Hesseling, 2009). Theoretically, this reduced the power of religious and political authorities based on invisible and hierarchical power structures, as their election into decision-making positions was now based on influencing the general public (ibid). However, these old power structures are still present.

Along with the decline of state engagement in local decision-making, the reforms included a withdrawal of state subsidies for both farmers and herders on yield enhancing products, such as seeds and artificial fertilizers (O'Bannon, 2006). Following O'Bannon here, the decline in subsidies on such productivity enhancing products may have contributed to the decrease in productivity of fields and contributed to a lowered ability of farmers to produce and hence the value of crops increased. Consequently, crop damage then becomes even more important to a farmer's income.

4.3. Environmental change

A common explanation for conflicts between farmers and herders in the Sahel is the effects of climate change and along with that a decrease in the availability of essential natural resources. One of the common factors related to climate change is the overall decrease of rainfall and an increase in temperatures. Although overall estimates for the Sahel region do often present a daunting picture, Mbow et al. (2011) found that a high variability in rainfall conditions exists in Kaffrine (see Figure 3). Since the 1950's an overall trend of decreasing rainfall is visible, while a positive trend in rainfall is seen from the 1980 droughts onwards (Mbow et al., 2011:215). Consequently, the overall trend is one of water scarcity, embedded in past droughts and hydrological stress (ibid). In the interviews with informants in Kaffrine, decreased water availability was often mentioned in relation to water in the forests. Pastoralists indicate that water in the forest now finishes earlier than before. However, the reason for that was often not mentioned. Although I do acknowledge the role of a changing climate in the availability of resources, we need to be careful in linking climate change directly to changing farmer-herder relations. First, changing environmental conditions are difficult to distinguish from changing socio-economic conditions as the both are closely interrelated.

[5] Less state, better state

[6] Loi n° 96-07 du 22 mars 1996 portant transfert de compétences aux régions, aux communes et aux communautés rurales.

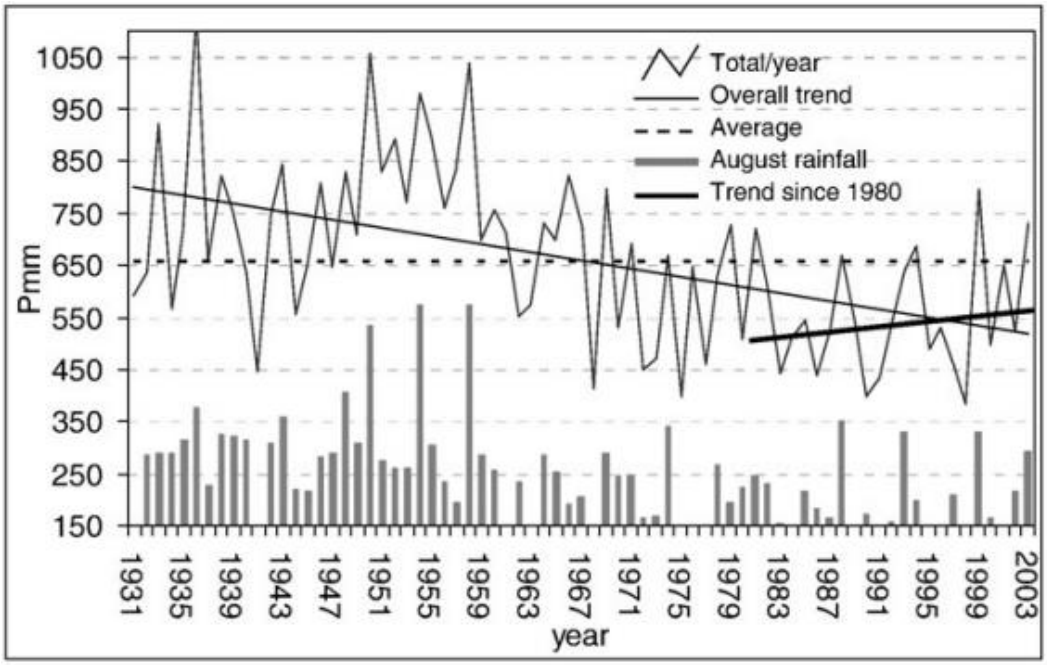

Figure 3. Rainfall over the period 1931-2003 from Kaffrine (source: Mbow et al., 2011)

Secondly, as we discussed above, the rapid expansion of peanut production as well as the production method itself contributed to environmental impacts in the region, including soil degradation and deforestation. Thirdly, in relation to the research in Kaffrine, climate change was hardly linked to (changing) relations between farmers and herders. A few people did mention climate change as a major cause for conflicts. Furthermore, this was in a majority of these cases provoked during the interview, following questions as "do you think climate change plays a role?" Moreover, the narrative of climate change as an important cause for conflicts resonated especially amongst public officials. Although the early dry-up of wells in the forest can be linked to climate change, other socio-economic factors may play a role in the availability of water in the forest. A decreasing water availability through boreholes and water points may equally be the result of an increasing population, growing livestock herds or the control of water points my powerful elites.

4.4. Conclusion

This chapter discussed the socio-economic, political and environmental processes in the area of Kaffrine, providing a historical background to present-day farmer-herder relations. The west to east expansion of the Peanut Basin during French colonial rule went hand in hand with the occupation of lands that were previously used by pastoralists. The fast and vast expansion was further enhanced through the engagement of the colonial authorities with the influential Mouride brotherhood. Consequently, socio-economic and political structures were altered in the new agricultural areas, whereas the management practices of peanut production contributed to the degradation of soils. Moreover, conflicts between farmers of the Mouride brotherhood and mainly Fulani pastoralists occurred in a power struggle over access to land and water points. The attention for agricultural expansion was further continued under post-

Independence governments, characterized by a high involvement of the national government in rural affairs. Meanwhile, land has been distributed to local elites and international agribusinesses, contributing to less land available to local farmers and pastoralists. Altogether, the above processes caused both physical and socio-political pressures on land and water points. Although rainfall patterns have shown to be highly variable over the years and water scarcity is existent in the area, following a long history of droughts, we are careful to conclude that these contribute to conflicts, as at the same time there are underlying processes of scarcity, such as population growth and the – historically embedded – differentiation in access to land and water resources.

Chapter 5. Farmer-herder relations

Relations between farmers and herders are dynamic and context-specific, as we have seen from the literature study in chapter 2. Therefore, this chapter focusses on the specific dynamics of farmer-herder relations in Kaffrine. Breusers et al. (1998) concluded that relations between farmers and herdsmen are can neither be characterized as conflictive nor cooperative without the presence of the other side. Hence relations between farmers and herders should not be presented as involving two antagonistic situations. In this chapter I will argue that the same line of thinking can be applied to the case of Kaffrine, as conflict and cooperation are two sides of the same coin, where the coin is the relation between farmers and herders. This was well illustrated in one of the interviews, where it was stated: "*sometimes there is conflict, sometimes there is peace. It is something that you see in every cohabitation. That makes the cohabitation interesting. After the conflicts, there is peace"* (Pastoralist C., interview, June 8, 2019).

Despite the fact that relations include both cooperation as well as conflict, during interviews and informal conversations respondents often focussed on the conflict side. After steering the questions more on the cooperation side, often the answer was that relations in general are peaceful. However, a majority of the people would then turn again in explaining that there are conflicts between farmers and herders. Consequently, the results of the interviews were mainly focussing on understanding the conflicts and hence it covers the majority of this chapter.

5.1. "Sometimes there is conflict"

That conflicts between farmers and herders in Kaffrine do occur, is something most farmers, herders and government officials agree upon. However, it becomes more complicated when it comes to what is perceived as the cause of conflicts and who is held responsible. As a result of dynamic and complex relations, everybody tells their own stories and hence what one describes as a cause of conflict can be contradictory with what another person tells. Therefore, when analysing conflicts, one needs to be aware of the narrative used by different people in describing conflicts and their causes. As such, this section analyses conflicts from the perspective of the different narratives employed.

When talking about conflicts in this paragraph, one must be aware of the use of the term conflicts. In interviews, the terms 'tensions' and 'conflicts' were often used interchangeably by respondents. In a majority of the literature about farmer-herder conflicts, conflicts refer to the existence of violent conflicts. Although in the case of Senegal it was said that killings do occur on an occasional basis, the extent and intensity can by no means be compared to the scale of violence as we see them in Nigeria or Mali at the moment. Conflicts in Kaffrine seem to occur more on the individual level of farmers and herders. Despite having

this character of low-intensity conflicts, we can still derive some patterns from the conflicts that do occur.

5.1.1. Seasonal patterns of conflict

A first observation is that conflicts follow a seasonal pattern, where the rainy season is the period where major agricultural and pastoral activities take place. Farmers are dependent on rain-fed agriculture and thus, the period with rains from June to September is an important period in the agricultural calendar. Likewise, pastoralists are dependent on the rains in search for water and pastures for their livestock and the start of the rainy season indicates a period in which long-distance movements takes place to the forests. Consequently, this is the period where both farmers and herders are interested in using land and water resources and competition over these resources is most likely to manifest. Moreover, the occurrence of conflicts should also be understood from its embeddedness in an economic dependency on a single economic sector. Farmers and herders are both dependent on the rainy season for a majority of their incomes and a successful production period is therefore even more crucial. This dependence on these seasonal production patterns was illustrated in one of the interviews with a farmer, where he stated that "*the principal cause of the conflicts is that pastoralists are concerned about their animals and the farmers are concerned about their crops. It is the only thing we have. Otherwise, at the end of the rainy season we would live in peace*" (Farmer J., personal communication, June 27, 2019). However, concluding that conflicts happen because of economic dependencies would ignore the complexities and dynamics of both farmer-herder relations and understanding the perceived causes of conflicts. To understand the occurrence of these conflicts, requires a detailed understanding of the range of activities and interactions that take place during the rainy season. In relation to farmer-herder conflicts, it is however not just the wet season itself that is relevant. Rather than speaking about a rainy season it is therefore more appropriate to talk about the growing season, as farming activities go up to harvest time.

Before the rains actually start, the coming of the rains can be noticed as some of the trees – like the Baobab – bud their leaves and clouds start to appear on the horizon (Farmer D, personal communication, June 12, 2019). After these first signs of the rains, farmers start preparing their fields by cleaning it from remaining crops residues and ploughing the soil. However, in an environment where herders benefit from crop residues, the preparation of agricultural fields implicates a response in pastoral activities. As farmers start burning their crop residues, a crucial source of food for the animals of pastoralists is taken away, which is further reinforced when bush fires burn down shrubs and grasses as a side-effect of burning crop residues. This causes shortages in fodder as "[..] *the animals start eating dry grass from January. A few months after that, there is no more food. The grass is burnt by the farmers, and the rest is eaten by the animals. So, there is not enough food*" (Farmer H., interview, June 23,

2019). Hence, this has consequences for the pastoralists, who have to move their herds to the forests, which in some cases occurs before the rains have come: "*the farmers burn the residues and sometimes that also burns some of the grasses. So, then the herders don't have anything for their animals and we have to move early, even before the rainy season starts*" (Pastoralist E., interview, June 13, 2019). In the forests however, seeds and water pools have not yet developed, as the rains have not started. In this sense, the cleaning of fields can cause tensions between farmers and herders. Although, farmers did not mention the burning as a problem between them and herders, herders and government officials did mention it as one of the issues.

The start of the rainy season thus marks the movement of pastoralists over a longer distance in search for water and pastures. Although in the literature, this is often primarily related to the spatial and temporal heterogeneity of rain and hence pasture and water, pastoralists in Kaffrine express this more often in terms of a lack of space and avoiding conflicts with farmers. One of the pastoralists "*outside the rainy season, we interact, but when the rain comes, we have to move, otherwise there will be conflicts"* (Pastoralist B., interview, June 8, 2019). And another pastoralist, when asked to describe his relationship with farmers, he responded that "*in the rainy season we go to the forest, because here it is not easy to live, because of the farms. There is not enough space and we go to the forest. There is food for the animals, water in the pools and fields for the crops*" (Pastoralist E., interview, June 13, 2019). Consequently, during the remaining time of the growing season there is relatively low interaction between farmers and herders, whereas a majority of the latter have moved with their herds to the forest and "[..]*you can't have conflicts with somebody that you cannot see*" (Pastoralist E., interview, June 13, 2019). However, as we will see later in this chapter, pastoralists see an increasing number of agricultural fields in the forests.

Towards the end of the rainy season, herders start returning to the villages and this period is unanimously referred to as the time where most conflicts take place. As water pools in the forests start to dry up, herders come back to the villages where boreholes provide water to both farmers and pastoralists. Although it is laid down in law that herders are only allowed to return after the 15th of January and farmers are obliged to have their fields harvested before this date, herders come back earlier because of limited water and food in the forest around this time. However, crops have matured and farmers are about to harvest and hence this constitutes a crucial period in the agricultural calendar in which income is generated. The major cause of conflicts at the end of the rainy season is therefore the destroying of crops. In the next paragraph a more in-depth analysis of the causes and manifestations of these conflicts is described.

Although there are some conflicts in the dry season about the stealing of livestock, the dry season is commonly experienced as a peaceful period. Like the beginning of the rainy season indicates a period of tensions, the end of the growing season indicates the start of a

relatively low occurrence of conflicts and cohabitation is mainly characterized by cooperative relations. As one of the pastoralists in Kaffrine put it, *"the peaceful cohabitation shows that the conflicts are over. It means that the rainy season is over. So, we have to enjoy this long time without conflicts [..] Everybody is happy. The farmers are happy, because they sell the crops at the market. And the breeders are happy, because we will benefit from the crops, as the animals will eat from it"* (Pastoralist F., interview, June 16, 2019).

This pattern of seasonality in conflicts gives room to conclude that competition over land and water resources is highest in the growing season. However, competition over resources itself is not a one on one cause for the existence of tensions and conflicts. This bring us to the question what the direct and indirect causes of conflicts are.

5.1.2. Narratives on the cause(s) of conflicts

Analysing what leads to conflicts between farmers and herders requires an understanding of both the immediate causes or triggers that lead to conflicts and the underlying, long-term processes that contribute to tensions between farming and herding groups. As identified in the previous paragraph, the damaging of crops at the end of the growing season is seen as one of the key triggers for conflicts. Furthermore, in the dry season there are accusations of cattle stealing. However, if we look at a deeper level on the processes leading to those triggers, there are several narratives which can be identified.

Narrative I – Lack of land: "the people and animals are increasing"

A major narrative is that the lack of land is leading up to tensions between farmers and herders. In turn, shortage of land is related to both visible processes of expanding fields, population growth and larger herds, as well as to less visible, political processes of land rights and land distribution. Within the frames of this narrative the lack of land leads to mainly two triggers of conflict, which are the use of the cattle routes for other purposes than animals and the cultivation of lands in the forests, an important space for pastoralists.

On the one hand, pastoralists accuse farmers of farming closely to or in the grazing routes and as such gradually increasing the size of their land at the expense of the grazing routes. As a result, the passing space for animals is narrowed and it becomes more difficult to manage herds in these smaller spaces. Both farmers and herders as well as public officials acknowledge that the grazing routes causes tensions between farmers and herders. The given reasons for the expansion of the fields in the grazing routes however varies. "*The grazing route is for animals, but some people grow crops next to it. They do it out of greediness, because they want to grow more crops. Every year they take a little bit more. This year it can be 50 meters, the next year 30 meters and then 10 meters. But 10 meters is not enough to let the animals walk"* (Farmer A., interview, June 4, 2019). The argument of greediness was expressed by others as well, stating that farmers are thinking of their crops only. A more common heard

explanation is that the lack of land is causing farmers to expand their fields, illustrated well by one of the farmers stating that "*if the lands would be enough, we would not grow in the grazing routes. There are sometimes conflicts. If you see this kind of problems, it is all because the lack of lands*" (Farmer B., interview, June 4, 2019). Informants linked this mainly to demographic growth in the area, where the land needs to be shared by an increasing number of people. The use of the grazing routes for crops affects the access to water resources as well. In the growing season, farmers cultivate close to the boreholes and hence limit the space leading to these water bodies. In combination with the early return of pastoralists to the villages, this causes tensions between both: *"[..] in the end of the rainy season, there is no more water in the forest, and the animals can't live without. So, we go back to the fields, but the crops are not yet finished and the boreholes are not accessible"* (Pastoralist E., interview, June 13, 2019).

A second major reported problem with regard to space, is the cultivation of crops in the forest. Reserved as sylvo-pastoral zones the forests are meant to provide a relatively exclusive place of resources for pastoralists in the rainy season. However, pastoralists notice an increase of fields in the forests, where farmers cut the trees (a source of food for animals) and create fields to cultivate crops. There are several processes indicated to be linked to the cultivation of crops in the forest. Firstly, an increase in people and hence in farmers' fields, as well as an increase in livestock are seen as the main contributors of shifting fields to the forest. As one of the pastoralists noted: "*in the past, there was enough forest, but now what makes the forest less, is the increase in people and animals. The farmers get children and need more space. Also, the breeders have more animals*" (Pastoralist G., interview, June 19, 2019). Although according to the forestry code the forests cannot be used for agricultural activities, the reports of cultivation in these areas are unambiguous. Whether these laws are implemented on the ground, remains unclear. At the one hand, we heard cases where government officials indicated that it is not allowed for farmers to grow in the forest when pastoralists complain about the space. In one of the cases where cows were captured by farmers in the forest as they entered agricultural fields, the prefect had indicated that the area is not meant for farming: "*a few days ago, some cows were taken. The prefect in charge said that there are no papers to show that this forest is for the farmers. This forest is for the breeders*" (Pastoralist C., interview, June 8, 2019). On the contrary, there is an overall sense of distrust whether the laws are implemented and respected by those in charge. Moreover, in several cases contracts were made between farmers and the forestry service "*Sometimes there are contracts made between the Service des Eaux et Forêts and the people to live in the forest for two years. But [the farmers] they start building a mosque and they are having big families. We try to negotiate with them, but it is difficult*" (Service des Eaux et Forêts, interview, May 31, 2019). Furthermore, at a more invisible level, political processes and power

relations play an important role in the distribution of lands and spaces in the forests. This is discussed in the next narrative.

Narrative II – Distribution of land: "they were given the land"

When diving into the cultivation of crops in the forests, a complex picture of political and religious linkages in land distribution turns up. In several interviews, informants pointed at the involvement of religious leaders, *marabouts*, in accessing lands. *Marabouts* up to today, have a powerful role in Senegalese society as Islamic religious leaders. Consequently, they play an important role in the everyday life of believers and likewise have an influential political role. The Mouride brotherhood is one of the most influential in Senegal and have a prominent role in the area of Kaffrine as a result of the historical processes described in chapter 4. Hence, in interviews the role of religious leaders has often interchangeably been expressed as '*marabouts*' or 'Mourides'. When tensions or conflicts occur in the forest, they are often related to the activities of these religious leaders. At one point we met a pastoralist who was on his way to court as his cows were caught in the forest the previous day. When discussing about the conflict, he immediately stated that "*usually, the people who catch the cows are Mourides [..]. In the forest, it was said that it was not for farmers. But the religious guide built a garden and he has put some water*" (Pastoralist A., interview, May 28, 2019). In other interviews with pastoralist this perception has been confirmed. "*In my area there is no forest. The only forest I know, is the one next to Boulel. But the forest is given to the Mourides, who are farmers. That's why the space is becoming less"* (Pastoralist N., interview, June 25, 2019). From the above, it becomes clear that this narrative is mainly expressed by pastoralists. This is plausible, whereas the religious leaders are linked to farming and hence farmers will not accuse them of using lands in the forest. Moreover, in one of the cases pastoralists complain that the chief of the village was not willing to help, because of being a member of the Mouride brotherhood, stating that "*the leader of the village is not willing to help, because he is a Mouride*" (Pastoralist C., interview, June 8, 2019).

It is remarkable how within the frames of this narrative, pastoralists tend to talk about the process of land distribution as "giving". This implies an invisible, non-transparent process of acquiring a piece of land. Such suspicions are reinforced by a story of one of the farmers who told us that close to their village, people requested land in the forest and after being given the space, "*they could cut down the trees as wanted*" (Farmer D., interview, June 12, 2019). Another farmer also indirectly confirms these suspicions, by stating that "*in the past it was possible to come and ask for land. There were spaces in the forest, they just gave it freely. But now, there is not enough space, so the people just have to buy it* "(Farmer C., interview, June 10, 2019). When asking whether the respondents could explain more about the processes of land distribution in the forest, the answer came back to not knowing how land is provided to *marabouts,* but that it definitely contributes to tensions. In some cases, there are

assumptions, such as "*he goes to the authorities and pays money and gets the land to settle. The breeders just have to move, to avoid conflicts, because we can't live with those people*" (Pastoralist E., interview, June 13, 2019). However, as a result of the hierarchical position of *marabouts,* the process of acquiring a piece of land is highly politicized and non-transparent for the population. This role of religious leaders in using and accessing lands, complicates farmer-herder relations even more, as conflicts may not always seem to directly concern a physical lack of land, but reflect a struggle about power differences with a group of religious leaders that are highly respected.

Narrative III - Responsibilities: "the farmers don't move"

A third narrative revolves around who is to be held responsible for the tensions between farmers and herders. As such, the causes of conflict are not so much described as *what*, but as *who*. Within this narrative, roughly three lines of thinking can be distinguished.

Firstly, an often-heard explanation for the occurrence of tensions is because of the movement of herders. Although not always made explicit within the interviews, this narrative implies that the responsibility for the tensions lies with the herding communities. Farmers for example blame the pastoralists, because "the *farmers don't move. The cows go around and the problem is mainly of the breeders"* (Farmer A., interview, June 4, 2019). Such perceptions are not only found amongst farmers, but also circulate amongst several organizations which are in one way or another concerned with the relation between farmers and herders. A clear example of this narrative was given by one of the judges of the court, saying that "*it are always the pastoralists. The farmers are not responsible, because they don't move. Only the breeders are wrong, because they move & destroy crops*" (President of tribunal, interview, May 15, 2019). When asking whether it is possible that growing of crops in the grazing routes can contribute to conflicts, the president clearly stated: "*no, it's impossible for a farmer to enter the cattle routes. It is respected*" (ibid). Remarkably, pastoralists themselves also articulated this narrative, although in more indirect words, like "*if there is someone who can help us to find a system to let the cows stay inside one area, so that we do not have to move, that can resolve the conflicts* " (Pastoralist B, interview, June 8, 2019). Consequently, in informal conversations with pastoralists, often recurring topics were the development of ranches to prevent the movement of animals. Such a limitation of movements was often linked to the prevention of conflicts. However, not all pastoralists agree with this vision and emphasize that the movement of animals can't be blamed: "some *people say it is not the farms that move, but it is only the cows. But that is because the people don't know"* (Pastoralist J., interview, June 2, 2019).

A second line of thought in the responsibilities narrative, is that the responsibility is actually dehumanized and transferred towards the animals. This narrative is mainly found amongst pastoralists. "*It is normal to have some animals which escape and enter the fields [..]*

The animals can escape, because they want to eat" (Pastoralist C., interview, June 8, 2019). Likewise, a Fulani agro-pastoralist whose family has lived within a community with a majority of Wolof farmers stated that "*in the fields there are more grasses than outside. The animals can see this grass and enter the fields to eat it [..] But the animals are not human, they don't know the law, they just want to eat. They see food and enter the fields to eat the crops. Even if the breeder is doing his best, he can't prevent it*" (Farmer H., interview, June 23, 2019).

A third line in this narrative about responsibilities points at the responsibility of who actual manages the livestock. Both within interviews as well as in informal conversations, it was often topic of discussion that children managing the herds, causes tensions between farmers and herders. This narrative is used and confirmed amongst farmers as well as pastoralists. "*Sometimes the impoliteness of the children can cause conflicts. They can say bad words. The children do not negotiate, but can insult the farmers* "(Pastoralist C., interview, June 8, 2019). The children are sent with the cattle to find pastures and water during the day. However, it is said that because of their young age the children do not have the skills to negotiate or settle disagreements peacefully, as illustrated by the president of one of the pastoralists organizations in Kaffrine: "*the children are involved in the conflicts. That is common, because they are not patient. They don't do what the older people like. They can even get in conflict with farmers without damaging crops. When the farmers ask for payment, they can just refuse. When they come close to the farms, the farmers tell them 'you can't stay, you have to leave, because you can destroy the crops*' a*nd the young boys can just become angry. The old people have a sense of negotiating"* (Pastoralist G., interview, June 28, 2019). Others have related it to a lack of education among pastoralist children, as stated by one of the pastoralists: "*there is a lack of education. Education is important in a person's life. Even if you grow up in poverty, you won't take other people's things. The best thing for children is to send them to school, so that they have knowledge. Not only leave them in the forest, because then they think that life is not important. Then they can just take other people's animals*" (Pastoralist F., interview, June 13, 2019).

As we see within this narrative, it is mainly the pastoralists who are held responsible. Although farmers are held responsible for growing crops in the grazing routes, it is still the pastoralist who is held responsible when crop damages occur through paying a compensation.[7] In pointing at pastoralists to be held responsible for tensions, it is often expressed that this is part of the identity of pastoralists or Fulani, as it is their lifestyle to move and it is not easy to change that.

[7] This compensation procedure will be further discussed in Chapter 6.

Narrative IV – Fulani vs. Wolof

As a result of the complexities in defining who is a farmer and who is a pastoralist, some scholars have criticized studies in which conflicts between farmers and herders are presented as a conflict along ethnic lines (e.g. Breusers et al., 1998). Hence, during the time of fieldwork I have not mentioned ethnic identities in talking about relations between farmers and herders. However, in different interviews and informal conversations differences between ethnic groups were linked to tensions between farmers and herders about land and water resources. One of the female pastoralists expressed how she worries about the safety of her children when they are herding, because of fights with the farmers. After asking her whether she tries to prevent the children of being unsafe, she answers: *"[..] the tension begins at the start of the rainy season. When a breeder greets a farmer, he doesn't answer the greetings. It is not a problem between the farmer and the breeder, but between the Wolof and Fulani"* (Pastoralist C., interview, June 9, 2019). The presented antagonisms between Wolof and Fulani are linked to livelihood differences and cultural identities. For example, the same woman explained that there are tensions between Wolof and Fulani because "*it is the difference of the activities, farmers have their fields. It is just about the ethnicity. The Fulani are proud of what they are, they don't want to be farmers and farmers don't want to be breeders. That can become a real problem*" (Pastoralist C., interview, June 9, 2019). Others expressed how the stealing of cows is linked to the Fulani: "*if the animals are stolen, the Wolof say 'it are the Fulani. When we were alone, the stealing didn't happen, but it started when the Fulani came*' "(Pastoralist F., interview, June 13, 2019) and "*farmers are usually Wolof and the breeders are Fulani. The Wolof started to hate the Fulani language. When they hear someone speaking Fulani, they become sceptical. They say that the Fulani are thieves and are stealing. That is why the cohabitation is bad*" (Pastoralist B., interview, June 8, 2019). Although we saw in Chapter 4 that land initially used by Fulani pastoralist has increasingly become under agricultural production as a result of the influx of farmers during the expansion of the Peanut Basin, the expression of problems starting 'when the Fulani came', may indicate a sense of expressing a way of territoriality.

If we look into who applied the narrative of Fulani versus Wolof, it is mainly the Fulani herdsmen who use ethnic identities to explain tensions. Moreover, in the interviews with people who identified themselves as being farmers, the word 'Fulani' was only used once: "*The conflicts happen between the farmers and the herders. The Fulani are only interested in the animals to be fed. On Sundays we go to Birkelane and when we come back, we see that the crops are destroyed. On Sundays we don't go to the fields*" (Farmer J., interview, June 27, 2019). Whether it is a coincident that this narrative mainly was found amongst pastoralists is hard to say, however it might be linked to a wider sense of marginalization expressed by pastoralists, as we will discuss further in Chapter 6.

5.2. "Sometimes there is peace"

Although in section 5.1 the focus on conflicts between farmers and herders can be misleading and result in a perspective where these relations are mainly characterized as conflictive, relations between farmers and herders are first and foremost embedded in peaceful and cooperative relations. This cooperation is expressed both as mutual dependence of resources for their livelihoods, as well as in a fundamental expression of being brothers and neighbours.

5.2.1. "We need each other "

In line with paragraph 5.1, farmers and herders in Kaffrine characterize their relations as peaceful in the dry season, "*when there are no farms*" (Pastoralist F., interview, June 13, 2019). Such reasoning may lead to conclusions that conflict and cooperation are two irreconcilable processes, where in situations of conflict, cooperation is absent and vice versa. However, as we have seen in Kaffrine, this reality is far more dynamic. Moreover, such antagonisms between conflict and cooperation should be seen within its spatial dimensions, as pastoralists often move out of the areas with farmers during the rainy season. Although conflicts do happen, a fundamental perspective on the relations between farmers and herders should be based on the peaceful, cooperative relations. These relations are first and foremost based on an exchange of mutual benefits in livelihood production strategies. Such mutual beneficial relations are often expressed along the lines of "*we need each other*" (Pastoralist G., interview, June 28, 2019). At the end of the growing season, farmers leave their crop residues on the fields for the pastoralists to be used as fodder for their livestock. In turn, the fields are often fertilized with the manure of the cattle brought in by the pastoralists: "*the Wolof didn't have enough to eat, they only had the millet. The Fulani had milk and meat. When the Wolof wanted to have it, the Fulani would give it. But the soil became less fertile and they wanted the Fulani to fertilize the soil with the animals. Through the ages, the Fulani stayed in one space for a long time and with the manure made the soil more fertile*" (Pastoralist B., interview, June 8, 2019). Although in this citation the herder implies that manure has been provided freely to farmers in exchange of food, this is not necessarily the case in present-day farmer-herder relations. One of the farmers described the difference between cases where pastoralists have fertilized the fields and want to be paid and those cases where manure is provided in exchange for feed and fodder. Agreements can be made with herders on the amount to be paid for fertilizing the fields, on the basis of negotiations. On the contrary, pastoralists can come and demand in kind "[..] *sometimes the breeder comes and says 'I am going to fertilize the soil, but you have to give me water every day or feed my horse or give rice'*" (ibid). In this latter case, the farmer told us that negotiation is not desired, as it is seen as a form of *teranga,* the Senegalese expression for hospitality: "*It is teranga [..], so you just have to give back. You can give rice for example. You think about the next year, because otherwise they go to another farmer the next year. It is not an agreement, but something we just do [..] You can't say that*

he shouldn't come. Even if you don't have anything, you do your best. You should be thankful" (ibid). In return farmers can then ask again for products such as milk and meat.

Secondly, milk, meat, millet and peanuts are shared between farmers and pastoralists. Although terms as 'mutual beneficial' and 'exchange' indirectly imply the exchange of goods for free, this is not the case. In Kaffrine, we found both cases in which goods are sold and where goods are provided in exchange of other goods. As one of the respondents illustrated it: "*if I can buy it, I will buy it. If I can ask for it, I will ask it. If I can buy it on a credit, I will put it on a credit and pay it later*" (Farmer E., interview, June 14, 2019). Others emphasized that the exchange of goods is based on commercial ties, illustrated by a pastoralist, stating that "w*e don't give things freely. The meat and milk have to be bought. The farmers also sell the millet, peanuts and residues from their crops*" (Pastoralist B., interview, June 8, 2019). Others again did tell that food is exchanged between people: "*sometimes, there are people who want to buy the milk, but they don't have money. Then we propose to exchange it for millet or beans*" (Pastoralist D., interview, June 9, 2019). Hence, one could argue that cooperative relations are based both on commercial interest as well as on informal exchange of goods.

5.2.2. "We are like brothers"

In addition to these everyday displays of cooperation between farmers and herders, on a deeper level we can identify relations based on long-term relations of friendship. This is often expressed as "*we are like brothers*" (Pastoralist L., interview, June 24, 2019). In the interviews several examples were given to illustrate such relations. *"The farmers and herders live in peace, we visit each other. If one of us has an event, we go and visit it together. Out of the conflicts, we are in peace"* (Farmer J., interview, June 27, 2019). During ceremonial events, like naming ceremonies, burials and weddings both farmers and pastoralists are attending. Furthermore, during the rainy season, some farmers send their children with the animals in the forest where they live with the families of breeders. This indicates a level of trust in the relationship by farmers. However, from a farmer's perspective it also complicates discussions on allowing pastoralists to come back, as illustrated by the following example: "*it is also difficult to make people not come back before the 15th of January, they have no right to come back. In the rainy season, I ask my children to go with the cows to the forest. When they go, they need to eat, drink and take a bath. They are obliged to live in the Fulani's house. At the end, these children have to come back. The breeders fed them freely and they accompany the children and they want to spend the beginning of the dry season together. So, we can't just tell them 'no', because our children stayed there for the whole rainy season. But it is difficult, because when they come with their cows, they can destroy the crops*" (Farmer C., interview, June 10, 2019).

5.3. Conclusion

The central question discussed in this chapter is *what are the dynamics of farmer-herder relations in Kaffrine?* An answer to this question must be placed within the limited time spent in the field. Consequently, what is described here as the dynamics of farmer-herder relations in Kaffrine is just scratching the surface. Farmer-herder relations are multi-dimensional and need to be understood in their different arenas of interaction. Hence, understanding the depth and complexities of such relations requires a long-term engagement with different spatial and temporal variabilities in the local context. However, based on the interviews held with pastoralists, farmers and government agencies, we can draw some prudent conclusions. Farmer-herder relations in Kaffrine are characterized by an intertwined set of both cooperative as well as conflictive relations. Rather than being mutually exclusive, conflict and collaboration between farmers and herders exist parallel to each other. The rainy season is a common period for the occurrence of conflicts in which crop damage is one of the main triggers for conflicts. As the Baobab starts giving its green leaves, the signs of the rainy season and hence the 'season of conflicts' are present. This brings a general sense of tensions between farmers and herders. On the one hand, farmers are sceptical about the movement and presence of herds close to their agricultural fields and are afraid for crop damage. At the other hand, herders see an increasing presence of fields on 'their' grazing routes and in the forests. Moreover, the early dry-up of wells and finishing of seeds in the forest makes them move back earlier than the agreed date. Hence, tensions do exist and do result in conflicts about crop damage with sporadic incidences of wounding and murder. However, the presence of tensions and conflicts does not mean that collaboration between an entire group of pastoralists and an entire group of farmers is absent. Moreover, on the individual level, farmers and herders may cooperate while being in conflict over crop damages. On the contrary, the absence of high-occurrence conflicts in especially the dry season, doesn't mean that latent tensions do not exists. The narratives around what the causes are for conflicts and who is to be hold responsible, are multiple and differ between individuals. We could therefore argue that the dynamics of conflict and cooperation, embedded in social relations are also strongly influenced by individuals and their strategic interests to achieve a specific outcome of processes to halt conflicts, such as ensuring access to resources and negotiation on compensation.

Chapter 6. Institutions in conflict prevention and management

Institutions play a crucial role in managing conflicts and mediating access to natural resources, one of the main assets around which relations between farmers and herders in Senegal and the wider West Africa are developed. This chapter therefore focusses on two sub research questions, being *what is the role of institutions in mediating access to resources* and *what is the role of institutions in managing conflicts?* Within the limits of these questions a deeper understanding will be formulated of the functioning of different institutions in these processes. Consequently, questions on which institutions can be distinguished in relation to farmer-herder relations and their reference to natural resources, how are these institutions implemented and how do they function? Furthermore, the theory of access is used to understand the mediating role of institutions in accessing natural resources.

6.1. Access to agro-pastoral resources

Pastoral livelihoods in the semi-arid environments of Senegal, as well as in the wider region of West Africa, are dependent on temporal and spatial heterogeneous rainfall conditions. Hence, in order to sustain their livelihoods, pastoralists are forced to cope with uncertainties in the availability of and access to key natural resources such as land and water. Institutions, both ordained by the state as well as those embedded in social relations, play a pivotal role in mediating access or enhancing the lack of access to resources through defining *how, when* and *where* different groups of resource users have the ability to benefit from those resources or not. Following Ribot & Peluso's line of thought on the theory of access, this section looks into the role of rights-based and structural mechanism based on social relations in access to resources.

6.1.1. Rights-based access to resources

Rights-based mechanisms of access to natural resources entails access sanctioned through law and customs or unsanctioned, illegal access through theft or violence (Ribot & Peluso, 2003:161). In Senegal, the government has developed several laws and policies regarding the use of and access to natural resources, which influence the ability of both farmers and herders to benefit from these resources for their livelihoods. In addition, customary practices for the right to land can be identified. In the next, we will elaborate more on these separate mechanisms.

Legal embedded rights to access

One of the key resources for both farmers and pastoralists is land and apparently the major body of legislation and policies related to access are concerned with defining access to and use of land resources. One of the first laws after independence of Senegal was the land act of

1964, known as the Law on the National Domain (LDN[8]). Based on this law, no legal rights to land can be granted to other actors than the government on land belonging the national domain, which included land not privately owned or registered at the time the law came into force. Customary land owners had the possibility of getting their land registered within six months after the adoption of the law when able to prove long-term use and customary ownership of lands (Hesseling 2009). However, lack of urgency and knowledge on the law resulted in a majority of lands not being registered and hence about 95% of lands are now being owned by the government (Hesseling, 2009; Kaag et al., 2011). The rationale behind such arrangements is that the state owns lands "*for the purpose of ensuring rational use and development*" (Article 2). Non-transferable usufruct rights, however, can be held free of charge by users of land parcels, under the condition that it is put into productive use and that users are resident of the rural community in which the land is situated. Moreover, after three years of cultivation lands can be claimed by those cultivating the specific parcels of land (Kaag et al., 2011). This was confirmed also during fieldwork, where pastoralists indicated that land was being claimed by farmers after three years of cultivation: "*The farmers go to the government to [ask them to] lent them land for three years. But after three years, the farmers build their houses and boreholes and they can claim the land and then the government can't take the land from them back"* (Pastoralist G., interview, June 19, 2019) and *"[..] every space where the farmers stay for three years, this space is going to be given to farmers*" (Pastoralist H., interview, June 21, 2019).

The law as described above contains several shortcomings concerning transparency of land governance in the broader sense of land tenure in Senegal (see Faye, 2008; Hesseling, 2009; Kaag et al., 2011), and consequently influences the ability of farmers and herders in benefiting from land as a natural resource. A first aspect to be considered is the lack of a clear definition of 'productive use' (Hesseling, 2009). What is considered as productive remains unclear and is subject to the political, economic and social rationale at different times. Considering that this law was developed in a time where the narrative on pastoralism was embedded in rebuking pastoralists of overgrazing and land degradation, herders' access to land as a productive asset is already legally disadvantaged with a 1-0 backlog. Indeed, as we have also noted in chapter 4, the major agricultural expansion in the peanut basin is a reflection of how peanut cultivation has been considered as more productive than pastoralism. Moreover, as rural councils are to make decisions on land, access to land based on a definition of productive use is vulnerable to political ties and preferences and is reinforced with the influential position of religious leaders of the Mouride brotherhood[9] (Hesseling, 2009). In addition to this undefined condition for using lands, the allocation of lands is tied to a second condition, being the fact that beneficiaries need to be residents of the rural communities where land is distributed. Especially in the case of (transhumant)

[8] Loi N° 64-46 du 17 Juin 1964relative au domaine national (LDN)

[9] The role of such political and religious powers in accessing resources is further discussed under the section on structural mechanisms.

pastoralists the use of land is not tied to a specific spatial area and hence linking rights to spatial restrictions is not in the first place acknowledging mobility of pastoralists.

Since the LDN came into effect in 1964, several processes to reform and address structural weaknesses in the law have been initiated, however have remained unsuccessful up to today. In 2004 the agro-sylvo-pastoral law (LOASP)[10] was adopted with the objective to enhance socio-economic and environmental development of rural sectors. One of the pillars of this law was the reform of land tenure amongst others to secure land rights for agricultural exploitation, for individuals and for rural communities, create incentives for private agricultural investments and remove constraints for agricultural, rural and industrial developments (Article 26). According to this law the principles of land tenure are based on the protection of exploitation rights for rural actors and land rights for rural communities, allowing controlled transfer of land to allow the flexibility of land tenure to enhance inheritance of land ownership within the family and the use of land as collateral for obtaining credit. It is remarkable to notice the extent of attention paid to the agricultural sector in this law compared to the share of attention given to pastoralism. The law was initially drafted for the agricultural sector, however after consultation with the national umbrella organization for rural development (CNCR) it was expanded to focus on the sylvo-pastoral sector as well (Ancey & Monas, 2015). Although pastoralism has been recognized within the law, and as such is innovative compared to earlier policy documents, the definition remains quite technical whereas pastoralism is acknowledged as "*a mode of enhancing value for the rural area and natural resources*" (Article 43). An acknowledgement of pastoral mobility and use of natural resources remains absent. Consequently, heterogeneous access to resources is not acknowledged legally, which means legal protection for pastoralists is difficult.

A third law related to who is able to benefit from land and water resources is the law of 1980, designed to structure the development of grazing routes and the usage of pastures[11]. Within this law pastures are distinguished into four categories, being 1) the pastures and grazing routes that constitute all the natural areas traditionally meant for grazing, 2) fallow land or arable land that is not under cultivation, 3) artificial pastures used for the production of forages and 4) post-harvest fields which are left with crop residues. Furthermore, the law specifies the grazing routes with a width of at least 100 meters, demarcated with the use of painted concrete poles or trees, and ordains the creation of a corridor in order for livestock to be able to access boreholes. Moreover, cultivation or any other activity in the grazing routes, close to water points, livestock markets and vaccination centres is forbidden.

As Touré (2015) noticed, this law is predominantly focussed on prevention of conflicts between farmers and pastoralists, however it does not provide clarifications on mobility of pastoralists and access to natural resources and as such the law does not give room for (pastoral) user and access rights (Touré, 2015). In essence, the law provides a rather technical definition of access and user rights, with its delimitation of grazing routes and pastures. Hence,

[10] Loi d'orientation agro-sylvo-pastorale

[11] Decret portant organisation des parcours du bétail et fixant les Conditions d'utilisations des paturages. N° 80.268.MRD/DSPA

it risks a wide interpretation and gives room for political negotiation and contestation in implementing and defining who can access when and at what costs.

Moreover, both at governmental implementation level as well as on the ground, the law is not always respected. The power for making decisions on the delimitation of the grazing routes lies with the mayors of the rural communities, however not in all areas the limitations are done properly or in time. Some people do relate this to the fear for losing political votes, however this is something which cannot be easily concluded as an outsider on a short notice. Furthermore, the limitations with concrete poles and trees is not effective, as trees are being cut and resources for concrete poles are lacking: "*when [the grazing route] is delimited, in the first and second year it is respected, but after that [the people] start taking land. The delimitation should have signals that last long, like concrete [..] The mayor should provide this. The current one is delimited, but there are no signals. They just paint the trees, but the trees are cut down or they scratch the trees*" (Farmer, interview, June 4, 2019) and "*cement and stones are supposed to demarcate the grazing routes, but there are not enough means, so the trees are painted or sticks are put into the soil. But sometimes the trees are cut or the sticks are removed. It is a fact of land tenure management"* (Service d'Élévage, interview, May 29, 2019). Consequently, benefiting from resources comes back to negotiating access through social relations. "*But this law is not really respected [..] So sometimes arrangements are made on decreasing the parcours du bétail, because [the breeders] also understand that [the fields and people] are increasing"* (Service d'Élevage, interview, May 29, 2019). How such social relations structure access to resources is discussed later in this chapter.

Custom based rights to access

Rights-based mechanisms for access do not only incorporate legal based rights, but also rights sanctioned through customary systems. Customary systems can vary in different regions and villages and understanding customary land systems has not been detailed within the framework of this study. However, there are some general principles we could derive from some of the interviews on the distribution of land embedded in customary law. In a majority of Senegal, land is hold and distributed along family lineage in which land rights are commonly transferred from a father to his sons (Kaag et al., 2011). Furthermore, land belongs often to families in the line of the village's founders (ibid). In the case of Kaffrine we also found that this form of land distribution is practiced, where it was said that "*the people who founded the village usually own the biggest lands*" (Farmer D., personal communication, June 12, 2019). Distributing land under customary practices is subject to social relations and political and religious power.

Access to land for pastoralists in host-communities can be secured through borrowing land. Some herders choose to cultivate crops during the rainy in the places where they pass the dry season and ask plots of land to villagers. Although not researched to the detail, this practice seems to be related to kinship or friendship ties: "*sometimes you can seek for land and you don't get it. Sometimes it is the people who are really friends with you, that can lend you some lands*" (Pastoralist E., interview, June 13, 2019). Moreover, as lands can be claimed

after cultivating it for three years, right-holders – be it based on customary or state law – do not want to lend lands for more than one year. Hence, state law interferes with customary practices and negotiating access has to be done continuously if one wants to cultivate. Consequently, social relations do still play an important role. However, not everybody is in favour of lending land to non-villagers: "*the most appropriate thing to do is instead of lending it to outsiders, we share it with the village. Everyone who owns land, gets it from their parents, it is a heritage*" (Farmer C., interview, June 10, 2019). Another In case of accessing lands for grazing in host-communities, several places make use of welcoming committees for pastoralists. These can be settled pastoralists guiding transhumant pastoralists on where it is allowed to graze and access boreholes for livestock. More research into these welcoming committees could shed light on the role of social relations between farmers, settled and non-settled pastoralists in negotiating access to land and water resources.

6.1.2. Structural and relational access mechanisms

Structural mechanisms of access to resources refer to the ability to benefit from resources, mediated through constraining or enabling political-economic and cultural conditions (Ribot & Peluso, 2003). These structural and relational mechanisms do function parallel to rights-based mechanisms for access (ibid), moreover, I argue that the role of such structural mechanisms can be further enhanced as a result of constrained or loosely defined rights-based access. As the drafting and implementation of legislation – one of the main mechanisms for rights-based access – are not representing the needs and rights of all actors, structural and relational mechanisms become even more important in gaining access to resources. In their theory of access Ribot & Peluso do identify a non-exhaustive list of mechanism categories, including access to technology, capital, markets, labour, knowledge, authority, identity and social relations (Ribot & Peluso, 2003:165-172). In the following, some of these categories are applied to understand structural and relational mechanisms in the case of Kaffrine. It does not mean that other mechanisms described by Ribot & Peluso cannot be identified in this specific situation. However, the ones described here came up most often during data collection.

Access to authority and political representation

The ability of different groups of resource users to benefit from the specific resources relevant to their livelihoods, is partly shaped through gaining and maintaining access to authorities who can influence laws and policies on access to resources (Ribot & Peluso, 2003). Rather than limiting the definition of this access to an individual's ties to politicians or religious authorities only, it is equally important to look at access to authority through political representation. At the local level, individual ties with representatives of authorities and authorities themselves is of pivotal relevance. However, at the national level, representation by pastoral or farmer organizations towards authorities is important in gaining access to the development of legislation.

Although we have no information about the functioning of farmers' organizations, pastoralists often insisted on the lack of representation in and towards the government. In

Kaffrine a wide variety of organizations exists which are said to be working on pastoral issues. These include the government ordained *Service d'élévage* and the *maison des éléveurs.* The former is the local body of the Ministry of Livestock and Animal Production, while the latter is the representation of pastoralists to the government in the departments where pastoralism can be found. Furthermore, when talking to pastoralists at the market for livestock, several people came up to inform me that they are the president of a pastoral organization in the region. Those are often self-organized groups and some are said to be linked to political parties. Although on paper representation towards the government is organized, there is no agreement amongst herders about the proper functioning of these institutions. Some believe that since the development of such organizations, conflicts between farmers and herders have decreased, while in general the economic situation of pastoralists has improved. However, others do disagree on this and say that the government does not do enough for herders, while farmers do get more attention. *"When the farmers cut the whole tree, it is not a problem. But when the pastoralists come and they just cut some branches to feed the animals, they [the forestry agents] can catch him and ask big amounts to be paid. It is a distinction between farmers and pastoralists"* (Pastoralist N., interview, June 25, 2019) and "*everything a farmer wants, he gets it. He can get the materials [seeds, fertilizers, etc.] and he can get a credit from the bank. He just has to show the papers of his land. But for a pastoralist, even when you are showing that you have 100 cows, it is not enough to get credit"* (Pastoralist E., interview, June 13, 2019). Furthermore, there is a general sense of feeling misunderstood by government representatives: "*those people in the organizations and the people who are working for the government cannot understand the problems. They are just in their office and get money at the end of the month. They don't really know about the breeders. The one who could really make a change, are the ones who have cows and animals and who know about livestock"* (Pastoralist L., interview, June 24 2019). Others have ascribed the lack of representation, and hence a limited access to authority, to a lack of a unified group of pastoralists, because "*the breeders don't go to school and they don't attend meetings"* (Pastoralist F., interview, June 13, 2019) or "*the breeders are not really unified. It is our weakness. In Kaffrine people live in some areas, others live in other places [..] We don't live together"* (Pastoralist L., interview, June 24, 2019). During the interviews, pastoralists thus explained the lack of access to authority both as a consequence of external factors – the government favours others and is not represented by capable people – as well as characteristics internal to pastoralist groups – not being unified.

Access to narrative

Ribot & Peluso note that "*beliefs, ideological controls and discursive practices, as well as negotiated systems of meaning, shape all forms of access*" (Ribot & Peluso, 2003:168). Hence, the ability to shape narratives is crucial in gaining and maintaining access to resources. In the case of Senegal, persistent negative narratives carry the risk of influencing the formulation of policies and legal frameworks that define access to resources. As Touré noted in a policy brief on the need for pastoral rights in national legislation, pastoralists are "*victims of clichés in the public opinion and circles of decision-making"* (Touré, 2014:5). The narrative of mobility as

discussed in the previous chapter is one of the examples of a narrative influencing the public opinion and decision-making. Up till today these influences policymakers and those working at the local level on resource distribution. Consequently, it is crucial for pastoralists to have effective representation and access to authority, as discussed previously.

Access through social identity and social relations

Social identity can be linked to someone's membership of a community, based amongst others on ethnicity, religion, status or profession (Ribot & Peluso, 2003). Access based on the negotiation through social relations is embedded in relations of "friendship, trust, reciprocity, patronage, dependence and obligation" (ibid:171). In the case of Kaffrine, we see that access to resources is indeed embedded in social identity. Especially the attribute of profession is an often-heard criteria when access to land is discussed. Pastoralists for example do often refer to the forest as being their space and hence, farmers should not be allowed to get lands and hence not benefit from spaces in the forest. On the other hand, as we have seen in the Law on the National Domain (1964), land can be used by putting land into 'productive use' and being a member of the community in which the land is located. Hence, transhumant pastoralists are excluded from the access to those lands as a *direct* asset, since they are not necessarily part of those communities. In this context I say direct asset, as pastoralists do negotiate access to lands and are as such able to benefit from the land in form of crop residues. Both access through social identity as well as through the negotiation of social relations are of critical importance in other mechanisms of access (Ribot & Peluso, 2003). For example, access to authority can be enhanced by access through social relations.

6.2. Conflict settlement

So far, we have discussed the role of institutions in preventing conflicts between farmers and herders over access to land and water resources. However, as we have seen in chapter 5, disputes inevitably arise over access to resources. The question than arises on how these conflicts are mediated and settled. Again, we make a difference between state-regulated conflict settlement and those regulated under social institutions. Bureaucratic processes of conflict management are embedded in legal and organizational structures, amongst others provided through the state and are in traditional institutional theories often referred to as 'formal' institutions (Cleaver, 2002). Social institutions on the other hand are embedded in norms, beliefs and cultural organizations (ibid).

6.2.1. Channels for conflict settlement

At the moment when conflicts arise between farmers and pastoralists, there are several stages which can be identified in the process of settling these conflicts. Although often presented in conversations and interviews as consecutive stages, such a dichotomized representation does not reflect the intertwined character of bureaucratic and socially embedded processes of conflict settlement in Kaffrine. As a majority of the mentioned disputes between farmers and

pastoralists were related to crop damages, the focus of analysing conflict settlement is on these crop damages. However, we can assume that the role and functioning of institutions is similar when conflicts are triggered by other events, such as animal theft.

Individual level

A first step to settle disputes, is initiated at the individual level of the two actors who are directly involved in the conflict. In cases where livestock enters the fields of farmers and damages the crops, a farmer can capture the animals and request the herder to pay compensation for the damage. Although rare, farmers at some instances do choose not to ask for compensation and let the case rest: *"[it] depends on the tolerance of the farmers. If the damage is not important, they can just leave it. But when the breeder does it on purpose, the breeder has to pay"* (Farmer C., interview, June 10, 2019). Moreover, at this point a farmer may decide to forgive the pastoralist for entering with his animals: *"he can ask the responsible person either to ask to pay or he can forgive them"* (Farmer A., interview, June 4, 2019) and *"the farmers can forgive and the conflict can be settled peacefully"* (Pastoralist C., interview, June 8, 2019). The process of paying compensation is often subject to negotiation and surrounded with unclear and contested viewpoints of who should pay and what is considered a fair compensation. It is often told that livestock enters fields at moments where farmers are not around, such as on Sundays (Farmer C., interview, June 10, 2019; Famer J., interview, June 27, 2019) or during the nights. Consequently, farmers are not always able to determine whose animals have caused crop damage. One of the farmers explained a situation in which animals had been eating stocked melons overnight. However, the owners of the melons were not sure to whom the cows belonged. Still, *"they went to the people, because they are the ones who were living close to the melons and who own cows. They told them that they have to pay. But they refused, because they said: 'you don't know whether they are our cows, you didn't see the cow. You just found that the melons are eaten'"* (Farmer C., interview, June 10, 2019). Such stories are confirmed by an overall feeling amongst pastoralists of being accused of any damage, as illustrated in one of the interviews: "a*lso, when the crops are damaged, the breeders are accused of it, even when they have not done it"* (Pastoralist B., interview, June 8, 2019).

Secondly, negotiation of the compensation is not always perceived as transparent, fair and equal by pastoralists. Farmers are being accused of setting high prices that are beyond the actual financial damages of crops. There is room for negotiation, "*if it is worth to pay the farmers, we can pay. But when it is not, we can negotiate"* (Pastoralist C., interview, June 8, 2019) and "*some farmers first negotiate the payment for crop damage, but not all do that"* (Pastoralist A., interview, June 28, 2019). However, the space for negotiation is also related to positions of power and social relations, as is reflected in the following statements: "*if it is a breeder who is more powerful, he is free. But if the farmer is more powerful, [the pastoralist] is arrested"* (ibid). One of the pastoralists discussed how in the case of entering the fields of one of the religious leaders in the forest, no choice was left but to pay the demanded price: "*when they caught the goats, they called me and asked me to pay 35.000 CFA. I discussed with*

them to bring it down and went to their homes. They said: 'you can pay 30.000 or just leave the area and go'" (Pastoralist C., interview, June 8, 2019).

Village leaders

A second channel through which conflicts are settled, is with the help of village leaders and/or religious leaders. This is usually done when it has not been possible to reach an agreement on the individual level and when prices are not considered fair. The village leader can decide to choose "truthful people" (Farmer K., interview, May 22, 2019), who will go into the fields to check the damages and calculate a compensation price based on the prevailing market prices at the moment. In the case of farmers putting their fields close to or in the grazing routes, the village leaders can be involved to tell the farmers to remove their fields: "*when a farmer takes space, we go to him softly and tell him 'you have to leave'. If he accepts that, it is settled. If he does not accept, we will tell him that he will not have anything from the fields when the herder destroys it. He is warned and when something happens, he is the guilty one*" (Farmer A., interview, June 4, 2019). Likewise, the individual level, negotiation and successful settlement of the disputes seems to depend on social relations and power positions. In the case of the pastoralist who was asked to pay a compensation or leave the area, he expressed a lack of trust in the support of the village leader in solving disagreements between the farmer and the herder: "*The leader of the village is not willing to help, because he is a Mouride. Sometimes when we are asked to pay a large amount, we go to the village leader to ask him to talk to the Mourides. Even then, he is not helping us [..]"* (Pastoralist C., interview, June 8, 2019). As such, there is an indirect expression of low trust in the role of the village leader in conflict settlement as there is a conflict of interest ongoing. Such sentiments are further confirmed through conversations, where it was stated that it is difficult to settle conflicts at the level of village and religious leaders, because of conflicts of interest of powerful leaders to own lands (Researcher, informal conversation, April 25, 2019).

Gendarmerie and the court

A third channel in conflict settlement is the step towards the *gendarmerie*[12]*,* where disputes are brought when agreements can't be reached with the involvement of village leaders or when the conflicts involved wounding or murder. When the *gendarmerie* is called, again there are people chosen to indicate the costs of crop damage and a majority of conflicts is settled at the level of the *gendarmerie.* However, from a pastoralists' perspective, this process is not always transparent and trusted, reflected in the view of a pastoralist who had just been involved in a conflict: "*when the gendarmerie comes and sees the footprints, the gendarmerie says 'it is true'. They may ask us 50.000 CFA. But if the damage was researched well, it would only have been 5.000 CFA"* (Pastoralist A., interview, May 28, 2019). The same person however was involved in paying a bribe to the commissioner in charge of settling the conflict and using some 'mystical powers', "*in order to help me, because I couldn't afford the amount of money*

[12] The national police in Senegal

to pay the farmer" (ibid). As such, the same channel that isn't trusted because of a lack of transparency is being used in a manner that further undermines this transparency.

Closely related to going to the *gendarmerie*, is the process in which the court gets involved in settling disputes. Like in the other procedures of settling conflicts, the involvement of the court is not necessarily the last option available when all the previous options – such as described above – did not result in conflict settlement. Contrarily, people involved in conflicts may choose to involve in a legal process right from the beginning and thus court is not to be seen as the end of a linear line. Furthermore, when talking about bureaucratic institutions as based in legal structures, the application of the court would be the ultimate form of such bureaucratic institutions in the case of conflict settlement, as decisions are based on legal prescriptions. In the case of disputes between farmers and herders, the state in Senegal promotes settlements of conflicts through courts (Researcher, informal conversation, April 25, 2019).

The use of courts is however valued differently by individuals. While some do appreciate the settlement based on law, others see it as a death penalty: "*in my heart it's like a bomb, the friendship is over. When someone in Senegal calls you to court, he wishes you death*" (Pastoralist A., interview, May 28, 2019). In other cases, friendship or kinship ties play a role in reducing the likeliness of going to court: "*when the cows destroy the field we go to the court. But sometimes it is the neighbour who owns cows, then it is not nice to [go to the court]*" (Farmer L., informal conversation, May 10, 2019). In addition to these relational barriers of going to the court, some practical issues were brought up, including the difficulties of travelling up and down to the courts and hiring a lawyer.

Interestingly, some pastoralists indicate that it is unusual for a herder to take the initiative to go to the court as, "*they know that it won't be good to them. When only one cow has entered the fields without destroying crops, [the farmers] just go to the court"* (Pastoralist A., interview, May 28, 2019). Such rationale could be based in a simple and straightforward explanation of 'the destroyer pays', meaning that pastoralists know that when crops are destroyed by their livestock, the law follows up on this with consequences. However, it could well be a more fundamental reflection of the lack of trust by pastoralist in general in legal and governmental support. Although in the interviews it was not directly related to the functioning of the court, pastoralists do often refer to governmental organizations as 'not helping' or not 'really' supporting. As mentioned briefly above, in some cases people then turn to paying bribes to officials to achieve the outcome in their favour.

6.2.2. Mixing institutions

In the representation of the different channels through which conflicts are settled above, it may appear that these institutions can be subdivided into separate sections; into formal and informal, bureaucratic and social institutions. However, the reality shows that such distinctions cannot be made easily and do not reflect the complexities of the institutional functioning in the case of (resource) conflicts. Following the definition of Cleaver (2002) in this, clear distinctions cannot be made, as formal or bureaucratic can be informal or socially

embedded, while informal institutions can get formalized. In essence, when following traditional institutional theories, the involvement of the *gendarmerie* and the court in conflict settlement in Kaffrine indicates formal institutions, based in legal and organizational structures. However, social relations and everyday life practices are used to direct the outcome of such bureaucratic processes and hence formal and informal institutions intertwine. In the case of the *gendarmerie* for example, formalized processes include checking crop damages and filing a report, however informal channels are being used to settle the conflict, such as accepting money to prevent further court cases. In addition, powerful social relations are recruited to support, such as in the case of the pastoralist mentioned earlier: "*I called [person] to support me, because he is a powerful breeder"* (Pastoralist A., interview, May 28, 2019) and when asked why a specific court case was not successful responded "*maybe there were some relatives who helped him"* (ibid). As such a formal or bureaucratic institutional performance is bounced back to enhance social embedded institutions.

6.3. Conclusion

Institutions in essence do shape the 'rules of the game' and are crucial in the context of farmer-herder relations, whereas institutions serve to mediate porous access to resources in a temporal and spatial heterogenous resource environment. In the case of Kaffrine, we have seen that several laws have been developed to deal with the use of natural resources, such as land and water points. Moreover, a special law on the use of grazing routes and pastures was developed to limit the cultivation in grazing areas and ultimately limiting conflicts between farmers and herders. However, these laws do lack the acknowledgement of pastoral mobility and hence legal defined access to resources is not favouring one group of resource users, in this case pastoralists. Moreover, the lack of pastoral mobility rights reflects a wider public and institutional paradigm in which mobility is the scapegoat of conflicts. In addition to a lack of defined access rights, implementation of especially the law on delimiting the grazing routes is constrained and illegal access is claimed through putting fields in the routes or cutting trees. Consequently, access to resources is highly dependent on structural and relational mechanisms, which are embedded in political representation, public narrative, social identity and social relations. Likewise, management of conflicts is done by making use of social embedded channels, such as individual dialogue and village leaders, as well as through bureaucratic structures, such as the police and court. Institutions thus play a crucial role both in mediating access to resources as well as in conflict management through opportunistic use of bureaucratic and social embedded structures. Moreover, where bureaucratic structures lack representation of pastoral rights and acknowledgement of pastoral mobility as a means of accessing resources in a heterogeneous environment, social embedded institutions are pivotal in negotiating access.

Chapter 7. Discussion and conclusion

The aim of this research was to understand the dynamics of farmer-herder relations in Senegal through focussing on the narratives on conflict and cooperation and the role of institutions in mediating access to resources as well as conflict management. Furthermore, this research identified the socio-economic, environmental and political processes in which present-day relations are embedded. This chapter presents the main findings of the research, which are discussed in relation to the main research question and interpreted to formulate a conclusion. Furthermore, the strengths and limitations of the research are discussed and recommendations for further research are proposed.

7.1. Main findings and their implications

An increase in conflicts between pastoralists and farmers in the Sahel region has caused a wave of attention from scholars in understanding the causes of such conflicts, in which relations between farmers and herders are often presented as deteriorating compared to a more symbiotic past. Furthermore, both in academic circles as well as on the level of policy-makers, a linear line of argument within a climate change – security framework is applied to explain an increase in farmer-herder conflicts. However, as the results of this research suggest, the dynamics of relations between farmers and herders are a constellation of multiple factors, embedded in environmental, socio-economic and political processes of change. Moreover, these dynamic relationships are embedded in and influenced by institutions defining access to resources, including legislation, public narrative as well as intra- and intergroup interactions.

7.1.1. A historical backlog

Chapter 4 showed that the expansion of agricultural fields in the Peanut Basin under colonial and post-Independence rule contributed to a shift in land-use from an area dominated by extensive grazing of animals to an area now dominated with agricultural fields. Moreover, the growth of the Peanut Basin was mainly enhanced through the structures and hierarchies of the Mouride brotherhood. Consequently, the expansion of the agriculture caused a shift in the political realities and power relations, as a growing group of farmers related to powerful religious leader now constituted a majority of the population. The attention for agricultural developments at the expense and marginalization of pastoralists grazing zones in Senegal, fits within the broader context of the Sahel. Similar processes have been identified in other West African countries, where states have long favoured agricultural developments over pastoral developments (Moritz, 2006b; Soeters et al., 2017; Benjaminsen & Ba 2009). Furthermore, the expansion of agricultural fields under the enforcement of the Mouride brotherhood, brought about changes to both environmental, socio-economic and political structures that are of influence up till today.

7.1.2. Seasonality: feeding the climate-conflict framework?

In chapter 5 the dynamics of present-day farmer-herder relations were discussed from the perspective of narratives resonating amongst farmers and herders as well as public officials to describe conflicts and their causes. A strong seasonal pattern in the occurrence of conflicts was identified, where the period between the onset of the rains and the end of the growing season is perceived as one in which relationships are characterized by tensions and conflicts. On the contrary, the dry season is a period which is in general described as a period in absence of conflicts between farmers and herders. This strong seasonality in describing the occurrence of conflicts is plausible, considering the high variation in rainfall conditions and the strong dependence of both farmers and herders upon rainfall to carry out their livelihood activities. On the one hand, farmers are reliant on a limited amount of time to grow their crops, while pastoralist activities are linked to the spatial and temporal heterogeneity of rainfall conditions. Consequently, one could argue that changing climatic conditions are thus crucial in contributing to farmer-herder conflicts, as alterations in rainfall and temperature may enhance a reduction in the availability of resources essential to the livelihoods of farmers and herders. This linkage is further confirmed through narratives of pastoralists, that water and food in the forests finishes earlier than before and hence they are forced to come back to the fields earlier than the agreed return date at the end of the growing season. The link between seasonality and conflicts, fits within the broader framework of environmental scarcity and conflict such as presented by amongst others Homer-Dixon et al. (1993).

However, caution is necessary in concluding that a strong seasonality in conflicts thus indicates a link between climate change and farmer-herder conflicts. A focus on a seasonal distinction risks the portrayal of relations between farmers and herders as one that is either dominated by conflict or dominated by collaboration. Such descriptions of farmer-herder relations are fundamental to studies within the environment-scarcity framework, in which relations are presented as deteriorating as a consequence of climate change and environmental degradation. Moreover, in the broad set of literature on farmer-herder conflicts in West Africa, a general assumption is that cooperation and conflict are mutually exclusive and relations were more symbiotic in the past (see Breusers et al., 1998). Yet, as we have seen from the case study in this research, relations between both groups are much more complex and involve both cooperation and conflict, constituting the everyday relations between farmers and herders. In line with amongst others Breusers et al. (1998) and Tonah (2006), I therefore argue that the mainstream assumption that conflict and cooperation are two opposites which are not reconcilable, does not hold. Even though presented as two distinctive stages, both by insiders (farmers, herders) as well as outsiders (e.g. public officials, academia), observations suggest that conflict and cooperation are intertwined.

7.1.3. Mobility, livelihood strategies and herd ownership

The narratives on the causes of conflicts between farmers and herders as described in chapter 5, confirm that the causes of tension and conflicts are rather embedded in long-term struggles of access to resources than a here-and-now struggle over a specific plot of land or a dwindling

stock of resources. More than conflicts over a single piece of land, crops or other resources bound to time and space, producers in the Sahel struggle over gaining and maintaining access to resources. These struggles are embedded in historical processes of change (chapter 4), in which a shift of power took place along the lines of agricultural development, whereas the discourse around pastoralism has persistently been loaded with negative perceptions. Up to today, such negativities resonate amongst public officials, the wider public as well as amongst pastoralists themselves. Consequently, the practice of pastoral mobility and its connotation of being backwards, are still highly linked to conflicts between pastoralists and farmers. Although some public officials do acknowledge that mobility is part of a lifestyle and it cannot be changed, the dominant paradigm is one of modernizing pastoralists. Modernization in this sense equals to decreasing the movement of pastoralists to find pastures and water and create a system of ranching, in which livestock rearing is done based on permanent settlement of families and their animals. Though a seemingly logical 'solution' from a modernization point of view – in which spatial fixation is seen as a productive basis – this decrease in mobility will only further marginalize pastoralists. Decreasing the mobility of pastoralists does however not favour the social and ecological resilience of a semi-arid, high-risk environment, in which mobility is a pathway to deal with uncertainties (De Bruijn & Van Dijk, 1995; Turner, 1999). Moreover, a sustained discourse in which one group of people is blamed for the outcomes of a multi-dimensional, multi-actor process, risks decreasing the stability of relations between these groups, as it emphasizes and increases a sense of "they versus us". Although currently there is a low level of expressing ethnic identities in conflict narratives, persistent negative discourses around pastoralists (often related to Fulani herdsmen) can further enhance the verbal use of ethnic identities; even though it is hard to distinguish whether conflicts do actually occur along ethnic lines (see Breusers et al., 1998), portrayal of conflicts as such by different actors might fuel actual tensions along ethnicities.

Another factor in the relationship between farmers and herders is the increasing diversification of livelihood strategies amongst farmers and pastoralists (Turner et al., 2011). As farmers increasingly own livestock and pastoralists cultivate crops, competition for the same resources is said to increase. At the same time, triggers for cooperation increase as there are more shared interests in the same livelihoods (ibid:203). In the specific case of this research, an often-heard explanation for cooperation was that "we are all farmers and herders", referring to the shared interest among different people for the same livelihoods through which they would cooperate. However, a more systematic research on the different livelihood strategies, for example through survey data, could provide better insight into the actual changes in livelihoods that have taken place, while comparing them with insights on cooperative and conflictive relations.

This diversification in livelihood strategies is closely linked to notion of herd ownership and herd management. Relations between farmers and herders is often based on economic relationships of cattle entrustment, in which herders are hired to take care of cattle belonging to farmers or wealthy citizens. These relations are however often characterized by tensions, both within farmer communities as well as between herd-owners and hired herders (Tonah,

2006; Moritz, 2006b). Breusers et al. (1998) pointed out that on a public stage, farmers and herders talk about conflictive relations between each other, while on an individual basis relationship can equally be framed as friendly, where farmers often refer to a herder as 'their herder'. The relations between farmers and herder become even more complex, when crop damage occurs. Who is to be hold responsible in such cases? Are those the hired herders or the herd owners? Hired herders are often seen as not responsible and are hence in most cases accused of crop damages (Moritz, 2006b). This creates tensions between herd-owners and hired herders. Although this notion of herd ownership and herd management is of crucial importance in farmer-herder relations, the double-facetted character of entrustment relations makes it a sensitive topic and difficult to assess. Consequently, I have left it out of the research, in order not to make too overly simplified representations of these realities.

7.1.4. Institutions and political representation

In chapter 6 the role of institutions was discussed in studying the mechanisms for access to resources and the channels for conflict settlement. Although state legislation has aimed to define resource use and access for different resource users, including farmers and pastoralists, the lack of acknowledgement of fundamental pastoral rights and a loosely defined land tenure system leaves room for negotiating access through social relations. In mainstream perspectives on the role of institutions, the bureaucratic embedded – formal – institutions are usually preferred over socially embedded – informal – institutions in accessing and managing resources. However, we see that where state-regulated mechanisms do fall short in inclusively defining access to resources, social relations play a crucial role in gaining and maintaining access to land and water resources. Meanwhile, negotiation through structural and relational mechanisms increases the possibility of power relations to manifest. We see this in the case of Senegal, where powerful *marabouts* are able to access lands otherwise meant for pastoralists. These Mouride leaders most likely play an even more prominent role as a factor in farmer-herder relations than we have been able to study at the moment. In order to grasp the influence of these power relations more comprehensively, longitudinal research could provide more tools for gaining insight in this.

In addition to social institutions playing a crucial role in serving to mediate the porous defined legal access rules for resources, social relations play a pivotal role in settling conflicts between farmers and herders. Although dispute settlement through the court is encouraged by the Senegalese state, farmers and pastoralists do prefer settlement based on mutual trust. Moreover, when making use of formal channels, such as the police and the court, social relations are actually used in these 'formal' institutions to obtain beneficial outcomes. The payment of bribes for example is in some cases used to settle the conflicts at police or court level, as pastoralist are sceptical about the equitable outcome of these processes. How the use of bribes and corruption influences farmer-herder relations exactly, is a study in itself (see Benjaminsen & Ba, 2009).

7.2. Changing farmer-herder relations?

In chapter 2, a number of factors were derived from literature, describing the constellation of factors that contribute to relations between farmers and pastoralists. As we have seen in the discussion above, several of these factors have come to the fore in the study in Senegal, while others remain understudied. The question remaining is how farmer-herder relations have changed under political conditions, considering the above points. Moreover, it leaves us with the question whether there is a specific constellation of factors which explain the relative peaceful relations that are observed in Senegal.

Firstly, although observations in everyday life do not indicate a high level of widespread tensions between farmers and herders, the discussions with farmers and pastoralists showed a different picture. The discussion of relations between farmers and herders with the participants was often dominated by a portrayal of relations being conflictive. Although conflicts were strongly related to seasonality, the unprovoked mentioning and domination of conflicts in discussions is remarkable. Whether this is a sign of underlying tensions or a difference in frontstage and backstage narratives (such as described in Breusers et al., 1998), remains unclear. However, it is to be considered in further studies and monitoring of farmer-herder relations.

Secondly, the results presented in this research suggest that farmer-herder relations have been subject to the political and socio-economic processes in which agricultural developments were favoured by colonial and post-colonial rules. Moreover, a persistent negative discourse has been (unconsciously) institutionalized, whereas pastoral mobility and pastoral rights are not yet acknowledged as opportunistic strategies within national legislation as well as public discourse. Furthermore, the still strong roles of religious leaders in acquiring and controlling land and water resources further puts pastoralists at a disadvantage of farmers, who are often related to *marabouts.* Although we can conclude that relations between farmers and pastoralists have been subject to change, it would be too simplistic to say that relations have been deteriorating and are less symbiotic than in the past. Such simplifications would overlook the fact that peaceful relations still dominate the farmer-herder landscape in Senegal and cannot be compared to the scale and character of current conflicts in Nigeria and Mali. On the contrary, it would be equally inaccurate to assume that because of a relatively peaceful situation, this will ensure the management of conflicts in the future. This has been proven wrong in the case of farmer-herder relations in Mali, where De Bruijn & Van Dijk (2005) suggest that “shared experiences between population groups and long-term relationships can create a foundation for the mediation and resolution of conflicts before they get out of hand” (De Bruijn & Van Dijk, 2005:69). However, looking at the current situation in Mali, these long-term interactions and shared experiences have not been proven solid enough to prevent conflicts. Propositions such as in the article of De Bruijn & Van Dijk romanticize long-term interactions and risk of ignoring the effect of gradual and continued marginalization processes. As we have seen in this research, as well as what has been pointed out by others as discussed above, cooperative relations can go hand in hand with conflictive relations. Even though interactions have taken place, processes leading up to tensions and

eventually conflicts may have been less visible, while boiling up under the surface. In case of marginalization of a certain group either by the "other" group, by a government or by a combination of both, continued suppression can come to the surface at a point where adaptation strategies do no longer hold and hence, it has reached a point of no return. Long-term interactions do does not necessarily guarantee the absence of large-scale escalation of conflicts. This provides food for thought in the case of Senegal. Although long-term interactions are at the basis of present-day farmer-relations, based in relations of kinship and friendship, continued marginalization of pastoral lands through agricultural encroachment, lack of acknowledged pastoral rights and power differences on the distribution of land may contribute to increase pressure in a pressure cooker.

7.3. Limitations and recommendations for future research

The presented results and their interpretation should be viewed in relation to the methodology of the research and the methodological limitations faced during the collection of data. The major challenges of the research have been discussed under the description of the methodological framework in chapter 3 and are discussed here only in relation to its implication for the interpretation of research data. Moreover, recommendations for future research are given to improve the understanding of farmer-herder relations in the case of Senegal. The main limitation of the research is the amount of time actually spend in the field, due to the challenges discussed in chapter 3. The multi-dimensional and multi-layered character of farmer-herder relations and the high involvement of power relations, require a longitudinal study in which trust is build, allowing to understand farmer-herder relations at a deeper level. Since the public expression of relations may be different from the actual realities and openly explained conflicts may not be the most impactful or degenerative conflicts, long-term engagement in the study area will provide a more comprehensive understanding of relations. As such, insights into the social networks of different people can be mad.

Secondly, one of the central critiques on studies of environmental scarcity and its relation to conflict, is the flaw in providing evidence for these linkages. Also, within this thesis, it has been difficult to assess the link between environment and conflicts. First of all, climate change was hardly mentioned by people in relation to conflicts. However, when provoked, people linked it to conflicts. Yet, this is not evidence for the relation between environmental scarcity and conflict. Therefore, new research in the study area could fully focus on the environmental aspects of change and study how both farmers and herders do adapt to changing weather patterns.

Finally, access to the field has been challenging as a result of research done during the period of Ramadan. This has limited the sample size of informants as well as the length of interviews done. Therefore, the desired depth of interviews was not at all points satisfactory. Moreover, pastoralists have been more accessible, due to already established contact with a key informant and hence, the research is a bit more focussed on pastoralists then on farmers.

7.4. General conclusions

This research aimed at understanding the dynamics of relations between farmers and herders in Kaffrine, Senegal and its embeddedness in environmental, socio-economic and political processes of change. Furthermore, it assessed how access to resources is mediated through both legal mechanisms as well as structural and relational mechanisms. Finally, the role of institutions in settling conflicts has been studied. Farmer-herder relations in Kaffrine are characterized by an intertwined set of both cooperative as well as conflictive relations. Rather than being mutually exclusive, conflict and collaboration between farmers and herders exist next to each other. Although often presented as conflictive by farmers and pastoralists, observations suggest that the relations between farmers and herder in Senegal are characterized and dominated by peaceful interactions. Conflicts do mainly manifest around crop damage in the rainy season, but reflect a deep-rooted struggle for gaining and maintaining access to pivotal resources – mainly land and water – which are embedded in processes of political and socio-economic change that took place since the colonial rule of France. However, the current situation does not necessarily mean that this predominantly peaceful relation will hold in the future, as there are several factors contributing to a fragile context. Firstly, long-term interactions have existed parallel to processes in which especially pastoralists have been disadvantaged from the use of resources and representation to and in political and religious authorities. A sense of feeling marginalized and underrepresented is strongly expressed by pastoralists in Kaffrine. Secondly, this lack of political representation and the lack of acknowledgement of pastoral mobility as a necessary strategy in accessing resources is reflected in policies and public discourses. In order manage conflicts in the future and prevent conflicts of escalating, one of the urgent matters for the Senegalese government is to enforce the development of a pastoral code and a land tenure system adapted to the heterogenous conditions of a semi-arid environment.

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Annex I. List of questions for semi-structured interviews

0. Introduction (+/- 5 min.)

0.1 Introduce myself and the research → *Done by Amadou as icebreaker*

0.2 Give explanation of what the purpose of the interview is → *The purpose of the interview is*
to understand the livelihoods, the challenges in access to resources important for those
activities and the relations with other resource users.

0.3 Inform about information being confidential

0.4 Do you have any questions for me at this point?

1. Livelihood (+/- 10 min.)

1.1 Can you describe what activities you and your family do for a living?
- *o How would you describe your occupation ? (pastoralist / farmer / agro-pastoralist)*
- *o Which other activities do you do?*
- *o How are the roles defined within the family?*
- *o Do you depend on others outside your household? (e.g. hired herders, harvesters)*
  → who? Where do they come from?
- o *What different activities do you do during the different seasons?*

1.2 What does it mean to you to be a [..] ?
- *o What do you see as valuable sides of being a [..]*
- *o What do you see as downsides of being a [..]*

1.3 Could you discuss with us the challenges that you face in your activities as a [..] ?
- *o What could explain these challenges?*
- *o What do you use them for?*

1.4 Have there been changes to your livelihood in the past?
- *o What could be reasons for change? (Probe climate conditions, rainfall, droughts, infrastructure, water supply, schools, health facilities, markets etc., population increase; legislations)*

2. Access to and use of resources (+/- 10 min.)

2.1 How do you access the resources for your livelihood? (water, land, pastures, livestock)

2.2 How are decisions made on the use of resources in this area? (forest, water, land, etc.)

- *o Who is involved?*
- *o Do you consider rules made between people themselves and formal rules by the government to be different? How, why?*

2.3 In your opinion, how do these decisions affect the use of resources?

- *o Are they respected?*
- *o Proper distribution of resources?*

2.4 What is your opinion on the availability of resources?

3. Relations (+/- 15 min.)

3.1 In general, how would you describe your relationship with [..]

- *o In what kind of ways is that expressed ? (cattle entrustment, food, friendships, marriages?)*

3.2 How would you describe your relationship with [..] in the dry season?

- *o Can you describe to me how you interact with each other in the dry season?*

3.3 How would you describe your relationship with [..] in the rainy season?

- *o Can you describe to me how you interact with each other in the dry season?*

3.4 How do you value these relations ?

- *o Could you describe the importance of these relations ? (for you, for community)*

3.5 Can you tell us whether such relations have changed over the years?

- *o If yes, how? What do you consider as contributors to these changing relations?*

4. Situations of conflict (+/- 15 min.)

4.1 Have you experienced tensions with other people ?

- *o Can you guide us through such a conflict?*
- *o Who was involved in the conflict ?*
- *o What was the conflict about?*

4.2 Could you elaborate on the causes of such tensions ?

4.3 How would you describe the effect of such tensions on your relationships with one another ?

- *o Do you still continue cooperation activities during a conflict?*
- *o (How) are relations rebuild after such conflicts?*

4.4 In your opinion, are such conflicts becoming more common?

5. Institutions (+/- 10 min.)

5.1 How are such conflicts settled ?

- According to you, who plays an important role ? How ?

5.2 How are conflicts being prevented from occuring ?

5.3 How would you describe the role of the local governments (mayor, prefect, gendarmerie) in these processes ?

5.4 How do you consider the effectiveness of these processes ?

5.5 In your opinion, is there a difference in outcome when conflicts are settled between people themselves and when brought to court?

8. End interview (+/- 3 min.)

8.1 Is there anything you would like to share with me that we have not yet discussed?

8.2 Appreciation for the time taken!

Annex II. List of participants

Since it was agreed with a majority of the respondents that their names would stay anonymous, all interviewees have been anonymized. This list provides background information.

Informant reference	Additional background (if applicable)	Date of interview
Farmer A	Village leader	June 4, 2019
Farmer B	Interviewed within a group setting (farmers), but mainly one person talked	June 4, 2019
Farmer C		June 10, 2019
Farmer D	Visit to the fields, written as observation	June 12, 2019
Farmer E	Fulani, identified herself as a farmer; fully settled amongst Wolof farmer community.	June 14, 2019
Farmer F		June 16, 2019
Farmer H	Fulani, identified himself as a farmer; fully settled amongst Wolof farmer community; Imam	June 23, 2019
Farmer J		June 27, 2019
Farmer K		May 22, 2019
Farmer L	Village leader	May 10, 2019
Pastoralist A		May 28, 2019
Pastoralist B		June 8, 2019
Pastoralist C		June 8, 2019
Pastoralist D	Woman pastoralist	June 9, 2019
Pastoralist E		June 13, 2019
Pastoralist F		June 13 & 16, 2019
Pastoralist G	President of a pastoralist organization	June 19 & 28, 2019
Pastoralist H		June 21, 2019
Pastoralist J		June 2, 2019
Pastoralist N		June 25, 2019
Pastoralist L		June 24, 2019
President Tribunal		May 15, 2019
Researcher	Socio-economic researcher at independent research institute	April 25, 2019
Service d'Elévage		May 29, 2019
Service des Eaux et Forêts		May 31, 2019