

Mark Moritz

Commoditization and the Pursuit of Piety

The Transformation of an African Pastoral System



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The Transformation of an African Pastoral System

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy in Anthropology

by

Mark Moritz

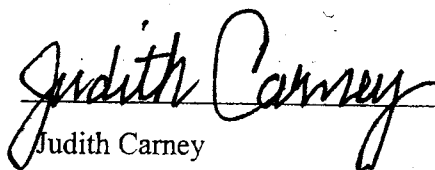
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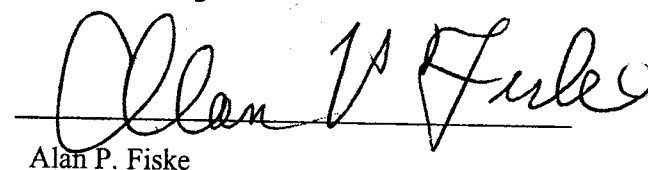
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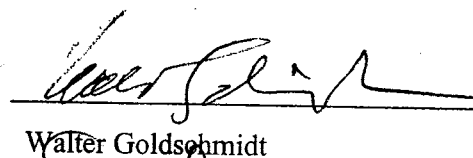
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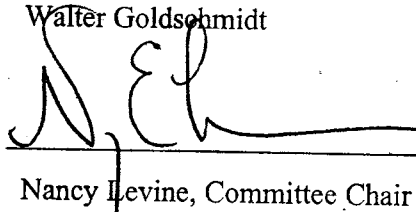

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2003

In memory of my parents

Ben J. M. Moritz & Truus Moritz-van Leeuwen

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Scholte, Paul, Saïdou Kari, and _____

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PRESENTATIONS

‘An actor-oriented approach to herder-farmer conflicts in the Far North of Cameroon’ presented at the Annual Meeting of the African Studies Association, Washington D.C., 7 December 2002

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ABSTRACT OF THE DISSERTATION

Commoditization and the Pursuit of Piety:
The Transformation of an African Pastoral System

by

Mark Moritz

Doctor of Philosophy in Anthropology

University of California, Los Angeles, 2003

Professor Nancy Levine, Chair

This dissertation is about the transformation of an African pastoral system, involving the intertwined processes of intensification and individualization. The intensification of the pastoral system is a response to the disappearance of rangelands, and has led to a significant increase in production costs. The individualization of livestock ownership and management is a consequence of this intensification as well as institutional changes in the household that are part of a process of Islamic renewal.

A comparative study of three pastoral Fulbe villages in the Far North Province of Cameroon – peri-urban, agro-pastoral, and nomadic – revealed the transformation. The

dissertation focuses on the peri-urban village, which was the most affected by the disappearance of rangelands and Islamic renewal due to its proximity to the provincial capital of Maroua. The other two villages are used as models of the peri-urban pastoral system before the transformation began in the early 1980s.

The dissertation's primary objective is to explain how changes in institutions and relative prices have transformed an extensive agro-pastoral system in which the family herd was a collective resource that served the household into an intensive pastoral system in which the herd has become a collection of individually owned and managed animals. The analysis focuses on economic behavior and property relations within the household and family herd, considering both economic and cultural factors. I argue that the combination of higher production costs and institutional changes is responsible for the individualization of livestock ownership and management.

The dissertation's secondary objective is to evaluate the economic performance and long-term sustainability of pastoral intensification, taking into consideration the institutional context. The evaluation of economic performance of the peri-urban pastoral system shows that intensification is a sustainable adaptation to the increasing pressure on rangelands, although not as efficient as the extensive agro-pastoral and nomadic systems. The analysis of the effects of individualization of livestock ownership on economic performance suggests that owners with fewer animals are at a disadvantage and that intensification will thus most likely lead to greater differentiation between and within households.

CHAPTER 1: INTRODUCTION

INTRODUCTION

This dissertation is about the transformation of an African pastoral production system, involving the intertwined processes of intensification and individualization. The intensification of the pastoral system, which has led to a significant increase in production costs, is a response to the disappearance of rangelands. The individualization of livestock ownership and management is a consequence of this intensification as well as institutional changes in the household that are part of a process of Islamic renewal.

The two driving forces behind the transformation – the disappearance of rangelands and a movement of Islamic renewal in the peri-urban area of Maroua, the provincial capital of the Far North of Cameroon – play out at the household level in an intensification of the pastoral system and the pursuit of piety by individual FulBe pastoralists. The intensification of the pastoral system refers here primarily to an increase in capital investments per unit of production (i.e., cattle) rather than a labor intensification of production. Peri-urban pastoralists are feeding their cattle costly cottonseed cakes and hulls in the dry season to ensure their survival and cope with the lack of natural forage and the disappearance of rangelands in the peri-urban area. The pursuit of piety refers to practical, intellectual, and emotional devotion to religious duties

and practices. It is a continuous endeavor of individual FulBe to become better Muslims by actively studying, applying, and observing more strictly the Islamic codes in everyday life. This pursuit of piety is manifested in a reorganization of the household economy in which the household head is now solely responsible for provisioning the household, and women's dairy revenues are no longer contributed to a common household fund and now considered their personal income.

I will argue that the combination of the commoditization of production inputs and pastoralists' pursuit of piety has led to a number of interrelated changes in the management of peri-urban family herds: a distribution of production costs over individual livestock owners, a reallocation of milk from marketing to household-consumption, and the disappearance of inter- and intra-household livestock exchanges. This has resulted in the transformation from an extensive agro-pastoral system in which the family herd was a collective resource that served the entire household into an intensive pastoral system in which the family herd is becoming a collection of individually owned and managed animals.

This dissertation is based on a comparative study of three pastoral FulBe villages: Wuro Badaberniwol, Wuro Hoore Ladde, and Wuro EggoBe that represent three different pastoral systems in the Far North Province of Cameroon, respectively: peri-urban, agro-pastoral, and nomadic. The transformation of the pastoral system has taken place in the peri-urban village of Wuro Badaberniwol, which was most affected by the disappearance of rangelands and Islamic renewal due to its proximity to the provincial capital of Maroua. The other two villages are used as models of the peri-urban village before

intensification and Islamic renewal, which started in the 1980s but really took off in the 1990s.

The dissertation's primary objective is to explain how institutional changes and changes in relative prices of production have transformed the peri-urban pastoral system from one in which the family herd was a collective resource of the household to one in which we can hardly speak of a 'family herd'. The analysis focuses particularly on economic behavior and property relations inside the household and family herd, and considers both economic and cultural factors. This focus has implications for the study of agricultural intensification because it shows how intra-household institutions have a direct impact on the process and outcome of intensification, which are not predicted by theories that assume people to be rational actors and households to be single decision units.

The dissertation's secondary objective is to evaluate the economic performance and long-term sustainability of this autonomous pastoral intensification, while taking into consideration the institutional context. This is the first study to document intensification of pastoral systems, rather than the integration of livestock in intensive agricultural systems, and has therefore relevance for the study and development of African pastoralists who face similar pressures on natural resources. In this particular case, the impact of Islamic renewal has led to changes in the economic organization of peri-urban households and the management of family herds, which has furthered the individualization of livestock ownership and management. This raises the question

whether and under what conditions pastoral intensification is economically viable and sustainable in the long-term, and for whom.

In this introductory chapter, I discuss the emergence of the topic, the theoretical and analytical framework, as well as the plan of discussion.

CHANGING TOPICS

I have worked with FulBe pastoralists in different villages in the Far North Province of Cameroon since the early 1990s. My first research project examined perceptions of FulBe agro-pastoralists of rangelands and its suspected degradation in the Mindif division in 1993. This research was part of a larger interdisciplinary project of the Center for the Study of the Environment and Development in Cameroon (CEDC) that investigated rangeland degradation and the role of pastoralists herein. My goal was to study the agro-pastoralists' perspectives on overgrazing and rangeland degradation, to counter the view that holds pastoralists responsible, a belief that was, and unfortunately, still is, deeply entrenched in the thinking of development professionals (Moritz 1994a; Moritz and Tarla 1999).

A year later, this time working for the Waza Logone Project of the World Conservation Union (IUCN), I conducted a similar study with nomadic pastoralists, only to find out that the rangeland degradation, caused by damming of the Logone River and

development of the large-scale rice irrigation project SEMRY II (Société d'Expansion et de Modernisation de la Riziculture de Yagoua) was the least of their concerns. Nomadic pastoralists were more concerned about the insecurity resulting from violent attacks of cattle thieves. Consequently, I changed my research focus and examined the insecurity problem, which became the subject of my M.A. thesis (Moritz 1995). My report for the Waza Logone project led to the mobilization of governmental authorities and subsequent improvement of the security in the Logone Flood Plain (*Yaayre*) and the start of nomads' successful participation in the project (Moritz 1994b; Scholte, et al., 1996). In 1996, I returned for a few months to the Far North to continue my collaboration with the Waza Logone Project and investigated the political relations of nomadic pastoralists with governmental, municipal, and traditional authorities and their arrangements over protection of access to rangelands and personal security, which we called the 'nomadic contract' (Moritz, et al., 2002).

The fieldwork for this dissertation started in the summer of 1999, when I conducted a pilot study in which I tested methods, surveyed potential research villages, and assessed the overall viability of pursuing my dissertation research into the FulBe moral economy of livestock exchanges.¹ In the resulting dissertation proposal, I set out to

¹ The construct of the moral economy refers to an ideology of economic justice that guarantees subsistence for its members and informs the economic logic, motives, and behavior of peasants (Scott 1976). Others have described the moral economy as the outcome of individual utilitarian concerns of risk management, which may yield different outcomes in changing contexts (Bollig 1998; Ensminger 1992; Popkin 1979). The moral economy debate centered on the fundamental question whether the economic behavior of peasants is the product of their culture or vice versa (Bates 1981; Hyden 1980; Popkin 1979; Scott 1976). Or, in other words, whether or not the moral economy, in particular its institutions, is an artifact of individual utilitarian concerns of risk management that are institutionalized in cultural practices and ideology. The consensus is that the moral economy refers thus to both the ethos and the institutions that guarantee subsistence for its members. There is, however, considerable disagreement whether people in

investigate how the market economy affects African pastoral systems and test the widely held view that pastoralists abandon traditional institutions of mutual aid when they are incorporated into the global market economy. The primary change held responsible for this break down of mutual aid is the commoditization of pastoral products whereby pastoralists sell surplus animals instead of putting them into redistributive networks of animal loans, gifts, and other transfers (Swift 1977). Pastoral institutions of mutual aid, and livestock exchanges in particular, are considered redistributive mechanisms that allow pastoralists to set up independent household herds and recover from animal losses after droughts. The view that pastoralists abandon institutions of mutual aid when incorporated into the market economy is accompanied by great concern about the future of African pastoralism (Roth 1996). A breakdown of the pastoral institutions of mutual aid would affect the reproduction of pastoral households and severely compromise the viability of pastoral systems in Africa.

Unfortunately, the question of the demise of the pastoral moral economy of livestock exchanges was impossible to resolve conclusively in my dissertation project because it required a longitudinal study or reliable and detailed recall data going back at least ten years. I had neither. However, the comparative design of my study allowed me to examine this issue by proxy using the agro-pastoral village and to a lesser extent the

these economies are motivated by moral considerations for others or self-interest, which is an issue that is impossible to resolve because social relations are always multi-dimensional. The concept of the moral economy, when applied to pastoral societies, refers primarily to livestock exchanges among African pastoralists, which offer both temporary food relief as well as more permanent means for herd reconstitution, for example, Turkana, Samburu, and WoDaaBe (Dahl and Hjort 1979:21; Dupire 1962a; Gulliver 1955; Spencer 1965).

nomadic village as earlier models of the peri-urban village where livestock exchanges had all but disappeared in the last two decades.

During the fieldwork, it became clear that pastoralists' incorporation in the market economy played a role in the disappearance of livestock exchanges in the peri-urban village, not, as is widely assumed, because of the commoditization of pastoral products but of production inputs. In interviews with peri-urban pastoralists, the topic of cottonseed cakes, particularly the financial costs and the difficulty of purchasing them, kept coming up. It was obviously a serious concern for them, and I decided to pursue this topic. The use of cottonseed cakes, which is an excellent feed for cattle because of its high protein and fat content, represented an intensification of the pastoral system in response to the disappearance of rangelands in the peri-urban area. This intensification had led to a significant rise in production costs, which is most likely responsible for the disappearance of inter-household livestock exchanges in the peri-urban village. Impoverished pastoralists simply did not have the financial means to take care of loan animals.

The degree of intensification in the peri-urban village of Wuro Badaberniwol was unprecedented in the Far North of Cameroon and had other far-reaching implications for the management of family herds. I decided that the intensification and its impact, which represented a major transformation of the pastoral system, warranted further investigation. While pursuing the transformation of the peri-urban pastoral system, I found that some of the changes could not be explained as an adaptation to the disappearance of rangelands only. Institutional and ideological changes within the

household, which were part of a process of Islamic renewal, played an important role in how peri-urban FulBe implemented the intensification of their pastoral system.

The result of this change in topics is a dissertation in which the disappearance of livestock exchanges is but one of many changes in the transformation of the peri-urban pastoral system. Consequently, the study has become much broader than originally envisioned and extends beyond the role of the moral economy of livestock exchanges in the persistence of African pastoralism. Although, I believe that this dissertation is more interesting and has broader implications for the study of pastoral production systems than my original proposal, there are disadvantages to changing topics. The most important disadvantage is that the final form of the analysis emerged towards the end of my fieldwork and return from the field when I was unable to follow up on questions that were raised by my analyses. This means that some of my conclusions are tentative and await testing in the future.

The intensification of the peri-urban pastoral system in response to a declining resource base is a new phenomenon that has not yet been examined in the pastoral literature. On the other hand, a large body of literature addresses similar problems of dwindling resources and intensification of agricultural systems (Boserup 1965, 1981; Hayami and Ruttan 1975; Pingali, et al., 1987; Tiffen, et al., 1994; Turner, et al., 1993; von Thünen and Hall 1966). Some of this literature has focused on the integration of livestock in intensive agricultural systems (e.g., McIntire, et al., 1992; Pingali, et al., 1987) but not on the intensification of pastoral systems.

I will examine the transformation of the peri-urban pastoral system within this theoretical and analytical framework of agricultural intensification. However, unlike most of this literature, I do not assume peri-urban pastoralists to be rational actors or their households to be single decision units. I refer here to rational actors defined in the narrowest economical sense as individuals who are motivated by self-interest, perfectly informed, calculating costs and benefits, and maximizing their way through life (Ensminger 1992:12), or, as Sen called them ‘social morons’ (1977).² Economic behavior is always embedded in institutions, which therefore play an important role in my analyses of inter- and intra- household economic behavior. However, changes in relative prices, in this case pastoral production costs, are equally important and explain changes in economic behavior. My analyses thus consider both institutions and relative prices, and changes herein. Finally, this study focuses on what happens inside households and how this affects the intensification of the peri-urban pastoral system.

PASTORALISTS UNDER PRESSURE

² Some economists argue that humans do not always rational make rational choices - because they have imperfect information, limited perceptions, and are influenced by subjective feelings - and have replaced the narrow version of rationality with the more realistic concept of *bounded rationality* (Simon 1957; Simon 1987). Anthropologists have extended bounded rationality to include social, cultural, cognitive, and political, as well as economic contexts (cf., Barth 1981; LeVine 1984; Plattner 1989:xi). These relativist anthropological definitions of rationality are similar to Elster's definition: "when faced with several courses of action, people usually do what they believe is likely to have the best overall outcome"(Elster 1989:22), which is how I assume people generally operate.

Whereas most of the recent literature on pastoralism focuses on the plight of its people, the 1980 review of the literature on nomadic pastoralism by the Dyson-Hudsons (1980) had a functional focus reflecting the early cultural ecology and structural functionalist literature on pastoral systems (e.g., Dahl and Hjort 1976; Evans-Pritchard 1940; Gulliver 1955; Spooner 1973). However, in the last decades, African pastoral societies have undergone rapid and far-reaching changes; they have been progressively articulated with larger market economies and incorporated into states. It thus became increasingly problematic to study pastoral societies as functional adaptations to ecology. Subsequently, later literature shifted its focus to the study of pastoralists within the larger political economy of the state and market economy (e.g., Anderson and Broch-Due 1999; Fratkin 1997; Little 1992). The shift in theoretical focus started with the Sahelian droughts of the early seventies (Swift 1977). In response to the droughts, and how these affected African pastoralists, grew a large body of literature that was concerned with what was perceived as the bleak future of pastoralism (Galaty 1981b; Salzman 1980; Salzman and Galaty 1990) and pastoral development (Goldschmidt 1981; Horowitz 1987; Horowitz 1986; Sandford 1983; Simpson and Evangelou 1984).

Today, 'Pastoralists under Pressure' has become a favorite stock phrase in many publications that expresses well the concern of scholars with the future of African pastoralism (Azarya, et al., 1999; Sandford 1976). In his 1997 review, Fratkin neatly summed up the current predicament of African pastoralists: "Pastoral societies face more threats to their way of life now than at any previous time. Population growth; loss of herding lands to private farms, ranches, game parks, and urban areas; increased

commoditization of the livestock economy; out-migration by poor pastoralists; and periodic dislocations brought about by drought, famine, and civil war are increasing in pastoralists regions of the world” (1997:235; see also, Niamir-Fuller 1999a:3).

However, as Fratkin himself notes, pastoral societies have also shown a remarkable resilience (1997:235). In the face of significant transformations of African pastoral societies, the resilience of pastoralism as a way of life has been remarkable. Phenomena such as privatization of common land, individual ownership of animals, sedentarization, and economic diversification entail significant alterations to extensive pastoral production systems, and mark the transformation to intensive animal husbandry systems. Despite this transformation, even pastoralists who no longer follow a pastoral lifestyle still identify themselves as such and continue to adhere to many of the ideals of “pure” pastoralism. While others have increased their mobility and returned to extensive strategies in response to the pressures of the market and ecological degradation. The autonomous development of FulBe peri-urban pastoralists provides another response to the pressures on pastoralism and is evidence of the resilience of pastoral societies.³

³ To a certain degree, this reflects a difference in focus from poorer, unsuccessful pastoralists to wealthier, successful pastoralists. Hogg (Hogg 1986), for example, describes how economic diversification leads to increasing differentiation among East African pastoralists but focuses in his conclusion not on how some pastoralists successfully adapted to the pressures on pastoralism but rather on how social and economic processes lead to growing pauperization of others. This dissertation focuses on wealthier peri-urban pastoralists, not only because they have successfully adapted to the pressures on rangelands but also because there were no poor pastoral households in the peri-urban village. I believe that lessons from how peri-urban pastoralists have successfully adapted to the disappearance of rangelands can be selectively diffused to other, less wealthy pastoralists.

Two Pastoral Development Paradigms

This study of the autonomous development of peri-urban pastoralists to the disappearance of rangelands in the Far North of Cameroon has direct bearing on the debate about the future of African pastoralism because potentially it represents a sustainable adaptation to the pressures on pastoralism.

Two views dominate the debate on the future of pastoralism (Fratkin 1997). One view states that there is no future for traditional extensive pastoralism and argues for its integration in agriculture and intensification of animal husbandry (e.g., Steen 1994). The other view argues that extensive pastoralism is the most efficient adaptation to the drylands of Africa, and that pastoral rights to resources need to be protected in order to support pastoralists' mobility and flexibility (e.g., Niamir-Fuller, 1999 #1520; Hann, 1996 #2082:416). This mobility paradigm "wants to ensure that the appropriate policies, legal mechanisms and support systems are in place, in order to allow self-evolution of pastoralism towards an economically, socially and environmentally sustainable livelihood system" (Niamir-Fuller 1999b: 31). This mobility paradigm is based on a number of ecological and anthropological studies that have greatly contributed to our understanding of the ecology of pastoral societies in Africa (Behnke Jr., et al., 1993; Ellis and Swift 1988; Homewood 1991; Sandford 1982), often referred to in the literature as the 'new ecology' or the 'new thinking' (Scoones 1995; Zaal 1998).

The problem of the mobility approach is that it ignores the political economic context in which African pastoralists operate. African governments have a poor record when it comes to protecting pastoral rights to resources and few are willing to protect pastoral areas and pastoralists' rights. Moreover, even if governments would commit themselves to protecting pastoral rights, it remains the question how long their commitment would last. The mobility paradigm makes pastoral development dependent on unreliable governments that are characterized by endemic corruption that turn any pastoral policy into an immediate failure. The political situation of Cameroon, for example, with rampant corruption of traditional and governmental authorities at every level in the administration, makes the mobility paradigm an unsustainable option. Moreover, while it is true that pastoralism is the only effective means of sustaining human populations and a desirable strategy in some dryland areas (Hann, 1996 #2082:416), this does not apply to all drylands, e.g., the semi-arid Sudan-Sahelian zone of West Africa, where agriculture is a viable alternative and in direct competition with pastoralism for many of the same resources. It is in this zone that population growth, agricultural expansion, and urbanization leads to continuing pressure on rangelands, which makes an extensive strategy in many cases simply no longer an option.

The question is whether the opposing view of the 'modernization paradigm' is a viable alternative. The modernization paradigm involves "abandoning pastoralism altogether and encouraging former herders to plant forage crops, cereals, and fodder to raise livestock in sedentary settings and to integrate into an industrialized, market-based economy" (Fratkin 1997:252). This paradigm informs most agricultural research in

experimental settings at African institutes whose focus is on new animal breeds, supplementary feed, nutritional value of different kinds of fodder, the planting of forage-crops, and the reseeded of pastures. The main goal of modernizing the pastoral sector is to improve the production of meat for the growing urban market (Simpson and Evangelou 1984). In the past, many development projects that aimed at the sedentarization of pastoralists, controlled grazing schedules, supplementary feed, integration with agriculture, and commercialization of livestock production failed miserably because they were based on misunderstandings of pastoral societies and rangeland ecology (Goldschmidt 1981; Horowitz 1987, 1979). These failures should give development organizations pause before they embark on similar paths.

The problem with the mobility and the modernization paradigm is that both rely on outside intervention. It might be more productive to evaluate the strategies and innovations that pastoralists themselves have implemented independently of development organizations and research institutions to cope with the increasing pressure on rangelands. Peri-urban pastoralists in the Far North of Cameroon combined intensive and extensive strategies to cope with the disappearance of rangelands and they seem relatively successful.⁴ It is important to evaluate these autonomous developments and

⁴ Other researchers in the Far North Province of Cameroon have also noted the radical transformation of pastoral systems that involves a combination of intensive and extensive strategies, and called for research examining the economic performance of the new system, with the possible aim of improving it (Reiss 1997). *La synergie observée à Kolara entre les systèmes d'élevage mobiles et sédentaires indique qu'il n'y pas lieu dans un futur proche, d'envisager une radicale transformation des systèmes de production actuels. Il faut plutôt s'attendre à une diversification des systèmes d'élevage opérée par les mêmes acteurs. Le rôle de la recherche-développement devient précisément d'accompagner les sociétés pastorales (qui détiennent, rappelons-le, l'essentiel du cheptel national) dans un processus de diversification et d'intensification des systèmes d'élevage. Les méthodologies de recherche et d'intervention doivent mieux*

strategies in economic, ecological, and social terms as pastoralists themselves invent the future of pastoralism (cf., Reij and Waters-Bayer 2001).⁵

Evaluating Economic Performance

In this dissertation, I will evaluate the autonomous development of peri-urban pastoralists in economic but not in ecological terms. A number of studies have demonstrated the difficulties of measuring the ecological effect of grazing on future rangeland productivity because of rainfall variability, which makes the evaluation of pastoral strategies in terms of ecological sustainability practically impossible (Behnke Jr., et al., 1993; Ellis and Swift 1988; Homewood 1991; Sandford 1982). More importantly, I believe that pastoralists' primary concern is not ecological sustainability but survival of their herd and household, and that is therefore more appropriate to evaluate the intensification of the peri-urban pastoral system first in economic terms, i.e., how peri-urban pastoralists make ends meet. This is particularly relevant in this case because the financial costs of their pastoral system have increased significantly due to the use of

prendre en compte les comportements de ces acteurs pour améliorer d'efficacité de leurs pratiques, voire les enrichir (Reiss 1997:222).

⁵ When the continued survival of pastoral groups is evidence of their success, then all three communities in this study are successful. However, the successful adaptation of peri-urban pastoralists warrants greater attention and scrutiny because they faced the greatest pressure on rangelands, a problem that will affect increasingly greater numbers of African pastoralists.

cottonseed cakes, which raises the question whether the intensification is financially sustainable.

I will compare the economic performance of households in the three pastoral systems (over the year 2000-2001) in terms of financial input and output as well as herd growth. Economic performance is calculated by the Chayanovian ‘returns to labor’ approach, which subtracts from the financial output (and herd growth) only the financial costs and not the labor input of household members (Barlett 1982; Chayanov 1986; Netting 1993:297). Current economic performance of pastoral households in one year has some predictive value for the long-term sustainability of pastoral systems, but other factors such as risk and insecurity have to be taken into account as well when assessing long-term sustainability.

Definitions of Pastoralism and Perceptions of Change

In the past, pastoralism was defined more narrowly as ‘pure’ pastoralists who were nomadic, highly specialized, subsistence-oriented, and independent (with the Maasai *murran* warriors as the pastoral prototype)(Jacobs 1965b).⁶ Defining pastoralism

⁶ In the past, pastoralists were defined in terms of mobility (Dyson-Hudson and Dyson-Hudson 1980; Goldschmidt 1979; Spooner 1973), production orientation (Ingold 1980), ownership of land (Ingold 1980), the degree of dependence on pastoral products (Jacobs 1965a; Niamir-Fuller 1999a:1; Sandford 1983), and the degree of specialization (Galaty 1981a), in which pastoralists are defined as more mobile, more subsistence-oriented, and more specialized in pastoral production.

has generally been an intellectually sterile enterprise that has little analytical value (cf., Dyson-Hudson and Dyson-Hudson 1980:18). However, since some might not consider the peri-urban FulBe to be pastoralists because their heavy reliance on supplementary feed, I feel the need to argue that they should be considered pastoralists.⁷ In addition, how one defines pastoralism also informs perceptions of change in pastoral societies, and whether the transformation of the peri-urban pastoral system signals its demise or its persistence.

Recently, definitions of pastoralism have become more inclusive. Articles by Salzman (1972; 1996) were instrumental in broadening the definition to include peasant and multi-resource pastoralists. I personally embrace the definition of Chang and Koster who define pastoralists as ‘those who keep herd animals and who define themselves and are defined by others as pastoralists’ (1994a:9). They argue: “that keeping herd animals requires human beings to shape their lives – socially, culturally, economically, and ideologically – in ways that are structured by an interdependence with their animals. The husbandry of animals represents a commitment to a way of life” (1994a:9; see also, Edgerton 1971; Goldschmidt 1971). This definition is broad enough to include peri-urban FulBe who rely on sorghum cultivation and off-farm income for subsistence and whose cattle live off supplementary feed throughout the dry season. It is also narrow enough to exclude the Kanuri farmer in the same village who owns three head of cattle that are

⁷ The Dyson-Hudsons (Dyson-Hudson and Dyson-Hudson 1980:17), for example, focus on the exploitation of natural forage through mobility (i.e., taking the animals to the feed rather than vice versa), which would exclude peri-urban pastoralists because of their use of purchased feeds and capital inputs in the dry season.

entrusted to FulBe pastoralists in the neighboring village but who is not regarded a pastoralist by others or himself.⁸

Pastoral Systems

This dissertation focuses on the transformation of the peri-urban pastoral system. I use the term pastoral system in its broadest sense, taking all aspects of pastoral societies and households into consideration, studying them in the wider ecological and political economic context, and from different analytical and theoretical perspectives (Fratkin 1994:5). The term pastoral system evokes an approach called Farming Systems Research (FSR), a holistic and participatory response to an agricultural development based on research on experimental farms (Norman, et al., 1982; Norman, et al., 1995). In the FSR approach, farms or households are studied as one system, not only examining farming techniques but also other (economic) household activities (Chambers 1983; Chambers and Ghildyal 1985; Richards 1986). In this dissertation, pastoral systems refers to all the activities of pastoral households, subsistence and market activities, including those that might not seem to have a direct bearing on the management of the family herd, such as

⁸ Entrustment is a common exchange of livestock in which an owner entrusts one or more animals (sometimes an entire herd) to a herder or a guardian (*kaliifa*) who manages the herd, has usufruct rights over the animals, and sometimes is financially compensated (see chapter seven for more details). Both men and women entrust animals.

Koranic study or trade of cloth. The pastoral system includes also all resources that are available to the household (including labor that can be hired). Seasonal agricultural wage laborers and salaried herders are an integral part of the pastoral system in the Far North. However, unlike most FSR studies, I do not assume that households are single decision-making units nor that pastoralists are rational actors.

In my analyses and evaluations of economic performance, I focus on the pastoral system, i.e., household, and in the case of peri-urban pastoralists the household head, because this is the corporate unit that is responsible for provisioning its members, but I will also consider the economic behavior and performance of individuals within the household.

INTENSIFICATION OF PASTORAL SYSTEMS

The Malthusian doom of the ‘tragedy of the commons’ continues to hang over studies of African pastoral systems (Spencer 1998). In the tragedy of the commons, Hardin sketches a Malthusian scenario in which overexploitation of common resources by individual herders leads to the depletion of these same resources (1968). His analogy of herders who maximize their gain thereby overexploiting common rangelands has profoundly affected the public understanding, scientific research, and development programs concerned with pastoralists’ role in famine and environmental degradation in

Africa's drylands (Feeny, et al., 1990; Fratkin 1997:240; Hardin 1968; Lamprey 1983; McCabe 1990; Sinclair and Fryxell 1985).⁹

An alternative, and more positive, view on the relationship between population growth and economic development for agricultural systems is put forward by Boserup (1965; 1981). The Boserupian argument simply put is the following: people will change their production system, through intensification, innovation, or adoption of new technologies, only when population grows beyond the limits of production. Population pressure is the motor behind agricultural transformation (Boserup 1965). Empirical studies of agricultural societies generally have supported the Boserupian thesis, although the picture has become more complex because of the role of the market and the larger political economy in which agriculturalists operate (Hill 1986:26; Hydén, et al., 1993; Netting 1993; Pingali, et al., 1987; Turner, et al., 1993).

The Boserupian theory has been deemed irrelevant for pastoral systems by some (Spencer 1998:227). One of the problems here is the definition of pastoralism. When one uses a narrow definition of 'pure' pastoralism then intensification means indeed the demise of pastoralism. However, when one uses a broader and more inclusive definition of pastoralism, the Boserupian model certainly has relevance for the transformation of African pastoral systems. There are, however, some problems with the application of the

⁹ Anthropologists and ecologists have made a concerted effort to repudiate the model, which unfortunately has been widely adopted by development organizations and a number of scholars (Ingold 1980; Lamprey 1983). Anthropologists and ecologists have argued that what Hardin describes is a situation of *open access* and not *commons*; that most commons have rules and institutions that regulate access and use; and, that the ecological relationship between rangeland production and grazing pressure is far more complex than is generally assumed (Behnke Jr., et al., 1993; Ellis and Swift 1988; Feeny, et al., 1990; Fratkin 1997; McCabe 1990; Ostrom 1990; Sandford 1983; Scoones 1995).

Boserupian model to pastoral systems. The least of them is that the ultimate cause of a declining resource base is not due to endogenous population growth but due to growth of agricultural populations and consequent agricultural expansion. The more substantive problem is how to translate intensification of agricultural production into a concept that is useful in pastoral production systems (Galaty and Johnson 1990:18).

There is no shortage of definitions of agricultural intensification; some emphasize an increase in output per unit of land, labor, and/or capital (Ramisch 1999:3), while others emphasize an increase in inputs of land, labor and/or capital (Adams and Mortimore 1997:151; Tiffen, et al., 1994:29). Another distinction that can be made with regard to intensification is that between absolute increases of land, labor, and/or capital or increases in the efficiency of these inputs, in which the former leads to diminishing marginal returns and involution and stasis (Geertz 1963) and the latter increases production through innovation and change (Boserup 1965).¹⁰

One can conceive of intensification in pastoral systems in similar ways as investments in land, labor, and/or capital and with a focus on input, output, or efficiency. Intensification of rangelands (i.e., increasing its productivity) can be conceptualized as an increase in the number of animals per unit of land, which is a pastoral form of involution

¹⁰ A similar distinction is made by Galaty and Johnson with regard to pastoral intensification: “The gradual process of intensification through increasing human and animal populations will either lead to the development of new techniques of management and resource control, suited to each area, or threaten the environmental stability of humid and dry lands alike”(Galaty and Johnson 1990:29). They define pastoral intensification as “the broad process of pastoral change as part of a more general rural transformation, formal and informal, planned and unplanned, whereby animal numbers increase, technology supplements or replaces labor, and animals are perceived in terms of their commodity value, with an increasing share of production being directed to commercial sale”(Galaty and Johnson 1990:27). However, their definition is too broad and conflates intensification with commercialization.

likely leading to overgrazing, or as an investment in the land itself through fertilization, burning, or reseeded of rangelands. The potential of these two forms of pastoral intensification of rangelands is limited and experiments of the latter have been unsuccessful (see also, Bayer and Waters-Bayer 1995:70; Mortimore 1998:187).

Intensification of pastoral labor can be conceptualized as an increase in the number of animals per herder or as increase in the number of herders per animal.¹¹ There are limits to both of these forms of intensification of labor in pastoral systems. A herder can only take so many cattle to pasture without a decline in herd productivity (in terms of milk yields, reproductive rates, and/or meatier animals). An involution scenario of labor intensification in which another herder is added to the herd is possible in pastoral systems. Herd productivity will increase with an additional labor input but the diminishing marginal returns only allow for very limited increase of population growth.¹² The intensification of land and labor has limited potential in pastoral systems and that is even more true when the natural resource base is decreasing, which is the prospect that most African pastoralists are facing today.

Since the possibilities of increasing productivity per units of land and labor are limited, the most likely scenario of pastoral intensification is through capital inputs and

¹¹ This is an excellent example of the confusion of the intensification concept and terminology: labor intensification is first used as increase in the number of animals per herder (which leads to higher output per unit of labor but lower overall herd productivity). In the second case, it refers to an increase in overall herd productivity by adding another herder (thus decreasing the number of animals per herder and the efficiency per unit of labor).

¹² Mortimore presents a model for intensification of livestock production in which the first three strategies represent labor intensification: splitting and diversifying herds, increasing effort watering animals, and moving herds (transhumance)(Mortimore 1998). These are also the techniques that nomadic pastoralists traditionally use who, paradoxically, also practice the most extensive pastoral system. The nomadic pastoral system is the most labor-intensive but also the most land-extensive.

innovation/adoption of new technologies. This means that intensification of pastoral systems per definition involves a commoditization of the production process (which is not necessarily the case in agricultural systems). It also implies that pastoralists have to participate in the market economy, either through commoditization of pastoral products or economic diversification (i.e., non-pastoral sources of income), to finance the intensification.

Integration of Livestock in Agriculture

Although there have been many studies of intensification of livestock production and its integration in African agricultural systems (Fanchette 1999; McIntire, et al., 1992; Mortimore 1998:187; Pingali, et al., 1987; Williams, et al., 1999), there have been no studies of the intensification of African pastoral systems.¹³

Some researchers have written about the evolution of traditional pastoral systems in which herders depend on fallow and free forage into a more intensive husbandry system in which animals are confined and most crop residues are harvested and preserved as fodder (e.g., Weber, et al., 1996:140) but this misrepresents the changes in West African production systems. Thus far, intensive husbandry systems have not evolved out

¹³ I will focus my discussion here on the intensification of pastoral systems in West Africa because the East African geographical distribution of agricultural and pastoral systems is very different. Moreover, there is a large literature on agricultural intensification that addresses specifically the situation in West Africa.

of extensive pastoral systems but only out of agricultural systems. Until now the intensification of livestock production in Africa has referred to the integration of livestock in agricultural systems but not to the intensification of pastoral systems.

There are a number of reasons for the focus on integrating the two production systems in a mixed-farming system.¹⁴ In the last fifty years pastoralists have moved south into the agricultural zones (Bassett 1994; Boutrais 1986; 1990b) while agriculturalists have moved north into the pastoral zones (Thébaud 2002) thereby de facto ever more integrating the two production systems in geographical space. Second, farmers have increasingly invested their surplus in livestock often encouraged by agricultural extension workers promoting the use of plough and manure in their agricultural system. Most importantly, researchers studying the integration of livestock in intensive agricultural systems have the implicit assumption that there is no future for traditional extensive pastoral systems and believe that traditional pastoralists should settle and integrate agriculture into their production system and, in short, become like farmers (cf., Njoya, et al., 1997a:120).

Scholars of pastoral societies, on the other hand, have argued against the integration pastoralism and agriculture in mixed-farming systems because it means less specialization and a less efficient pastoral production system in terms of milk yields, health, and growth (Bayer and Waters-Bayer 1995:69; Ramisch 1999; van Raay 1975:136). Another important argument against mixed-farming systems is that forage

¹⁴ One important reason why that agricultural research centers find pastoralists a difficult population to work with is because they are very mobile and live farther away from population centers, which ties into many other issues about the marginalization of pastoral peoples (Moritz 1995).

resources in transhumance areas will be under-exploited and rangelands in the immediate surroundings of villages will be overexploited (Bayer and Waters-Bayer 1995). In some cases, the integration of livestock in intensive agricultural systems is detrimental to extensive pastoral systems in the same area because pastoralists are excluded from key resources (Fanchette 1999:79)

The loss of specialization and efficiency in livestock production as well as the under-exploitation of transhumance resources is less likely when pastoral systems are intensified (rather than when livestock is integrated in intensive agricultural systems). Many settled FulBe pastoralists who have integrated agriculture in their production system continue to pursue extensive pastoral strategies (e.g., transhumance see, Buhl 1999; de Bruin and Dijk 1995). Now with a declining resource base, these agro-pastoralists are gradually intensifying their pastoral production system through increased use of veterinary products and supplementary feeds (Buhl 1999). Nowhere has this gone as far as in the peri-urban area of Maroua, the provincial capital of the Far North of Cameroon. This intensification of agro-pastoral production systems by pastoralists might represent a more sustainable alternative of intensification of livestock production in agricultural systems because of the knowledge and commitment to animal husbandry of its practitioners.

Intensification and Production Orientation

While Boserup's model of intensification primarily concerned subsistence economies, other theorists have emphasized that the market (or extraction of taxes by political systems) plays an equally important role in the intensification of agricultural systems as farmers aim to produce a marketable surplus (Schultz 1964; Tax 1953; Turner and Brush 1987:9; Wharton 1969).

There is, however, no evidence that African pastoralists have intensified their production system in response to market demands. Most, if not all, African pastoralists are subsistence-oriented; they are not raising animals for profit but primarily to meet the biological and social needs of the household. Spooner calls this indirect subsistence (Spooner 1973).

FulBe pastoralists in West Africa have intensified their production system – though not to the degree as in the peri-urban village of Cameroon – through increased use of fodder, supplementary feed, and veterinary products (Buhl 1999; Thébaud 2002:277) but this was generally in response to declining resources and aimed at survival of the herd. The intensification of pastoral systems is thus not market-driven.

Although pastoralists are generally not producing for the market, there is one exception; some FulBe pastoralists have intensified part of their livestock production in response to urban demand (Demirag 2002). I am referring here to the fattening of old and exhausted cattle. Fattening is an intensive market-oriented strategy that involves capital inputs such as supplementary feed and veterinary products. This strategy is not limited to pastoralists. In fact, it was most likely first pioneered by non-pastoral urban entrepreneurs

and later adopted by pastoralists (at least in the Far North of Cameroon). In FulBe households in the Far North of Cameroon, fattening was an individual cash earning activity, comparable to the cultivation of the cash crop cotton, and entirely separate from the management of the regular family herd. I argue therefore that fattening as practiced by FulBe pastoralists is more appropriately labeled as a form of economic diversification of pastoral households rather than an intensification of the pastoral system (discussed in chapter five).

Von Thünen's Model of Rural Development

The role of the market, in particular urban demand, in the intensification of agricultural and pastoral production systems has also been theorized by von Thünen (von Thünen and Hall 1966), whose model for rural development of the 'isolated state' is the most basic analytical model of the interplay between markets, production costs, and geography (Hite 1999). The basic principle of von Thünen's model is that each concentric ring around a city should be devoted to the agricultural use in which it would yield the highest profit, taking into account production costs (e.g., rents), costs of transport of agricultural products to the urban markets, and the perishability of these

products (cf., Netting 1993:289-90; Tiffen, et al., 1994; von Thünen and Hall 1966).¹⁵

This model predicts that intensive dairy farms would be found close to the city because of the short shelf life of milk; while extensive ranching of meat cattle would be found farther away from the city where there is enough bush and animals can be transported on the hoof to the city.

Von Thünen's model predicts accurately the splitting of herds in the peri-urban village of Wuro Badaberniwol in a bush and village herd but contrary to the model's predictions, there has been a shift from market- to subsistence-oriented dairy production in the peri-urban village. The model's failure to account for the decrease in dairy marketing is due to its assumption that people are rational actors. The problem is that people are not simply profit maximizers who operate in an institutional vacuum; culture and institutions play an important role in shaping economic behavior and by extension in the outcome of intensification processes (cf., Berry 1993). In this dissertation, I will combine the theoretical framework of intensification of production systems with an institutional analysis to explain the transformation of the peri-urban pastoral system in the Far North of Cameroon.

¹⁵ Von Thünen's model is based on the assumption of a city in 'isolated state' (von Thünen 1826; von Thünen and Hall 1966). The assumptions are the following: city is centrally located, no external contacts, state is self-sufficient, city surrounded by bush, no major geographical barriers (e.g., rivers, mountains), no variation in climate or ecology, city is the main market, farmers are market and profit oriented. Under these conditions, the city would be surrounded by four rings of agricultural activity: intensive agriculture (fruit and vegetables) and dairy farming, forest (for firewood), extensive agriculture (cereals), and extensive animal husbandry i.e., grazing (meat). The land use system is explained in terms of the transport (weight of firewood), land costs (rent), and perishability of goods (dairy, fruits). Von Thünen emphasized the balance between land costs and transport costs. The model does not take into account technological innovations that would allow for longer preservation of fresh foods.

Commoditization of Production Systems

Although, there have been no indications that pastoralists have intensified their ‘regular’ pastoral system in response to the market, the market does play an important role in the intensification of pastoral systems because of pastoralists’ reliance on capital inputs (e.g., supplementary feed and veterinary products). In fact, intensification of pastoral systems is only possible through commoditization of pastoral products and/or economic diversification.

Similar conclusions have been drawn by scholars of agricultural intensification in Africa, who have emphasized that the proximity of urban markets is crucial for the sustainability of intensification (Mortimore 1998:189; Murton 1999; Williams, et al., 1999). Urban centers are important for two reasons. First, urban demand for agricultural products provides an income that can be used for investments in the agricultural production system (Mortimore 1998; Zaal and Oostendorp 2002). Second, urban centers provide households with potential alternative sources of income through wage labor or other commercial activities that can be invested in the intensification (Haggblade, et al., 1989; Murton 1999).¹⁶

¹⁶ Von Thünen failed to incorporate the role of the city in offering alternative off-farm sources of income. Maybe this was due to the fact, that this Prussian landlord used his own estate as inspiration for the model rather than a city.

Because of the high financial costs of the intensification of the peri-urban pastoral system, one question that is raised in this dissertation is whether pastoralists are able to finance the intensification of their production system only with the revenues of the herd or whether they are dependent on alternative, non-pastoral sources of income.

Some researchers have warned that rural development that relies on external commoditized inputs is uneconomic and unsustainable in dryland conditions (Mortimore 1998:186-8; Toulmin 1995). They emphasize the use of local inputs because the main risks of reliance on external inputs are high prices and unreliable supplies, which depend on existing market infrastructures. However, the reliance on local inputs can be problematic as well because of co-variant risks of drought and crop failure (Bayer and Waters-Bayer 1995). In the year 2000, the rains stopped too early and subsequently the cotton harvest failed which in turn led to lower production of cottonseed cakes and extremely high prices. Moreover, the source of inputs, locally produced or imported, does not *a priori* mean that one is more or less economical or sustainable than the other. Cottonseed cakes were locally produced in the Far North of Cameroon, 15 kilometers from the peri-urban village, but supply was unreliable and prices extraordinary high (this was partly due to corruption). Salt imported for cattle from Senegal, on the other hand, was never in short supply and had a constant price. It is thus not a question whether local or external inputs are more sustainable – leaving aside the question of what is local or external – but one of market infrastructure and efficiency (Bates 1981; Holtzman and Kulibaba 1995; Hydén, et al., 1993). Some inputs are locally produced but are distributed through very inefficient markets (e.g., cottonseed cakes in Cameroon); others are

produced internationally but are distributed through more efficient markets (e.g., salt from Senegal).

THE ROLE OF INSTITUTIONS

The case above of the marketing of cottonseed cakes versus salt demonstrates that institutions play an important role in economic performance of markets (Acheson 1994a; Bates 1981; Bates 1989; Eggertsson 1990; Ensminger 1992; North 1990; Williamson 1985). Institutions thus have to be considered in evaluations of economic performance and the sustainability of the intensification of pastoral systems.

Studies of intensification of agricultural systems have generally ignored the role of institutions (and the political economy) – presenting most households as operating in an ‘isolated state’ – in favor of a focus on the ecological and technical aspects of intensification. Discussions about institutions in theories of rural development are generally limited to property rights over land (Alchian and Demsetz 1973; Cuffaro 1997; Ostrom 1990). Institutions (other than those concerning land tenure) are only discussed in two contexts in these studies: traditional culture as an obstacle to change or as an externality that accompanies intensification (Mortimore 1998:190-1; Weber, et al., 1996). The impact of Islamic renewal on pastoral households and the intensification of their

production systems in this study demonstrates that it is imperative to seriously consider institutions in studies of intensification of production systems (Berry 1986).

Anthropologists have long argued that culture and institutions matter in economic behavior (Polanyi 1944). Maybe as a reaction against the East African cattle complex of Herskovitz (Herskovitz 1926), functionalism has reigned in studies of pastoral societies in which anthropologists have generally emphasized the economic rationality of pastoralists. Pastoralists' economic behavior was primarily explained in ecological or economic terms aimed at reducing the risks associated with animal husbandry (Dahl and Hjort 1976; Dyson-Hudson and Dyson-Hudson 1980; Spooner 1973). Anthropologists showed, for example, that pastoralists were not maximizing herd size out of irrational love for cattle but to increase their chances of rebuilding herds after drought (Dahl and Hjort 1976; Fratkin and Roth 1996). Subsequently, in most pastoral studies, culture and institutions were considered primarily the products of adaptations to the herding of animals (Goldschmidt 1965; Spooner 1973).

As pastoralists have been increasingly incorporated in the market economy and the state, it has become more difficult to explain their economic behavior solely in ecological terms. An approach that combines economic, political economy, and institutional analyses is new institutional economic anthropology, which Jean Ensminger has used to examine the changes in the pastoral society of the Orma in Kenya (see also, Acheson 1994a; Ensminger 1992). The advantage of this approach is that it explicitly examines the interface of economic and cultural factors in studies of cultural change by considering relative prices, institutions, ideology, bargaining power, and transaction costs

as well as how these affect each other (Ensminger and Knight 1997; Ensminger and Rutten 1991; Lesorogol 2003).

I use institutions very broadly; in some cases, one could read here ‘culture’ as well, although a better gloss would be cultural rules. Institutions can be formal, informal, or refer to the enforcement of these rules (Ensminger 1992:6). “Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interactions” (North 1990). Institutions not only constrain human behavior, they also motivate certain kinds of actions (Acheson 1994c).

Studies of intensification take into account ecological and economic costs and changes in relative prices of agricultural products and production costs feature in analyses of economic performance and sustainability (Mortimore 1998; Weber, et al., 1996). However, they do not consider how institutions affect both the larger macro-economic context in which agriculturalists and pastoralists operate nor how they inform decision-making at a micro-level.

I argue that studies of intensification (of agricultural and pastoral systems) should consider institutions not only as an obstacle to change but also as a motor of change that affects the outcomes of processes of intensification. This does not mean that institutions are expressly designed to reduce transaction costs and improve economic performance (Williamson 1981) but rather that institutions might increase efficiency and economic performance by accident, or not (Ensminger 1992:22). Institutions exist for a multitude of reasons and serve multiple purposes, which makes them ‘lumpy’ and path dependent meaning that institutional change is always built on existing institutional and ideological

structures (Ensminger 1992:23; North 1990). Many institutions are not directly concerned with economic behavior; they might exist to channel behavior according to religious and ideological norms and thereby indirectly affect economic behavior (Ensminger and Rutten 1991:684). This is the case in the peri-urban village of Wuro Badaberniwol.

The division of labor, the allocation of resources, the organization of the household, these are all economic decisions that are informed by a society's institutions. For example, the FulBe norm that women should not cultivate sorghum limits the labor available to the household and affects its sorghum production. Non-Muslim households from other ethnic groups do not have such norms and thus more household labor available for subsistence agriculture. Institutions affect how costs, benefits, rights, and responsibilities are distributed in society as well as in households. In short, institutions, whether they are formal or informal, affect the economic behavior of pastoralists and thereby the economic performance of their production systems, and thus cannot be ignored in studies of their intensification.

In this dissertation, the focus is on institutional change that is the result of a process of Islamic renewal in which peri-urban pastoralists are adhering more strictly to the codes of Islam. These codes have been on the books (Koran and hadiths, which describe the *sunna*, i.e., the way of the prophet Muhammad) for a very long time but many are only now observed by peri-urban pastoralists in the Far North. Moreover, how these formal codes are implemented and what form they take 'on the ground' is an empirical question. One cannot predict *a priori* how Islam affects pastoral societies. For example, the effect of Islamization has been detrimental to female livestock ownership in

many East African pastoral societies (Hodgson 2000a), but that is not necessarily the case in the peri-urban village of Wuro Badaberniwol. This has two related implications: first, there are multiple Islams (cf., Al--Alzmeh 1993:1)(discussed in chapter six), and second, when not taken into account, institutions and institutional change add a degree of unpredictability to the outcome of economic processes of intensification. Institutions have to be considered in the study of intensification of pastoral systems in order to increase our understanding of these processes and to better predict its outcomes.

HOUSEHOLDS AND FAMILY HERDS

Most institutional analyses have been concerned with the macro-economic structures of government, law, or trade or micro-economic units such as the firm (Coase 1937; North 1990; North and Thomas 1973). However, even though families have sometimes been regarded as small firms (Acheson 1994b), there have been little to no institutional analyses of economic behavior inside the family (Donham 1990; Ensminger and Knight 1997; Wilk 1991). An institutional analysis of the smallholder economy is important because many economic decisions are informed by institutional and ideological structures (Berry 1986). In addition, intra-household analyses are important because the interests of individual household members are not necessarily aligned with those of the collective household.

Studies of African households have demonstrated that households are not necessarily corporate units with cooperating individuals who contribute to a common household fund, and that outcomes of conflicting interests of its members are not always in the best interest of the collective household (Berry 1985; Carney 1988; Donham 1990; Guyer 1981). This means that households cannot be treated as single decision units, which has been the common approach in pastoral studies. This approach, often referred to as the 'common preference' or 'unitary' model (Becker 1981), ignores the allocation of resources and conflicting interests within the household and treats the household as a 'black box'.

Even though households are the unit of analysis par excellence in pastoral studies, studies of intra-household economics have been more frequent in peasant societies than in pastoral societies (Mayer 2002; Netting, et al., 1984a; Weismantel 1988; Wilk 1989). Studies that focused on women's roles in pastoral societies, however, have contributed to a greater understanding of intra-household economics by showing that the domestic unit is not undifferentiated with regard to livestock property (Curry 1996; Dahl 1987b; Hodgson 2000b). These, mostly qualitative, studies of pastoral households have shown that pastoral households cannot be taken *a priori* as a single decision-making unit in which all resources are pooled nor that family herds are necessarily collective resources.

The common preference approach remains the most prevalent in pastoral studies of the economic position of households, which assume that the household is a single decision unit and that the family herd is a collective resource that is managed by the household head for the common good (Fratkin and Roth 1990; Roth 1990). Pastoral

households and family herd continue to be studied as single decision units and collective resources for a number of reasons. First, in many pastoral societies, livestock is indeed more or less collectively owned. Individual members inside and outside the household may have different claims over the animals but the property rights of the household head, who manages the family herd as a collective resource for the household, generally override all others. One cannot, however, assume that is the case in all pastoral societies nor that the reality on the ground is an accurate reflection of the formal ideology of the collective family herd.¹⁷ The second reason for the prevalence of the ‘common preference’ approach is that data on property relations within households and family herds is notoriously difficult to collect because most pastoralists are secretive (or discreet) about property rights within the family herd (Evans-Pritchard 1940:20; Fratkin and Roth 1996:165; Sutter 1987; Sutter 1990:348).¹⁸

Some anthropologists have avoided this problem of discretion and conducted quantitative studies that focused on the age and sex composition of family herds rather

¹⁷ The household head may have formal authority to make economic decisions and occupy the dominant position, but other members of the household (e.g., wives and children) may not be without recourse (Donham 1990:48).

¹⁸ FulBe pastoralists are generally very discreet. They said that they carry their secrets in their belly and they are people with deep bellies (*lugga-reeduu'en*). Property relations are one of the FulBe's deep guarded secrets that spouses keep from each other and parents from their children. I know more about some FulBe men and women's livestock holdings than their spouses. However, not everyone was willing to share their secrets with me. Family herds have been compared to American bank accounts because they are storage of wealth (Bates 1990:155; Fieder 1997; Fratkin and Roth 1996:165). However, this is not the best analogy. Family herds are different from bank accounts because they also contain other people's wealth and reflect the herder's social network (Goldschmidt 1969). A FulBe family herd always contains animals from people that are not members of the household. In a sense, family herds are better represented as a cooperative bank with multiple accounts of the herder's family and friends. Some FulBe pastoralists were like Swiss bankers in that they were willing to tell me about the livestock they owned themselves but felt that they could not tell me about the holdings of others in the family herd. I respect their professional banking secret and I hope they forgive me for pestering them.

than property relations (Amanor 1995; Jung 1997; Nunow 2000:126; Stenning 1959:170-1; Sutter 1987; Toulmin 1992). This is an appropriate method if the family herd is a collective resource and all the animals are at the disposal of the household. However, when the herd is not a collective resource and the household has limited property rights over the animals in the herd, it is not appropriate to use family herd as a unit of analysis to evaluate the economic assets of the household.

One cannot assume that the family herd is a collective resource, and this was certainly not the case in the peri-urban village of Wuro Badaberniwol. Property relations within the family herd had changed radically as a result of a significant increase in production costs entailed by intensification and institutional changes in household organization that were part of an Islamic renewal movement among peri-urban FulBe pastoralists. The result is an individualization of livestock ownership and management such that the family herd is no longer a collective resource for the household and dairy production has become more subsistence- rather than market-oriented. This shift in production-orientation is not predicted by current theories of intensification because these do not use institutional analyses and do not enter the black box of the household and family herd.

PLAN OF DISCUSSION

The structure of this dissertation is as follows. In chapter two, I present the historical and contemporary context of the three pastoral FulBe villages in the Far North of Cameroon where I conducted my research, the data collected, and the methods used to collect this data. FulBe pastoralists' incorporation into the market economy of the greater Chad Basin in the last two centuries is discussed in chapter three, which shows that the pastoral economy generally has been advantageous for FulBe pastoralists in the Far North as is indicated by favorable terms of trade of pastoral products and sorghum. In chapter four, I discuss how individual FulBe pastoralists in the three villages participated in the market economy distinguishing between different forms of market incorporation in order to assess the role of the market in the transformation of the peri-urban pastoral system. I will show that peri-urban pastoralists were more involved in the market economy but did not sell more cattle nor was their pastoral production system more market-oriented than pastoralists in the other two villages. However, they spent more on pastoral production inputs, which, I will argue, was a response to the disappearance of rangelands rather than a response to the market. In chapter five, I review in detail the intensification of the peri-urban pastoral system and the associated increase in production costs, and assess its economic viability by comparing production costs, herd growth, and financial returns of the pastoral systems in the three villages. The analyses suggest that intensification in the peri-urban village is a viable strategy in terms of herd growth and financial returns, although not as efficient as the more extensive strategies of the agro-pastoral and nomadic villages. The commoditization of the production process is partly responsible for the individualization of livestock ownership and management but equally important are

institutional changes due to Islamic renewal. In chapter six, I discuss what Islamic renewal entails in the Far North of Cameroon and what it means for individual FulBe pastoralists in the three villages. The pursuit of piety, which is expressed in a stricter observance of Islamic codes, has led to a number of changes in rights and responsibilities in peri-urban households, which are discussed in chapter seven. The most important change concerns a shift from joint responsibility of husband and wife to provision the household through respectively animal and dairy marketing to one in which the household head is the sole provider and dairy revenues are no longer contributed to a common household fund. This shift in responsibilities is associated with an individualization of income and property in the household that is also reflected in the management of the family herd. In chapter eight, I discuss how the commoditization of production inputs and institutional changes in the household have affected the management of the family herd; in particular the distribution of production costs; the individualization of livestock ownership; and the demise of inter- and intra-household livestock exchanges. I discuss what the implications are of these changes for property relations within peri-urban family herds. Finally, in chapter nine, I summarize my analysis of the transformation of the peri-urban pastoral system and evaluate its economic performance and long-term sustainability, i.e., how peri-urban pastoralists, be they household heads or individual owners within the household, make ends meet now that animal husbandry is individualized and the family herd is no longer a collective resource. I also discuss the implications of this study for pastoral development and the study of agricultural intensification, including that of pastoral systems.

SOME NOTES

The names of the research villages and their inhabitants in this dissertation are all pseudonyms in order to protect my informants and their secrets. My research assistant, Saïdou Kari, used variations of these names to explain to my informants the rationale behind the selection of the three villages.

When no data sources are explicitly cited, I collected the data myself in my dissertation research or in previous research projects. This also applies to the data presented in tables.

I have used the conversion of \$1 = 750 FCFA (Franc de la communauté financière d'Afrique). During my research in 2000-2001, the exchange rate fluctuated between 700 and 775 FCFA to one dollar.

The orthographic conventions of the Bamako convention (1966) are used for Fulfulde as well as Arabic and French loan words (e.g., *zakka* instead of *zakat*, *turto* instead of *tourteaux*)(see, Parietti 1998; Tourneux and Dairou 1998).

Fulfulde words are in *italics* when they appear for the first time in a chapter or section. There is a list of Fulfulde words in the appendices.

When I write about the FulBe, I refer to FulBe in the Far North Province only, unless explicitly stated otherwise. Similarly, when I write about agro-pastoralists I refer to the people in the agro-pastoral village, not to all agro-pastoralists in the Far North Province, unless explicitly stated otherwise. The same is true for peri-urban and nomadic pastoralists.

CHAPTER 2: SETTING AND METHODS

INTRODUCTION

The fieldwork for this dissertation started in the summer of 1999, when I conducted a pilot study in the Far North of Cameroon to survey potential research villages, find out whether FulBe pastoralists still practiced the *nanngaaye* exchange of cattle, and whether there was enough variation in these practices to test my hypotheses. Equally important was the question whether I would be able to collect data on livestock ownership, stewardship, and transfers within and between family herds from ‘discreet’ FulBe pastoralists. I established that the *nanngaaye* tradition had not (yet) disappeared and that there was enough variation in the practices. I was also confident that I would be able to collect the sensitive data of livestock ownership, stewardship, and transfers within and between family herds.

In September 2000, I returned to the Far North of Cameroon to examine the effects of the market economy on FulBe livestock exchanges. My comparative study began with an agro-pastoral and a nomadic village; a choice informed by my pilot study that indicated variation between sedentary and nomadic FulBe in the practice of livestock exchanges. Early in the study, it became clear that market incorporation in itself was not responsible for the disappearances of livestock exchanges but rather the intensification of

pastoral systems that involved the use of costly cottonseed cakes as supplementary feed. I therefore decided to add an additional research village in the peri-urban area of Maroua where intensification was most prominent. During the study it became clear that the disappearance of livestock exchanges was but one of many changes in the transformation of the peri-urban pastoral system. Moreover, these changes could not be explained in terms of changes in relative prices alone; Islamic renewal had altered the organization of the household economy and the management of the family herds in new and far-reaching ways.

My study followed pastoral FulBe in three villages from September 2000 until September 2001. I recorded data for one pastoral year, which starts in May-June with the arrival of the first rains of the rainy season (*duumol*).¹⁹ The rains set the tone for the remainder of the year as they determine both sorghum and natural forage production. The 2000-2001 year was disastrous because the rains stopped early in August and harvests failed miserably, and consequently several of the families in the sedentary villages suffered hunger towards the end of the year. The abrupt ending of the rainy season also affected the management of the family herds; pastoralists in the peri-urban village shifted to cottonseed cakes earlier than expected when natural forage finished in November instead of early January. This allowed me to measure the economic performance of the peri-urban pastoral system in a drought year, which is critical for assessing its long-term sustainability. It is impossible to make this assessment in years with more than average

¹⁹ The FulBe word for year, *nduuBu* comes from the same root *ruum*-.

rainfall because the most important criterion for sustainability in the Sahel is whether humans and animals can survive disaster years.

In this chapter, I will discuss my sampling decisions, describe the three villages in which I conducted my research, discuss the data collected, and methods used to collect it. I will first discuss the socio-historical context of FulBe pastoralists in the Far North Province of Cameroon.

FULBE PASTORALISTS IN THE FAR NORTH PROVINCE

The FulBe pastoralists in the three villages are part of the largest ethnic pastoral group in Africa. There are about 20 million speakers of Fulfulde, a Niger-Congo language of the West Atlantic branch, who can be found throughout West Africa from Senegal in the west to Sudan in the east (Boutrais 1994). In the Far North of Cameroon, they call themselves FulBe, but they are also known under the name Fulani in the Anglophone literature (a Hausa term) or Peul in the Francophone literature (from Pullo, the singular of FulBe).²⁰ Linguistic evidence suggests that the FulBe originated in the Senegambia area – Fulfulde is closely related to Wolof and Serer, whose speakers live in

²⁰ The FulBe in the Diamaré, the central division in the Far North and home of most FulBe in the province, speak various sub-dialects of what is called *Fulfulde fuunaangeere* (eastern Fulfulde), which is regarded as a conservative form of Fulfulde by linguists and the FulBe themselves. Conservative refers here, for example, to the fact that *Fulfulde fuunaangeere* retained more noun classes and more frequently uses noun concordance.

the Senegambia area (Greenberg 1949) – but have moved eastwards ever since, either on the pilgrimage to Mecca (*hajj*) or in the search for pastures for their cattle.

The cultural, linguistic, social, and economic diversity among the FulBe groups is immense; some are nomadic, some have been city folk for centuries, while others are impoverished agriculturalists (Azarya, et al., 1999; Botte, et al., 1999; Diallo and Schlee 2000; Eguchi and Azarya 1993). FulBe populations vary in size ranging from large relative homogenous groups in former FulBe empires to small isolated pockets from the diaspora of nomadic pastoralists (Seydou 1998). Some well known FulBe groups are the Tukolor and Haalpulaar'en in the Senegambia area (Santoir 1994; Schmitz 1994), the RiimayBe, former FulBe slaves, in Mali and Burkina Faso (de Bruin and Dijk 1995; Riesman 1977), and WoDaaBe nomads in Niger, Nigeria, and Cameroon (Dupire 1962a; Stenning 1959). What most of these groups have in common is that they speak Fulfulde, albeit various mutually intelligible dialects and identify themselves with pastoralism and Islam.²¹ Another common attribute usually associated with the FulBe is their cultural code called *pulaaku*. The concept of *pulaaku* is widespread among FulBe across West and Central Africa, although the meaning differs by geographical area and group (Breedveld and Bruin 1996).²² When FulBe in the Far North of Cameroon talked about *pulaaku*, they referred to their own local FulBe culture and in particular, to the set of

²¹ However, some non-FulBe populations have adopted Fulfulde. In the Diamaré, Far North of Cameroon, Fulfulde is the lingua franca, which is spoken by people from other ethnic groups. On the other hand, there are also FulBe who no longer speak Fulfulde; for example, the FulBe in Batha, Chad, who have adopted the language and culture of their Arab neighbors (Boutrais 1994). Fulfulde is a language with many centers (pluri-central); none of the many dialects can be regarded as standard Fulfulde (Seydou 1998; Zubko 1996).

²² In Mali, for example, *pulaaku* refers to the community of the FulBe people (de Bruin and Dijk 1995), in the Far North it generally refers to the FulBe moral code or traditions (cf., Labatut 1973)

beliefs and practices that they think sets them apart from other ethnic groups. Similar observations have been made across West Africa by other scholars (see, Breedveld and Bruin 1996). However, what FulBe choose to emphasize as beliefs and practices that set them apart from others differs per FulBe group and their ethnic neighbors, and consequently pulaaku cannot be assumed the same for all FulBe across West Africa.

FulBe pastoralists have been present in the greater Chad Basin since the eighth century, where they paid tribute to local chiefdoms of other ethnic groups in return for access to pastures. The majority of the FulBe, however, came in several waves between the sixteenth and nineteenth century (Mohammadou 1976; Mohammadou 1988; Seignobos 2000c). The clans that conquered and established FulBe rule in the Far North originally came from FulBe empires in the west: Futa Tooro (Senegal), Futa Jalon (Guinea), and Malle (Mali). The FulBe clan structure and nomenclature in the Far North reflect the recent history of their migrations and conquests (cf., Dupire 1994; Seignobos 2000c).²³

The majority of the FulBe that settled in the Far North came from the periphery of the neighboring Borno Empire, others came from the Hausa states and Sokoto (in

²³ FulBe clans 'regrouped' on their move eastwards in the Hausa and Borno states through intermarrying, co-habitation with other resident FulBe groups, sharing transhumance routes, and/or association with maternal lineages. The current clan and fraction classification system no longer represents the 'original' structure, which some scholars have proposed (see also, Burnham 1996; Mohammadou 1981; Seignobos 2000c). When the FulBe settled in the Far North, clan affiliation gradually lost its importance and the primary identification and association has now become residence in villages or political entity (e.g., *lesdi Mindif*, in which *lesdi* is the Fulfulde word for territory ruled by a traditional authority and *Mindif* its seat). Names of FulBe clans in the Far North are often derived from their last or current residence; FulBe Ngara'en are now often referred to as FulBe Pétté, which is the town associated with FulBe Ngara'en rule (Seignobos 2000c). However, locality and clan affiliation are used concordantly. FulBe often refer to *lesdi Mindif* as *lesdi Yillaga*, which is the clan of the ruler (*laamiiDo*) of *Mindif*, which suggests that the same principles of affiliation and identification with the most powerful or dominant clan remains one of the guiding principles in the social organization and identification of sedentary FulBe in the Far North.

present-day Nigeria) and Baguirmi (in present-day Chad) (Seignobos 2000c)(see map 2.1). The first FulBe conquests were initiated towards the end of the eighteenth century (Seignobos 2000c). Later FulBe conquests in the Far North took place under the cover of a larger FulBe holy war (*jihad*) that was started in Sokoto in 1804 by shaikh ‘Uthmân dan Fodio (seehu Usmaanu Bi-Fooduye in Fulfulde)(Last 1967; Last 1974).²⁴ Some of the FulBe that conquered the part of the Far North that became later the Diamaré were in search of slaves, others were in search of pastures; scholars have argued that the jihad served as legitimatization of these pursuits (Seignobos 2000e; Smith 1966).²⁵

When, in 1806, the jihad spread to the greater Chad Basin, eight FulBe emirates were established in the Far North, which became vassal provinces of Yola, the capital of the Adamawa emirate, which in turn was under the authority of the Sokoto Sultan. The FulBe emirates, called *lesDe* (singular *lesdi*), founded in the Far North in the early nineteenth century resembled the highly centralized and hierarchical medieval Muslim caliphates (Azarya 1978; Kintz 1985; Njeuma 1989a)(see map 2.2).²⁶ At the top of the

²⁴ Fooduye comes from foonduye “vache qui ressemble au pigeon, soit par sa couleur, soit surtout par sa rapidité, et qui entraîne ainsi le troupeau. Le grand-père du Cheik Usmaanu lors de sa vie pastorale, aurait été ainsi surnommé en raison d’une vache particulièrement remarquable, Usmaanu mo foonduye. Par la suite ce nom, don’t l’interprétation littérale n’était plus connue, serait devenu Usmaanu Bii Fooduye, ce qui s’explique par le fait que l’écriture ajamiya ne note pas la prénasalisation” (Noye 1989:121).

²⁵ The Diamaré is a term that refers to a geographical area that generally includes Maroua and surroundings but the boundaries of the area change depending on what definition of the Diamaré is employed (Seignobos and Tourneux 2002:88-9). In this dissertation, the Diamaré refers to the plains between the Mandara Mountains, Logone Flood Plain, and Logone River conquered by the FulBe in the nineteenth century. The history of these *lesDe* has been well documented by Mohammadou Eldridge (Mohammadou 1976; Mohammadou 1983; Mohammadou 1988).

²⁶ Lamidat is the commonly used French Cameroonian word for the territory governed by the laamiiDo. The FulBe refer to these provinces as lesdi (singular for land or territory, plural: lesDe) (Seignobos and Tourneux 2002). These traditional authorities are today integrated in the government structure of Cameroon and continued to play an important role in the everyday life of FulBe pastoralists.

hierarchy was the *laamiiDo* (plural *laamiiBe*) who governed the territory of his lamidat via his secondary and tertiary chiefs, respectively *lawan'en* and *jawruBe* (singular *lawan*, *jawro*). During this period, FulBe society went from a nomadic clan-based social organization to territory-based feudal society. The emirates were primarily based on a slave economy – raids, trade, and the use of slave labor in farming and herding – to such an extent that slavery was the only booming business at the beginning of the twentieth century (Seignobos 2000e). The emirates provided FulBe pastoralists with relatively safe and secure access to rangelands in the Diamaré (Moritz, et al., 2002). At the borders of emirates, however, there was a constant war between the FulBe and the non-subjugated ethnic groups, referred to as *haaBe* (non-believers) by the FulBe. The agro-pastoral village of Wuro Hoore Ladde is located at the border of lesdi Bogo and the former slave raiding area of the neighboring empires of Baguirmi, Borno, and the FulBe LesDe. The permanent risk of raids from Mundang, Giziga, Tupuri and Musgum, in which trade caravans and FulBe herds and villages were the main targets, made the border areas unsuitable for pastoralists (Beauvilain 1989; Issa and Adama 2002).²⁷ Ironically, these so-called no-man's lands are today important transhumance zones because of their low population densities.

The FulBe in the agro-pastoral village of Wuro Hoore Ladde and the peri-urban village of Wuro Badaberniwol are descendants of the pastoral FulBe migrants of the

²⁷ Some older FulBe in the agro-pastoral village of Wuro Hoore Ladde remember stories about practices that were associated with this time of war (*konn*). In the past, FulBe parents would regularly not feed their children for a day in order to habituate them to go without food and water for 24 hours without complaining in case their village was attacked and the children had to walk through the bush to the next village without being detected by the attackers.

eighteenth and nineteenth century. The peri-urban village Wuro Badaberniwol is about 160 years old and was originally founded by Kanuri, FulBe pastoralists and FulBe Islamic scholars. The ancestors of the agro-pastoral families in Wuro Hooe Ladde had first settled in the same area as Wuro Badaberniwol. They then moved at least four times within the Far North – from lesdi Maroua, to lesdi Pétté, to lesdi Bogo – before they settled in their current location in the 1930s, after the colonial powers had improved security in the no-man’s lands between the Musgum and the FulBe lesDe.²⁸ Insecurity at the borders of the FulBe lesDe continued to prevent the pastoral use of many no-man’s lands during the first half of the twentieth century (cf., Beauvilain 1989:339). The agro-pastoralists’ ancestors’ mobility was not exceptional. Many FulBe pastoralists continued to move within the Far North either to escape the rule of certain FulBe laamiiBe or in the search of better pastures for their animals (Burnham 1979). FulBe often said that ‘they are like birds’ *FulBe bana colli*; they are quick to leave when there is a problem or conditions deteriorate.

The nomadic pastoralists of Wuro EggoBe came more recently to the Far North, about 60 years ago, which makes them the nomadic groups with the longest presence in the area. They found other nomadic groups such as the Daneeji, named after their white cattle, and WoDaaBe who have since migrated to the Adamawa Province (Cameroon), Chad, and the Central African Republic. They have been replaced by other nomadic FulBe groups such as the Alijam’en, BiBBe Woyla, Adanko’en, Hanagamba’en,

²⁸ The current inhabitants of the village of Wuro Hooe Ladde came to the area in the 1930s to avoid forced labor (*corvée*) for the French colons in the area of Fadaré. The two oldest men in the village remembered the move and told me that they found Kanuri and FulBe Jafun’en. The latter moved away 20 years later.

Uuda'en, and Mare'en. Most of these nomadic FulBe groups arrived fairly recently, about 20 to 40 years ago. Many of them came from Niger and Nigeria during or after the droughts of 1973-4 and 1984. Today only a minority of the FulBe in the Far North is nomadic; their population has been estimated at 1,212 (Seignobos 2000c), which is too low and more likely around 5,000.

The jihad and subsequent establishment of FulBe lesDe in the Far North in the early 19th century was the beginning of an almost two century FulBe dominance of the political, economic, and cultural spheres of society, which was consolidated by the colonial powers and the first president after independence in 1960. It was only with the succession by the current president Paul Biya in 1982 that FulBe dominance in the Far North was seriously challenged for the first time.

The German colonization of central Africa from 1893 to 1903 met with some resistance of the FulBe, who were ultimately defeated in 1902. However, because the Germans presented a numerically small administrative and military force and because they found the Muslim emirates of the FulBe, Kotoko, and Mandara to be well organized and centralized, the emirates were incorporated in a colonial system of indirect rule. The colonization thus consolidated the power of the FulBe laamiiBe. Populations with acephalous political organizations that previously had not been subjugated by the FulBe were put under the authority of FulBe laamiiBe. When the laamiiBe levied tribute from these populations, the Germans quashed the resulting revolts (Iyébi-Mandjek and Seignobos 2000a). During the First World War in 1914, the Germans in the Far North were defeated by the French, who took over the colonial administration and continued to

use the *laamii*Be in their policy of indirect rule. From 1917 onwards, the policy of indirect rule was reformulated in *la politique indigene* in which the populations with acephalous political organizations, Mundang, Giziga, Tupuri, Musgum, and Masa, were assigned their own political structure independent of the FulBe *lesDe* (although loosely based on the structure of the FulBe *lesDe*). The new French colonial policy also aimed at a transformation of the slave-based agricultural economy to a peasant cash crop economy. Although slavery was formally abolished early in the twentieth century by the Germans, slave raids and trade continued well into the 1950s (Azarya 1978; Gardinier 1963; Iyébi-Mandjek and Seignobos 2000a).²⁹ The goal of the French was to force farmers to produce specific export crops through the levying of taxes and forced labor. The policy focused initially on peanuts, later on cotton. The taxes were high; about 10% of the harvest, and people suffered greatly especially in times of famine (Beauvilain 1989).

Cameroon became an independent republic in January 1960 with Ahmadu Ahidjo, a Fullo from the north, as its first president. During his tenure, Ahidjo attempted to unite northern Cameroon (including the Adamawa and the Far North) as a political force versus the culturally and politically fragmented south, by emphasizing a common religion: Islam (Njeuma 1989c). This meant that non-Muslims in the Far North who aspired to obtain government positions were pressured to convert to Islam. When in 1982, Paul Biya succeeded Ahidjo as president and party leader of the U.N.C. (Union

²⁹ For many FulBe and their (former) slaves in the Far North, slavery continues to be a social reality up to today.

Nationale Camerounaise), which later became the C.P.D.M. (Cameroon People's Democratic Movement)³⁰, this policy came to an end. Since then government employees have been transferred outside their home region, which led to an influx of Christians from southern and western Cameroon in the administration of the northern Provinces. Senior government officials in the north, such as the governor, préfet, and sous-préfet, were now non-Muslims and this seriously challenged Muslim FulBe dominance in the north. Threatened by the loss of political power and economic influence FulBe reinvested in religion. One can argue that the FulBe compensated for the loss of political power and influence with a renewal movement in the religious arena, which Seignobos and Iyébi-Mandjek referred to as the 'birth of an Islamic Renewal' (discussed in chapter six).³¹

The Far North Province has some of the highest population densities and growth in the Sudan-Sahelian zone of West Africa and Cameroon. Over the last decades, the population has grown from 1,395,231 inhabitants in 1976 to an estimated 2,467,000 in 1995 or 65 inhabitants per square kilometer (Seignobos 2000g). Densities differ per administrative division. The densities in the traditional rainy and dry season transhumance zones, the so-called no-man's lands – separating the FulBe lesDe from other ethnic groups – and the Logone flood plain, are much lower (10 per km²) than the

³⁰ The CPDM (Cameroon People's Democratic Movement) is the English name of the RDPC (*Rassemblement Démocratique des Peuples Camerounais*).

³¹ Cameroon changed to a multiparty system in 1991 and a year later the first multiparty elections were held, which were claimed by Biya's RDPC. In the Far North, the RDPC and MDR (Movement for the Defense of the Republic) – a party dominated by northerners – are the main political parties. Political strife, at the national assembly and municipal level between the RDPC and the opposition parties affects people's everyday life. Political conflict in Cameroon is a competition for resources of the state. Corruption and patrimonial clientele networks at every level are the organizing structures of modern day Cameroon (Bayart 1979; Bayart 1993; Bayart, et al., 1999; Chabal and Daloz 1999; Olivier de Sardan 1996).

densities in some parts of the Diamaré plains and the Mandara Mountains (respectively 70 per km² and 200 per km²).

The Far North is characterized by enormous ethnic diversity. Of the more than 50 ethnic groups in the province, the FulBe or native Fulfulde speakers including former slaves and ‘FulBeized’ people, form the single largest ethnic group: 14.2% (in 1985).³² The greatest number of FulBe are to be found in the former FulBe lesDe of the Adamawa Emirate – Bogo, Gazawa, Kalfou, Maroua, Mindif, Miskin, Pétté, Guidiguiss, and Doumrou – where they form the dominant economic, political, and cultural group, to the degree that some scholars claim a FulBe hegemony (Schilder 1994). Ethnic compositions differ per division, and while each division is ‘dominated’ by a few ethnicities, ethnic groups live interspersed throughout the divisions and within villages.³³ This is particularly true for the Diamaré division.

The Far North is also characterized by a religious diversity. People with different religious beliefs live interspersed throughout the province although they cluster within villages. The northern part of the province is predominantly Muslim, while the southern part is predominantly Christian. In the Far North, one-third of the population is said to be

³² The mountain groups (e.g., Mafa, Kapsiki, Mofu, Podokwo) account for 27.7% of the Far North population; the plains groups (e.g., Tupuri, Musgum, Giziga, Mundang) for 29.5%; the Muslim groups (e.g., Kanuri, Kotoko, Arabs (called Shuwa), Mandara) for 19.8%, while southerners and other foreigners (e.g., Chadians, Nigerians) 8.8% account for the remainder of the population (Seignobos 2000e).

³³ The population of the Logone-Chari division, département in French, consists mainly of Arabs (called Shuwa) and Kotoko; the Mayo Danay division of Masa and Musgum; the Mayo Kani division of Tupuri and Mundang; the Mayo Sava division of Mandara, Kanuri and mountain groups, while the majority of the FulBe live in the Diamaré division.

Muslim, another third Christian, and the rest animist.³⁴ All FulBe are Muslim. Unlike neighboring northern Nigeria, there are no serious religious conflicts in the Far North. People from different religions co-exist peacefully although there are tensions. Religious issues are often compounded with ethnic and political issues, such that ethnic conflicts are played out in religious contexts and vice versa.

There has been a continuous process of FulBeization in northern Cameroon, particularly in the urban centers, in which people from other ethnic groups – not the *RiimayBe* (former slaves) and *maccuBe* (slaves) who already were considered ‘FulBe’ – adopt the language, religion, and culture of the FulBe (Schilder 1994; Schultz 1984). Fulfulde is the regional language of wider communication in the greater part of the Far North, so most non-FulBe already speak Fulfulde.³⁵ Islam has always been associated with the FulBe – most FulBe regard themselves as the only true Muslims in the Far North (Boutrais 1984) – such that when someone converts to Islam, non-FulBe say that a person has become Pullo (*o laati Pullo*). Relations between FulBe and people from other ethnic, non-Muslim groups were often strained and sometimes tense. The FulBe strongly believe in their own superiority as a people and as Muslims; converted ‘FulBe’ are therefore not readily accepted.

³⁴ There is an ideology of ‘unity through diversity’ in Cameroon, which contains about 200 different languages, to maintain this unity, it is imperative that no group dominates at the provincial and national level, and that there is a balanced diversity of ethnic, religious, and language groups.

³⁵ The majority of the Kanuri in the peri-urban village of Wuro Badaberniwol no longer speak Kanuri but only Fulfulde.

Map 2.1: Empires in the Greater Chad Basin, 19th Century



From Iyébi-Mandjek and Seignobos (Iyébi-Mandjek and Seignobos 2000a)

Map 2.2: Fulbe lesDe and Neighboring Ethnic Groups, 19th Century



From Iyébi-Mandjek and Seignobos (Iyébi-Mandjek and Seignobos 2000a)

POPULATION AND SAMPLE

I began my study with the agro-pastoral and the nomadic villages, which were selected after surveying several agro-pastoral and nomadic FulBe villages along the axis that connects Maroua with the traditional transhumance area of the Province: the Logone Flood Plain. The final selection of the villages was based on logistical and practical criteria (e.g., accessibility in the rainy season, access to clean drinking water, and the community's willingness to accommodate me for at least a year) as well as methodological criteria (e.g., village size and number of pastoral households). When, after about two months of fieldwork, I realized the impact that cottonseed cakes had on the pastoral system, I added another village that relied entirely on cottonseed cakes in the dry season, again, after surveying a number of villages in the peri-urban area of Maroua.³⁶

The three villages selected represent three distinct pastoral systems: peri-urban, agro-pastoral, and nomadic (see map 2.3).³⁷ I believe that the three villages are representative of peri-urban, agro-pastoral, and nomadic pastoral systems (based on the

³⁶ I had worked with the nomadic village before (in 1994, 1996, and 1999) but never with the people in the agro-pastoral and the peri-urban village. I first started my research with a different nomadic village, but when it became clear that I would not be able to collect data on property rights over livestock there, I switched to the village of Wuro EggoBe. I continued, however, to work with the nomads in the first village as three wealthy pastoralists in the peri-urban village had entrusted part of their herds to nomads in this village.

³⁷ The nomadic pastoralists are representative of FulBe Mare'en only, but not of other nomadic FulBe groups in the Far North Province such as the Alijam'en, Adanko'en, or WoDaaBe.

data that I collected in the surveys and my previous research projects in the Far North Province). The villages are not unique in any particular way. However, there is considerable variation in pastoral production systems in the Far North and the three certainly do not represent all possible pastoral adaptations in the province (see for example, Seignobos 2000b).

The peri-urban village could be labeled in principle ‘agro-pastoral’ because its inhabitants raised cattle and cultivated sorghum. However, I prefer peri-urban because it evokes the dual impact of intensification and Islamic renewal, which result from proximity to the provincial capital of Maroua. I am consciously avoiding the term, intensive pastoral system, because peri-urban pastoralists combine intensive and extensive strategies (discussed in chapter five). I use the term agro-pastoral for the rural village that is farthest away from the city and less affected by Islamic renewal and disappearance of rangelands. Throughout the dissertation, I use both the terms (peri-urban, agro-pastoral, and nomadic) and the pseudonyms for each of the villages, which are almost literal translations of these terms: Wuro Badaberniwol (village near the city), Wuro Hoore Ladde (village at the beginning of the bush), and Wuro EggoBe (village of nomads).³⁸ The focus of the dissertation is on the peri-urban village where the transformation of the pastoral system has taken place.

³⁸ *Wuro* (plural *gure*), although generally translated as village (or compound) in the literature, is used loosely in the Far North to refer to a wide range of ‘communities’, e.g., village, hamlet, (nomadic) camp, and, in some cases, even (descent) group. *Wuro* can thus appropriately be used for both settled and nomadic communities.

Save for the contacts between the peri-urban pastoralists in Wuro Badaberniwol who had entrusted part of their herds to nomadic pastoralists of Wuro EggoBe, there were no consanguineal, affinal, or any other ties between the FulBe in the three villages. Social networks of pastoral FulBe in all three villages extended beyond the villages, province, and nation, and most people in the three villages probably had friends or family that knew somebody in one of the other villages.

By conducting a purposive sampling of villages rather than a random sampling of individual pastoral households in one administrative division, I was able to build a better rapport with people in each village. Gaining the trust of pastoralists was critical for my study of livestock ownership and exchanges because FulBe are very, as they say, discreet, particularly when it comes to their livestock holdings. FulBe proclaim proudly that they are *lugga-reeduu'en*: people who guard their secrets – and almost everything is a secret for them – deep in their belly. When I interviewed men, for example, they always made sure that we were out of hearing distance from their spouse(s) and vice versa. Many FulBe spouses have no idea of each other's livestock holdings. Working with all pastoralists in each village was important in gradually gaining their trust and increasing the reliability of my data.

An additional methodological advantage of sampling villages rather than individual households was the study of pastoralists within the village context. However, one should not infer from my sampling decision that the villages are closed communities without ties to the 'outside world'. Villages are neat research units with relatively clear 'natural' or geographic boundaries in which households are subject to the same local

ecological, economic, and political conditions. Its inhabitants, on the other hand, travel and have social networks that extend far beyond the boundaries of the village, often to neighboring countries.

The difficulty of studying transformations lies in the lack of time-depth of most non-longitudinal research, which provides only a snapshot of a society at one particular point in time (i.e., the ethnographic present). Interview data are important in that they provide us with indications of what has changed, but the lack of observational data has its limitations. I have partly circumvented this problem through a comparative study of three different pastoral FulBe villages, in which the agro-pastoral, and to a lesser extent, the nomadic village were used as models of the peri-urban pastoral system before intensification and Islamic renewal in the early 1980s. The comparative design allowed me to examine the effects of intensification and Islamic renewal on pastoral systems.

The transformations described here started in the early 1980s but really took off in the early 1990s. Twenty to twenty-five years ago, the peri-urban pastoral system was in many ways similar to the agro-pastoral system. Until the end of the 1970s, peri-urban pastoralists used to split their herds temporarily sending their best animals (*hooreeji*) on transhumance to the Logone Flood Plain in the dry season together with other herds in neighboring villages, while keeping a few milk cows (*cureeji*) in the village. In the early eighties, the herds were split permanently in which one part was entrusted to nomadic pastoralists. The intensive use of cottonseed cakes only began in the early 1990s after the population in the province had more than doubled, Maroua's population increased eight-

fold in less than twenty-five years to almost 400,000 inhabitants in 2000 (Seignobos and Iyébi-Mandjek 2000a).

One consequence of Maroua's expansion over the last twenty-five years is that peri-urban pastoralists have become more oriented to the city where the Islamic renewal movement was the strongest. The oil boom in the early seventies led to greater influence of the Gulf States on Islamic traditions in sub-Saharan Africa, but the Islamic renewal in the Far North Province only gained momentum with the change in the Cameroonian presidency in 1982. I suspect that in the past peri-urban pastoralists were also more pious than agro-pastoralists, but in the last twenty-five years, they have become stricter in their observance of Islamic codes.

I am not suggesting that the peri-urban village twenty years ago was similar to the agro-pastoral village in all respects, only that there were similarities in the institutional organization of the household and management of the family herd. Nor am I arguing that there is a unilinear temporal sequence from nomadic, to agro-pastoral, to peri-urban pastoral systems.

In the future the use of cottonseed cakes will become more important for pastoralists who live farther away from Maroua due to the pressure on rangelands in the Far North Province and that this will lead to similar changes in the agro-pastoral system. Pastoralists in the Mindif area, 25 kilometers to the south of Maroua, already represent an intermediate system between the intensive peri-urban and the extensive agro-pastoral systems (Requier-Desjardins 2001). Nomadic pastoralists, on the other hand, most likely

will respond to the pressures on rangelands by leaving the Far North Province altogether and migrating further east or south to Chad or the Central African Republic.

Table 2.1: Characteristics of the Research Villages

		Wuro Badaberniwol	Wuro Hoore Ladde	Wuro Eggobe
VILLAGE	Pastoral system	Peri-urban	Agro-pastoral	Nomadic
	Distance from Maroua Center	10 kilometers	50 kilometers	75 kilometers
	Administrative Subdivision	Maroua	Bogo	Moulvoudaye, Guirvidig
	Population density	100 to 149 km ²	25 to 49 km ²	1 to 24 km ²
	Number of households	26	16	8
	Number of people	226	109	71
	Ethnic groups	Fulbe, RiimayBe, Kanuri	Fulbe	Fulbe
	Number of pastoral households	6	16	8
HOUSEHOLDS	Household size	17.0 (± 8.1)	6.8 (± 3.0)	8.9 (± 4.0)
	ACE per household	12.7 (± 6.4)	5.1 (± 2.3)	6.6. (± 3.1)
	Number of cattle	642	306	789
	Average size village herd	28.0 (± 5.6)	9.3 (± 5.2)	75.4 (± 44.6)
	Average size bush herd	77.1 (± 69), n=5	17.6 (± 9.7), n=8	NA
	Average size entrusted herd	NA	NA	46.8 (± 17.2), n=3
	TLU per ACE	8.1 (± 7.1)	4.0 (± 4.4)	16.4 (± 16.2)

The household data in the peri-urban village concern only the six pastoral households. Standard deviations are given in parentheses. ACE = Adult Consumer Equivalents. TLU = Tropical Livestock Unit; 1 TLU = 1 camel; 0.8 cattle; 0.1 small stock (Dahl and Hjort 1976).

Map 2.3: Research Communities in the Far North Province, Cameroon



Peri-urban pastoralists of Wuro Badaberniwol

The peri-urban village of Wuro Badaberniwol is located about 10 kilometers east of the center of Maroua, the provincial capital and main urban center of the province (see table 2.1 for a summary of the main characteristics of each village). Over the years, Wuro Badaberniwol has become incorporated in the conglomeration of Maroua, which has grown from approximately 50,000 to 400,000 inhabitants in the last twenty-five years (Iyébi-Mandjek and Seignobos 2000b; Seignobos 2000d).³⁹ In 1980, population densities ranged from 100 to 149 inhabitants per km² in the peri-urban area (Seignobos 2000g). Presumably, population densities are even higher today. Increasing urbanization has also led to an expansion of agriculture around Maroua as many urban dwellers continue to farm and produce at least some of their own sorghum, the main food staple. Consequently, there is practically no bush and thus no rangelands in the immediate surroundings of the peri-urban village. Agricultural land use has intensified in the peri-urban areas with a shift from rainfed agriculture to irrigated gardens to meet the urban demand for fresh fruit and vegetables. Although the research village is located close to Maroua, it has no running water or electricity and only one closed foot-pump well (i.e., a safe drinking water source).⁴⁰

³⁹ The village of Wuro Badaberniwol was already incorporated politically in lesdi Maroua before the arrival of the Germans. The village chief (jawro) was and still is a subordinate of the lawan of neighboring *Wuro Laamorde*, who in turn answered to the laamiiDo of Maroua.

⁴⁰ I use the ethnographic present tense here to describe the three villages.

The village consists of two quarters with twenty-six FulBe, RiimayBe, and Kanuri households.⁴¹ Not all households are pastoral households. Only six households can be considered pastoralists; they are all FulBe. Six households have members who owned cattle but entrust them elsewhere and fourteen poor households have no cattle at all; *ko wicco* ‘not even a tail’. The last two groups consist of FulBe, RiimayBe, and Kanuri households. While I collected data from all the households in Wuro Badaberniwol – because people in all three groups own cattle, even if they do not raise them themselves – the dissertation focuses primarily on the six pastoral FulBe households with a daily involvement with cattle.

Compared to the agro-pastoral village of Wuro Ladde, the peri-urban village is quite wealthy. Most compounds have walls, many of them reaching over two meters, allowing for considerable privacy and seclusion of women.⁴² The houses are bigger and had aluminum rather than thatch roofing. There are also more material goods in the peri-urban village compared to the agro-pastoral village (e.g., bicycles, motorcycles, wheelbarrows, ploughs, push-carts, sewing machines, armoires, and enamelware).⁴³ However, the wealth is unequally distributed. The poorer households have compounds

⁴¹ There was significant ethnic tension in the village that intersected with class in a conflict over rangelands between wealthy FulBe pastoralists and poor Kanuri and RiimayBe farmers. The discourse of FulBe pastoralists about this conflict and the poorer farmers in the village often referred to the fact that the latter were (former) slaves. This discourse reflected a larger ethnic conflict in the area between a traditional FulBe authority (*lawan*) and a minister of the national government from slave descent, which ended in the dismissal of the FulBe *lawan*.

⁴² FulBe compounds contain generally several adobe houses, one for each married wife and adult male, a common area, and sometimes kitchens, stables, and storage houses. Compounds can be walled or not; the former often have a vestibule where guests are received.

⁴³ There are no basic rural consumer commodities such as wheelbarrows, push-carts, sewing machines, motorcycles, armoires, or wooden beds in the agro-pastoral village.

without walls, few material goods, little or no land, and no livestock. Half of them suffer hunger in the pre-harvest period. Wealthy households, on the other hand, have plenty of livestock, farmland, and walled compounds. They use wage labor from seasonal migrants for herding and farming. They eat better, more, and more often and are generally in better health. The socioeconomic differentiation is strong and reflected in everyday life and discourse.

Most household heads earn part of their income in Maroua and immediate surroundings through commerce of a wide range of commodities (e.g., cattle, sheep, cereals, groundnuts, dried fish, cloth, clothes, industrially produced and imported goods from Nigeria), crafts (e.g., bicycle repair, tailoring, watch repair), or as religious specialists (e.g., Koranic teacher, *marabout*).⁴⁴ All except one pastoral household have off-farm income.

The limiting factor in the peri-urban pastoral system is the lack of forage in the dry season. Peri-urban pastoralists have adapted to the lack of natural forage in two ways. First, they split their herds and entrust one part, the bush herd (*laddeji*), to nomadic pastoralists (including pastoralists in Wuro EggoBe, this study's third research village) and to salaried herders who are permanently transhumant between the Logone Flood Plain and the Mindif-Moulvoudaye region. Second, they feed the animals remaining in the village (*wurooji*, 'village herd) cottonseed cakes, hulls, and sorghum stalks in the dry

⁴⁴ Marabout is a French term, which comes from the Arabic *murâbit* (Seignobos and Tourneux 2002:180), that is used both to indicate the teacher of Koranic school (*mallum* in Fulfulde) as well as someone who performs magico-religious prayers or makes talismans in exchange for payment. Marabout can refer to a charlatan (someone who is not an effective and legitimate sorcerer, *budeejo* in Fulfulde) or a legitimate sorcerer or healer (*mallum* in Fulfulde).

season to compensate for the lack of natural forage. In the rainy season, these animals are sent on transhumance to the Mindif-Moulvoudaye region because there are too many farmers' fields and too few pastures in the peri-urban area. The production costs for the bush herds are much lower than for the village herds but the animal losses are much higher (1.2% versus 12%).⁴⁵ Most of the herding in the village is done by salaried herders, and women and children in the peri-urban household have little involvement in the family herd.

There are three mosques with walls and aluminum roofs in the village. It has the greatest number of educated Muslims (i.e., people that have finished reading the Koran) of the three research villages and more Koranic schools: two elementary cycles and one complementary cycle.⁴⁶ Wuro Badaberniwol is closer to the Islamic centers of learning in Maroua and peri-urban pastoralists thus have greater access to religious knowledge. They are also more observant of the Islamic codes than pastoralists in the other two villages.

⁴⁵ If one takes into account losses due to theft and translates these into financial losses, the difference in overall costs becomes smaller (respectively without and with losses taking into account 12,371 FCFA versus 2,984 FCFA and 15,535 FCFA versus 8,775 FCFA). Associated with the entrustment of cattle to nomadic pastoralists or salaried herders is the risk of unauthorized sales of entrusted animals by the herders and general negligence of entrusted animals, which can lead to higher mortality rates and a greater number of animals that are lost.

⁴⁶ “[Santerre (Santerre 1973)] describes two levels or cycles [of Islamic education] in Maroua which map well onto descriptions of Islamic education across West Africa: the elementary cycle and the complementary cycle. The former is referred to as Koranic school and, as its name suggests, consists primarily of reading, writing, reciting, and partial memorization of the Koran. The latter cycle consists of the study of one or more of the Koranic sciences (e.g., law, hadiths, interpretation of the Koran)” (Moore 2003).

Agro-Pastoralists of Wuro Hoore Ladde

The agro-pastoral village Wuro Hoore Ladde (Village at the Beginning of the Bush) is located about 50 kilometers east of Maroua, close to the Logone Flood Plain in an area with plenty of bush, access to rangelands, and population densities that ranged from 25 to 49 inhabitants per km² in 1980 (Seignobos 2000g). The village is located at the former border of lesdi Bogo with the Musgum territories, the so-called no-man's lands, where the Borno and Baguirmi empires conducted their slave raids.

Wuro Hoore Ladde forms a small quarter of the village *Wuro Lawan* (Village of the Lawan), which is situated one kilometer to the south along the road that connects Maroua with Bogo and Guirvidig. Wuro Hoore Ladde falls directly under the authority of the lawan and has no jawro (village chief). An advanced Islamic scholar, who is also the imam in the Friday Mosque of Wuro Lawan, is the unofficial representative of the village.

Wuro Hoore Ladde consists of sixteen agro-pastoral FulBe households as well as seven Masa and four Arabs (called Shuwa) agricultural households who live in separate quarters of the village.⁴⁷ The FulBe in Wuro Hoore Ladde are descendents of FulBe,

⁴⁷ The Masa and Arabs (called Shuwa) in the agro-pastoral village were not included in this study because they lived in separate quarters and none of them owned cattle. Moreover, there was limited social interaction between people in the three quarters. The Arabs (called Shuwa) identify themselves as Arabs by clan affiliation. They are related to the Baggara Arab pastoralists in Sudan (Braukamper 1996). The people in the greater Chad Basin refer to them as Shuwa Arabs (Suwa'en in Fulfulde, Arab Choa in French) a term they do not use themselves.

RiimayBe, and Kanuri but they all identify themselves as FulBe Ngara'en, a FulBe clan that established the lesDe of Bogo and Pétté. The village is divided in a northern part (*Woylare*), which is dominated by descendants of a former slave and a southern part (*Fombinare*), which is dominated by descendants of former slave owners. People from the two ends of the village get along well – there have been a few inter-marriages – but there is an underlying tension, as is evidenced by the fact that social networks of mutual aid are contained within each of the two ends of the village.

The inhabitants of the village are relatively poor compared to the peri-urban pastoralists (but not compared to other agro-pastoralists in the Far North).⁴⁸ All the compounds are located along the one path that ran through the village and on which all trash and manure from cattle pens and stables is dumped. None of the compounds have adobe walls (as in nearby Wuro Lawan or the peri-urban village). The compound boundaries are marked by *gelooDe* branches, a symbolic wall that does not offer any privacy.⁴⁹ Consequently, social life in the village and domestic life in the compounds is relatively easy to observe.

The village has two Mosques that are also marked by *gelooDe* branches, one in each end of the village. The FulBe in Wuro Hoore Ladde are committed to Islam and pious Muslims. They are, however, less educated than the FulBe in the peri-urban village. There are fewer mallum'en (people who had finished the Koran) and overall the

⁴⁸ This evaluation is based on my observations and research among agro-pastoralists in the Far North. Unfortunately, I have no quantitative data to support this observation.

⁴⁹ *GelooDe* (*Guiera senegalensis*) is a small bush that grows on the sandy dunes and can reach heights of approximately 2 meters. It is resistant to termites (Tourneux and Dairou 1998:158).

educational level is lower. There is one moodibbo in the village who had studied with a well-known scholar in Garoua. Moodibbo is an honorary title given by the local community of Muslims to someone who masters the Koran and a number of other religious texts (e.g., hadiths).

Cattle holdings are small and not sufficient for most households' income needs; only one household, which has about 60 cattle, would have been able to live off the family herd alone. The subsistence basis of all households is sorghum, which many household heads supplement with cash earnings from livestock sales, cotton cultivation, and commerce. A number of younger FulBe smuggle and sell Nigerian goods (e.g., matches, batteries, torches, soap, candy, cigarettes), while many household heads are involved in different aspects of the livestock trade (e.g., as cattle driver, intermediary at the market, or as trader). Three household heads earn an income through *maraboutage* (a French term), which is a syncretic form of Islamic magico-religious practices that can involve the fabrication of amulets, ritual drinking of the Koran, or the citation of certain prayers.

The lack of surface water in the dry season is the limiting factor in the agro-pastoral production system as it forces agro-pastoralists to water their cattle at the village wells twice daily. Each household is responsible for watering its own animals, which is very labor-intensive and takes about two hours per day, depending on the number of cattle that each household has to water. The lack of water is also the reason why agro-pastoralists with more than 10 cattle split their herds and entrust part of it to pastoral friends or family in neighboring villages nearer to Maga Lake.

All households have cattle, even though not all of them own their animals. Cattle holdings are relatively small in the agro-pastoral village, ranging from 2 to 57 with an average of 18 animals per household, and since eight of them have entrusted animals elsewhere, making the holdings even smaller, agro-pastoralists have pooled their animals in two village herds to reduce the labor demands. The herding task of the village herds rotates every three days among the participating households. Depending on the availability of labor in each of the household, men, boys, and girls (but no women) would take the herds out to pasture. At night, cattle return to the compounds and corrals of their owners (or stewards), where they are milked. There is little milk surplus beyond consumption needs of the household and only a few women sell milk in the neighboring town of Guirvidig. In the rainy season, the area is plagued by biting insects forcing agro-pastoralists to tether cattle in stables with a smoky fire for most of the day, only to pasture them briefly for a few hours in the morning and the afternoon. Older household heads take their own animals to pasture at night during this period to ensure sufficient nutritional intake.⁵⁰ Women and children clean the stables. The agro-pastoralists occasionally use cottonseed cakes to revitalize exhausted animals or fatten them.

Nomadic Pastoralists of Wuro EggoBe

⁵⁰ Younger household heads were more committed to their non-pastoral commercial activities than to their animals' well being and did not take their animals out for night grazing.

Nomadic pastoralists had one of the most extensive pastoral systems in terms of capital inputs but also the most intensive in terms of labor inputs. The nomadic pastoralists practice transhumance exploiting the rangelands in the Logone Flood Plain (2 months) and around Lake Maga (5 months) in the dry season and the rangelands of the Mindif-Moulvoudaye region (2 months) in the rainy season.⁵¹ These are the traditional transhumance areas for most transhumant pastoralists in the Far North, located about 75 kilometers north to south east of Maroua. The areas have low population densities that range from 5 to 9 inhabitants per km² in Moulvoudaye, 1 to 4 per km² on the shores of Lake Maga, and 5 to 24 per km² in the flood plain.

Everybody in the household is involved in the daily management of the family herd. Generally, the household head supervises and follows the animals at night, while the oldest son takes the animals to pasture during the day.⁵² Younger children tether and release the calves when the herd leaves in the morning and returns at sunset. Women process the milk and market dairy products in nearby villages. The pastoral system in the

⁵¹ The remainder of the year they camped for shorter periods between these three areas. In the cool dry season, the household and herd were split and the best animals (*hooreeji*) were sent on a separate transhumance (*luci*) with the young herders to follow the retreating water and exploit the newly exposed pastures of the Logone Flood Plain. The remainder of the animals stayed with the family during this season. The rangelands of the shores of Lake Maga are called *Ndiyam Shinwa*, which refers to the body of water created by the Chinese who constructed the Maga Dam and developed the irrigated rice fields of SEMRY II.

⁵² The nomadic pastoralists took their cattle out for grazing during the day and at night to increase the nutritional intake of the animals. The advantage of night grazing is reduced heat stress and increased forage intake (Ayantunde, et al., 2000). Most herds start grazing somewhere between 21:00 and 23:00 and return between 3:00 and 5:00. Night grazing is labor demanding but the animals are in better condition (cf., Ayantunde, et al., 2000). The main disadvantage of night grazing in the Logone Flood Plain is insecurity; most cattle raids take place at night when herders are taking their animals to pasture (Scholte, et al., 1996).

nomadic village centers on the needs of their mahogany red cattle (*bodeeji*), which in some cases were more important than those of their children. *Mare'en tufan na'i foroy tufata bikkon* 'Mare'en always vaccinate their cattle, never their children' (see also, Schareika 2001).⁵³

The people of Wuro EggoBe belong to the *Ba'en* clan, which is one of the six clans that constitute a group called *Mare'en* in the Far North.⁵⁴ They are referred to as *Woyla'en* 'the northern folks' by sedentary FulBe because they came originally from Borno (Nigeria). The Mare'en are endogamous; they marry within the group, preferably within clan. They share the same transhumance routes and cultural traits (e.g., tents, dances, dialect), but the Mare'en do not consider themselves as a corporate group. The Mare'en are best described as an amalgamation of different nomadic FulBe pastoralists, most of them from Borno State (Nigeria), but there is also a number of formerly agro-pastoral FulBe Ngara'en from the Diamaré who were incorporated into the Mare'en. The village of Wuro EggoBe definitively came to the Far North of Cameroon about 60 years ago and because of its long presence in the province, its leader is considered the leader (*ardo*) for many other Mare'en groups.⁵⁵ The ardo represents the nomads towards the

⁵³ "[...] a way of life that is subordinate to the herds' well-being. Thus while children running around without shoes bravely endure the thorns and spikes of the bush land ground the whole household will immediately move when a cow feels just a bit of a prick in her nose (Schareika 1998:28).

⁵⁴ Members of the Ba clan can be found both among other nomadic as well as sedentary FulBe groups. One of the pastoralists in Wuro Badaberniwol belongs to the Ba clan. Within the group of Mare'en, one also finds FulBe from other clans. The six different clans or *lenyi* within the group of the Mare'en are Abarwa, Gane, Yillaga, Kessu, Ba, and Jafun.

⁵⁵ In the past, their grandfathers and great grand fathers spent the rainy season in Nigeria and the dry season in the Logone Flood Plain. Sixty years ago, they did not return to Nigeria and instead went south to the Diamaré. Since then, this group of Mare'en practiced the transhumance primarily in the Far North of Cameroon, but in drought years they also go to Chad.

‘outside world’ of government, municipal, and traditional authorities and veterinary services.

Wuro EggoBe is the smallest and most homogenous and cohesive of the research villages, consisting of only eight households that all belong to the same lineage and practice endogamous marriages. All households are related either through consanguineal or affinal ties and in many cases both. The eight households are organized in four separate quarters (*pattule*, singular *fattude*) that each consist of two households, often close patrilineal kin (B, FB, FBS). The quarters stay together throughout the year as they move from the Moulvoudaye region to the Logone Flood Plain and the shores of Lake Maga. The camp (*wuro*) stay together only for two about months at the shores of Lake Maga during the dry season, the rest of the year the quarters are separated, camping in different sites and in various combinations.⁵⁶

The nomadic FulBe interacted with many different ethnic groups as their transhumance took them from the Kotoko and Musgum areas in the Logone Flood Plain to the Giziga, Tupuri, and Mundang areas of the Diamaré. These contacts are generally friendly unless they suspect that sedentary folks are cattle thieves or providing cover for them.

There are no obvious, observable wealth differences between wealthy and poor nomadic FulBe pastoralists. They live in the same tents, wear the same clothes, and eat the same food. *Kanko mari na'i ujineere o lara bana walaa huunde* ‘someone who owns

⁵⁶ The eight households of Wuro EggoBe were camping together in the dry season when I contacted them first, but they later split during the rainy season into two separate camps.

a thousand head of cattle looks as if he has nothing'. Wealth in nomadic villages is primarily measured by the number of animals owned by the household, which is reflected in the wealth ranking exercise that I conducted.

The Mare'en live in oval shaped tents made of a wooden frame and covered with mats of woven palm leaves. In the rainy season, an additional layer of plastic sheeting protects the interior against leaking. The tents, called *suudu* (plural *cuudi*), are located at the perimeters of the corral called *waalde* (plural *baalde*), which also means household, the equivalent of the *saare* in the sedentary villages, thereby reaffirming that the household and herd were one. Within the *waalde*, each married woman has her own tent, which is part of her dowry and remains her property throughout her life. In case of divorce or death of her husband, she leaves with her tent and all her belongings (e.g., kitchen and housewares). The tent expands when a woman's uterine family grows and contracts as her daughters marry and sons establish their own nuclear families within the *waalde*.

The diet of nomadic pastoralists is similar to that of sedentary agro-pastoralists, sorghum and a vegetable sauce, except they consume more milk. But because they do not cultivate sorghum, nomadic pastoralists purchase most of their food at local markets. Women purchase most of the food in the rainy and cool dry season (June-November) with the revenues from dairy marketing, while men cover the costs in the dry season through the sales of animals. The weekly markets are not only important for the purchase of foods and goods; they also provide an excellent opportunity to meet friends and family from other nomadic camps and exchange information. Markets provide an opportunity to

escape the drudgery and boredom of life in the camps, which are far away from the population centers. Although nomads are incorporated into the market economy and spend much time at local markets, none of the people in Wuro EggoBe earns an income through commercial activities.⁵⁷

Being There

Conducting a comparative study of three villages required traveling back and forth between locations rather than living in one village. So, I intermittently spent a couple of days in each village throughout the year depending on the accessibility and weekly markets in the immediate area. On market days, practically all men would be absent in the villages from sunrise to sunset. On Monday, for example, I could not conduct interviews in the peri-urban village because of the Maroua market; the village would be deserted. While on Thursday and Saturday, I could not conduct interviews in the agro-pastoral village because of the respective markets of Bogo and Guirvidig. The same principle applied to the nomadic village, but since they moved camp on a regular basis, the closest market and market day changed depending on the location of the camp.

⁵⁷ A number of nomadic Mare'en (not in my sample) were engaged in livestock trade and reinvested their profits in cattle.

In each of the villages, I stayed with a host family for a couple of days at a time while conducting my research. The host families were either official or unofficial leaders of the village. In the agro-pastoral village, I had my own house built in the compound of the moodibbo. In the peri-urban village, I stayed in one of the rooms of the jawro and in the nomadic village I slept in my own tent in the waalde of one of the leaders.

Traveling meant that I was not permanently in one village and that I missed certain events and was not as deeply involved in each community as I could have been if I had worked in only one village. On the other hand, I believe that the comparative perspective has given me a greater understanding of the transformation of FulBe pastoral systems in the Far North of Cameroon. The comparative design allowed me to study the variation in pastoral production systems in the Far North of Cameroon. Finally, traveling between villages and Maroua I always gave rides to informants, which allowed me to ‘repay’ them for helping my research and get a fresh perspective from people ‘out of the context of the village’ on the village.

Overall, I was able to get a good anthropological understanding of everyday life in each of the villages. ‘Being there’ allowed me to observe and participate in the social life of the community, which helped me to interpret and contextualize the data collected (Bradburd 1998).⁵⁸ Although, the core of the quantitative data on pastoral households and family herds was collected in surveys and semi-structured interviews, most of the

⁵⁸ The greatest impediment to full participation in FulBe social life was not the time spent in each of the communities, but the fact that I was not Muslim. Islam creates a very strong sense of group membership and common identity among FulBe in the Far North. Since I was not part of the *umma*, I remained an outsider but was always tolerated and treated with respect (for an alternative approach see, Young 1996:131-3).

information on institutional change was gathered in non-interview situations during ‘participant observation’. In many cases, I collected conflicting information about the distribution of production costs over individual owners within the family herd from different members of the same household. Only by getting to know the members of the household, their interests, and perspectives as well as continuous probing during and outside ‘formal interview situations’ was I able to resolve these conflicting accounts. An additional problem was that some of the processes that I describe in this dissertation were still in flux, meaning there were no clear norms or public discourse. There were, for example, no clear hard and fast rules about the distribution of production costs over individual owners within the household (discussed in chapter eight). I deduced the ‘rules’ from quantitative data and off the cuff remarks of different members of the same household. ‘Being there’ was an essential part of my fieldwork that allowed me to study what went on inside households and family herds. Without it, I would not have been able to collect these data from discreet FulBe pastoralists, or interpret them.

LANGUAGE AND RESEARCH ASSISTANTS

I arrived in Cameroon with a basic competence of Fulfulde gained from earlier fieldwork projects and self-study at UCLA and Leiden University (Netherlands). During the first month in the field, I took language lessons from a Pullo high-school student in

Maroua using a textbook of the local dialect *Fulfulde fuunaangeere* (eastern Fulfulde)(Noye 1974). The lessons provided greater understanding of the grammatical structure, which facilitated later language acquisition in the field. The lessons did not eliminate the need for an interpreter, however; throughout my study I worked with research assistants. Most FulBe are monolingual as Fulfulde is the lingua franca of the greater part of the Far North. Moreover, there were relatively few educated FulBe in the three villages; only a few sedentary FulBe and none of the nomadic FulBe had rudimentary skills in French (which I speak), which together with English is one of two national languages of Cameroon.

After several months in the field, my competence and comprehension of Fulfulde was such that I was able to conduct surveys in Fulfulde, record verbatim quotes, and follow most of the unstructured interviews. Towards the end of my fieldwork, I could converse in Fulfulde and follow some of the conversations at the *hiirde*, the evening gathering in the center of the agro-pastoral village where men came together at night after *eesaai* prayers to chat, tell stories, and discuss current events.

Throughout the study, I worked with two FulBe research assistants: a male assistant for interviews with men and a female assistant for interviews with women. Both were experienced research assistants and well educated in public and Koranic school systems. My male assistant, who was from an agro-pastoral family in Mindif, had a profound interest in the study and was very knowledgeable about pastoralism and FulBe cultural traditions in urban and rural settings. He was one my most valuable key informants.

Working with a female assistant was necessary because FulBe society is sex-segregated, though there is considerable variation within and between villages. Men and women spend their days in separate quarters of the compound and spend relatively little time together. Generally, the more pious and wealthier the FulBe are, the more secluded and segregated the lives of their women. The *purdah* or seclusion of women is practiced by all pastoral FulBe in the peri-urban village (cf., VerEecke 1987). Interviewing peri-urban FulBe women without a female interpreter was impossible since adult males were not allowed in the women's quarters of the compound. This was less problematic in the agro-pastoral village, which is less affected by the Islamic renewal.

HOUSEHOLD SURVEYS

My data collection focused on the household and the family herd of FulBe pastoralists. I collected data for the smallest possible corporate unit because the different structures (compound, family, uterine family) and functions (production, consumption, shelter, socialization) of FulBe households did not always neatly overlap (discussed in chapter seven). Sometimes the smallest unit was the household; other times the nuclear family, or the individual, depending on the activity of herding, farming, cooking, eating, or residence. I conducted a number of surveys to collect household economic data, which I will discuss in this section.

Demographic Survey

The first survey I conducted in each village was an inventory of the people living in each compound, their age, their kin relations, number of children, marital history, genealogical history, and the genealogical and affinal ties with other households in the same village. Initially, one of the problems I encountered was the question what constituted a FulBe household (*saare*). For example, in one case a compound included three nuclear families that were considered separate households, while in another case, two nuclear families living in separate compounds constituted one household. The confusion came partly from the fact that the Fulfulde word *saare* can refer to compound, household, its members, family, and lineage depending on context (discussed in chapter seven).

Agricultural Survey

Although this dissertation concerns the transformation of pastoral systems, agriculture was an integral part of these and considered the economic basis of the agro-

pastoral and peri-urban households. Sorghum fed the household and not the family herd, which was in most cases too small to provide a secure subsistence. I collected agricultural data for individual producers and later aggregated data per household when I established who pooled sorghum, which is what defined a household. I recorded size and ownership of fields and yields for the last two years. Yields from the last two years gave me good sense of the variation in yields due to rainfall patterns that are typical of the Sahelian semi-arid climate. In terms of rainfall and sorghum harvest: 2000 was a drought year, while 1999 was considered a good year. Yields for rainy season sorghum (*njigaari*) and off-season sorghum (*muskuwaari*) were recorded in the local measure of 100-kilogram sacks (*buhure*). Cotton yields, primary cash crop in the area, were measured in FCFA. Cotton revenues are never pooled and always considered personal property of the grower though household heads use the cash proceeds to provision the household.

Household Consumption Survey

Instead of conducting longitudinal budget surveys of randomly selected households in each village, which I anticipated to be extremely difficult based on the FulBe reputation of discretion, I collected general data on household expenditures for all households in order to construct a model of household consumption and subsistence production for each of the three villages. My main research goal was to collect data on

livestock ownership and management, which I did not want to jeopardize by looking into people's 'wallets' in addition to their 'bank accounts'.

I estimated the basic maintenance costs for each village by interviewing men about their weekly expenditures on food, and women about the quantities of sorghum and other ingredients they used per meal.⁵⁹ In addition, I checked prices for all these items on local markets throughout the year. By combining this information with data on sorghum yields and stocks collected in the agricultural survey, I was able to estimate the basic maintenance costs (BMC) per consumer and the minimal annual expenditures for each household by multiplying it with the Adult Consumer Equivalents (ACE) for each household (Bradburd 1990:61; Ensminger 1984; Hunt 1979).⁶⁰ The basic maintenance costs are approximations; several households in the peri-urban and agro-pastoral village went without food for several days during the pre-harvest hunger period of 2001 (and thus likely had lower expenditures).

It was more difficult to assess income from commercial activities of individual household members because it fluctuated significantly over the year (e.g., income from women's dairy marketing). This is not necessarily a problem as data on expenditures are

⁵⁹ From observations, I knew that some men and women over-represented their consumption, especially of luxury items such as meat and dried fish. I omitted these data.

⁶⁰ When I refer to the number of consumers in the dissertation, I mean Adult Consumer Equivalents (ACE).

Age	Adult Consumer Equivalents
0-2	0.25
3-11	0.50
12-59	1.00
60 and over	0.50

generally a better predictor of household income than interview data on income itself (personal communication Jean Ensminger).

I have not collected quantitative data on intra-household allocations, which is methodologically extremely difficult (Barlett 1989:10; Sutter 1990). Instead, I have used qualitative interview data to establish who in the household was responsible for what expenditures. I have used these data to model the organization of the household economy of peri-urban pastoralists and more traditional nomadic and agro-pastoralists in flow charts (discussed in chapter seven).

Pastoral Production Costs

One of the main consequences of the intensification of the peri-urban pastoral system was the enormous increase in production costs. This cost increase had a significant impact on the management of the family herd and it was therefore imperative to collect systematic data on herd expenditures. Since one of the changes in herd management in the peri-urban village was that costs were distributed over individual livestock owners, I interviewed each individual livestock owner and recorded data on their expenditures for cottonseed cakes, cottonseed hulls, herding salaries, veterinary costs, vaccinations, taxes, salt, natron (a natural salt), and travel costs to entrusted herds on transhumance (discussed in chapter five).

HERD SURVEYS

Most studies that examine economic differences and differentiation among African pastoralists use the household as the unit of analysis and assess the absolute and relative wealth by converting the number of animals in the family herds into TLU (Tropical Livestock Unit) per household or household member (Fratkin 1989; Roth 1996). This is an appropriate method if the family herd is a collective resource and all the animals are at the disposal of the household, i.e., the household has property rights over the animal that include the right of disposal and usufruct rights over milk. When that is not the case, i.e., the herd is not a collective resource and the household has limited property rights over the animals in the herd, it is not appropriate to take the household as unit of analysis to study wealth differences or differentiation (Borgerhoff Mulder and Sellen 1994:209-210). When researchers assume that the family herd is a collective resource that is at the disposal of the household and do not make a distinction between livestock ownership and stewardship they risk misrepresenting the household's economic position and this is problematic (Sutter 1987:198). In other words: the size of the herd does not say anything about the wealth of the household; *Dam balo non Dam luggay* 'the water is dark but not deep' as the FulBe say. One cannot assume *a priori* that household

members are pooling resources or that they have unrestricted property rights over all the animal in the herd, it is imperative to study the property relations within the family herd.

Most pastoralists do not like to discuss their livestock holdings and property rights within the family herd (Buhl and Homewood 2000:99, 213; Dahl and Hjort 1976:132; Fratkin and Roth 1996:165; Stenning 1959:148; Sutter 1987, 1990:348). Some anthropologists have avoided this problem and conducted quantitative studies that focused on the age and sex composition of the herd as management unit or stock aggregate, rather than as property unit (Jung 1997; Nunow 2000:126; Stenning 1959:170-1; Sutter 1987; Toulmin 1992). One of the reasons for this focus quantitative data and management unit is that these data are more easily recorded or obtained from veterinary services.

Other anthropologists have conducted qualitative studies of property rights within the family herd that described in detail the variation in multiple and overlapping property rights in livestock in pastoral societies (Baxter 1990; Dupire 1962a; Ryan, et al., 2000; Schlee and Khazanov 2003). These studies focus on the general principles of property rights in pastoral societies (Baxter 1990; Gulliver 1955; Oboler 1996).

Few anthropologists have conducted an empirical study of property relations within the family herds and most of them concern only a few households (Bonfiglioli 1988; Dupire 1962a; Dyson-Hudson and McCabe 1985; Goldschmidt 1969; Leslie and Dyson-Hudson 1999; McCabe 1984). Dupire (1962a), for example, discusses in detail qualitative aspects of property rights in family herds in her study of WoDaaBe pastoralists. In another important study, Bonfiglioli (1988) describes in detail the history

and evolution of one WoDaaBe family and herd from the 1910s to the 1970s in Niger.⁶¹

Goldschmidt's excellent documentation of the division of Kambuya's herd shows in detail how property relations in the family herd represent a man's social history providing great insight into a society's social structure (1969).

To my knowledge, there are no studies of family herds that combine qualitative and quantitative methods in assessing livestock wealth; meaning counting animals while making distinctions between different property rights that household members and outsiders have over animals in the family herd, and this study is a first of its kind.

Conducting a systematic study of property rights in FulBe family herds was challenging as FulBe are reticent about their livestock holdings – the equivalent of bank accounts in the U.S. – and initially reluctant to reveal any information. People were not just hesitant to give me insight in their livestock holdings.⁶² Household members – husbands, wives, children, and siblings – kept their livestock holdings secret from each other. Wives and children frequently did not know that the animals in their corral were not bought by their husband or father on the livestock market but were instead entrusted

⁶¹ Bonfiglioli (Bonfiglioli 1988) describes changes in herd size, transfers of animal, property of animals, and the genealogy of two cattle lineages (walbaaye and loodew) of one household head called Tiinde. Because of its time depth and detail, it is a great contribution to our understanding of how pastoralists manage in semi-arid and arid areas and go back and forth between 'pure' pastoralism and agro-pastoralism and how the larger political economy and climate have impacted their society.

⁶² The FulBe were generally distrustful of my research project or any government official or *nasaara* (white, expatriate) for that matter. I explained my research project and activities several times over the course of my study, but many people never grasped what I was doing or why. I do not blame them, only a handful of men and women had a few years of primary school, and the idea of somebody traveling all the way from the USA to their village to study and live with them was fundamentally inexplicable. People accepted me and generally thought my activities and interviews were innocuous, though in the back of their minds, many feared that at the end of my fieldwork I would use all the data collected to take their land and round up all their cattle.

by an outsider. All livestock surveys were therefore conducted in private. The first attempts to collect herd data in the agro-pastoral village were unsuccessful, as young FulBe gave me incorrect information. After a number of months, as I gained the trust of my informants I was able to get more reliable information from the household heads.

Another critical factor, in gaining people's trust was the gift of informant compensation.⁶³ I compensated my informants with communal gifts of six horses and ploughs to the people in the two sedentary villages and eight heifers to the people in the nomadic village. The informant compensation facilitated my data collection considerably.⁶⁴ After delivering the horses and ploughs, mid-way my study, instead of asking "Have you not finished your questions yet?" people asked, "What do you want to know more and how can I help you?" Informants were especially more forthcoming with the most sensitive information: livestock ownership and exchanges. This did not mean that all the information was necessarily more reliable. In some cases, people were more forthcoming with incorrect information.

⁶³ Early on, I had decided to compensate the community, rather than individual informants, although I gave my host families sorghum and occasionally meat and other individuals small gifts throughout the year. In each village, I asked the people informally and formally, individually and collectively what gift(s) could serve the whole community (*naŋgo juulDo kaaDo derkeejo nayeejo debbo gorko* 'Useful for Muslim, non-Muslim, young, old, woman, and man'). The resulting discussions and deliberations were very informative and revealed much about each village. The agro-pastoralists in Wuro Hoore Ladde, for example, made very clear that they were first and foremost farmers, not pastoralists, and that the gift should contribute to the improvement of agriculture. The nomadic pastoralists of Wuro EggoBe were as expected primarily interested in animals. I had decided to compensate the community rather than individual informants. Usually gifts are given to individuals rather than to a community or a group of households. However, *zakka*, Muslim tithe, of cattle is regularly given to three or more individuals, who then sell the animal and divide the money among themselves.

⁶⁴ The informant compensation made a big difference in gaining people's trust in the agro-pastoral and nomadic village but less so in the peri-urban village where pastoralists were relatively wealthy.

However, it was only by repeatedly conducting follow-up interviews and cross-checking contradictory information from earlier interviews, that I was able to document the property relations in each family herd and improve the reliability of my data. I failed to get complete herd data from five households, which is 10% of my sample of 50 households.⁶⁵

Herd Inventory Surveys

I conducted a number of consecutive surveys to collect livestock data. The first herd inventory survey recorded ownership and management of animals. This included animals present in the corral, animals that were on transhumance, and animals owned by members of the household but entrusted elsewhere. The first two categories contained animals that were not necessarily owned by the household, but also animals that were entrusted to the household and for which someone in the household was responsible. A

⁶⁵ One household head steadfastly maintained that all the animals in his corral were his, even though agro-pastoralists in the village of Wuro Hoore Ladde told me that the animals were entrusted. I decided that the villagers were probably right and that the household head wanted to save face. In the peri-urban village, one pastoralist confided me that he had sold all the animals that he had entrusted to nomadic pastoralists and I was never able to determine whether that was true or not. In the same village, a wealthy pastoralist had four herds entrusted to nomadic pastoralists; I visited them all with the owner but was unable to record data for each individual animal. I was able to document the production costs, changes in the herd over the year (births, deaths, sales, etc.), and estimate the herd sizes and ownership. He personally owned about 95% of the animals. Two nomadic pastoralists were unwilling to give me information on property rights within their family herds. I estimated the herd sizes and was able to get information on changes in the herd over the year and production costs.

second survey recorded the changes in these categories of animals over the year 2000-2001 starting with the beginning of the rains in 2000, for example, births, deaths, sales, loans, strays, thefts, inheritance, entrustments, purchases, and sacrifices. The data on structure and changes of the family herds were collected in several interviews throughout the year. The interviews also generated qualitative data about the family herds. The survey began by identifying all the cows who had calved (*haabe*) in the herd by name and recording their age, offspring, and what happened to their offspring (was it still in the herd, dead, sold, etc.).⁶⁶ Then, I recorded all the animals whose mothers were not or no longer in the herd; bulls, bullocks, and heifers that either had been bought or whose mother had died or been sold. I always had to make sure to ask *kolci noy* ‘how many feet [are there in your herd]’ rather than *na’i noy* ‘how many cows’, which does not include calves, heifers, bullocks, or bulls.⁶⁷ In subsequent interviews, I recorded the changes in

⁶⁶ The data on the ages of animals were generally unreliable since calves were born throughout the year and many FulBe did not keep good track of ages (of animals and people). Some pastoralists would tell me that almost all their cows were *sappo* (ten years old). They probably meant to say that these cows were quite old. The expression *yimBe sappo* (literally ‘ten people’) is used to indicate that there were many people, many more than ten. In those cases, I estimated ages by referring to the FulBe classifications of cattle, which are based on age, sex, and reproduction, and the number of offspring they had. If that information was unavailable, I recorded age as unknown. Some had multiple names, which made the survey even more challenging than it already was. One animal was first identified as *wode sayge nyalahol*, then as *fele niiniye*, and in yet another interview simply as *niiniye*.

⁶⁷ In a few cases, when I surveyed one herd separately with a nomadic herder and the ‘absentee’ owner, it was very difficult to reconcile the different herd inventories. Owners, who were more familiar with the history and lineage of particular animals, used lineage names (*jabbere*) for individual cattle. The herder, on the other hand, was very familiar with the animals that were currently in the herd but was unaware that *sawaye* and *haabe sawaye* were mother and daughter. The herder listed animals as mother and offspring pairs, whereas the owner listed animals per lineage encompassing multiple generations. Moreover, the herder had given each cow a new name, generally based on its coat color (*noonde*). When absentee owners talked with their herders about individual animals in the herd, it always took several seconds before the herder figured out which animal he was referring to.

the herd.⁶⁸ The survey was effective and generated detailed and generally accurate data. So effective that when I accompanied a peri-urban pastoralist visiting his bush herd (*laddeji*) entrusted to nomadic pastoralists, we used the results from my survey to count and keep track of the animals. In fact, my survey was more reliable than physically counting cattle, which is very challenging because cattle move and regroup constantly and smaller animals are often out of sight. During this visit, the herd owner, my assistant, and I each independently counted the animals in his herd three times before they went to pasture in the morning. We got nine different counts even though there were only 28 animals in the herd!

Recording data on small stock holdings was more difficult than on cattle. FulBe pastoralists did not keep as closely track of births, sales, and other losses as they did of cattle because their small stock holdings changed more rapidly than their cattle holdings (i.e., they reproduced more frequently, died more often, and were sold more often than cattle). Moreover, FulBe were as discreet about property rights in sheep and goats as they were about cattle, even though they were less valuable and considered less important. The dissertation focuses on cattle rather than on small stock holdings since small stock production was not intensified.

⁶⁸ The herd inventory surveys required constant updates as animals were born, sold, or died. During my first visit with an absentee herd owner to his herd (entrusted to nomads), I recorded that *sirge bee reedu* (literally 'sirge has a belly', i.e., sirge is far into her pregnancy). Half an hour later, the interview was not over yet, *sirge nyalahol*, the calf sirge, was born.

Herd History Survey

Initially, I planned to document the genealogies of all the cattle in the family herds in order to assess the role of livestock exchanges in the (re-)constitution of family herds and the effect of lifecycle events (e.g., marriage) on the growth and decline of the family herd. Early in the study, it became clear that this was impossible. Only the people who had owned a few cattle in their entire life were able to recall and reconstruct cattle genealogies. Instead of documenting herd genealogies, I designed a survey that asked pastoralists about specific livestock exchanges during their life, e.g., loans (*nanngaaye*), indirect dowry (*sadaaki*, also called *dewra*), and inter-generational gifts (*sukkilaaye*). This survey was successful and generated data that gives me some indication of changes in livestock exchanges over time.

SUMMARY

The comparative study of three villages in the Far North of Cameroon representing different pastoral production systems (peri-urban, agro-pastoral, and nomadic) allowed me to compare their current economic performance as well as evaluate the changes in the peri-urban village of Wuro Badaberniwol. The main corpus of data

consists of quantitative and qualitative data on livestock ownership and management, and household economic data. Ethnographic fieldwork, including participant observation, was used to contextualize and interpret the economic data collected for individual households and livestock owners.

CHAPTER 3: PASTORAL ECONOMY, 1800-2000

INTRODUCTION

The role of the market economy in pastoral societies has taken center stage in analyses only since the 1990s (Chang and Koster 1994b; Ensminger 1992; Kerven 1992). A number of these studies have shown the integration of pastoral societies in Central Asia, the Middle East, Magreb, West Africa, the Horn of Africa into the global market economy for centuries (see, Chang and Koster 1994b; Khazanov 1994:202-212; Lewis 1961).⁶⁹ Pastoralists' incorporation in the nation state and world economic system has been held responsible for major transformations of pastoral societies in the twentieth century. There is, however, great variation in the degree and the form of encapsulation of pastoral societies. The general consensus in the literature is that many pastoral societies have long been incorporated into the market economy; that the terms of trade have generally been favorable for pastoralists; and that there is considerable variation in the degree and form of their market incorporation and integration into the 'outside world' (Bates and Lees 1977; Sadr 1991; Hutchinson 1996:102; Shipton 1989). However, one

⁶⁹ Komachi shepherds in Iran, for example, have sold wool for centuries (Bradburd 1990; Bradburd 1994), some East African pastoral societies relied primarily on pastoral produce until fairly recently (Kerven 1992; Wood 1999), while other East African pastoralists were incorporated in the global market economy in mid-twentieth century (Ensminger 1992; Gulliver 1955; McCabe 1994).

cannot *a priori* assume that all pastoralists were incorporated into the market economy (Chang and Koster 1994a:14; McCabe 1994). It is thus imperative to study the incorporation of FulBe pastoralists in the economy of the greater Chad Basin to assess whether (and how) the transformation of the pastoral system in the peri-urban village in the Far North of Cameroon is the result of its incorporation into the state and market economy.

This chapter examines the pastoral economy in the greater Chad Basin from a historical perspective starting in the early 1800s with the precolonial period, through the colonial period of 1900 to 1960, to the postcolonial period. The first section of this chapter shows that the market has been an integral part of the FulBe pastoral systems since their products have been commodities for centuries. The second shows that the pastoral economy was only marginally affected by colonial policies aimed at improving the marketing of livestock. Therefore, the market cannot be held directly responsible for the recent transformation evident in the peri-urban pastoral system. The third section sketches the development of the pastoral economy and the institutional context, and discusses the markets for pastoral products and state institutions that directly concern FulBe pastoralists in the Far North.

PRE-COLONIAL PERIOD, 1800-1900

Historical accounts of the greater Chad Basin indicate that FulBe pastoralists have been participating in the global market economy for centuries. The Chad Basin was connected with the Magreb, Middle East, East Africa, and coastal West Africa through the trans-Saharan caravan trade. European goods were sold in the local markets long before the first European travelers made it across the Sahara and visited the empires of Borno, Sokoto, and Baguirmi. Accounts from early European travelers to these empires provide some insight into the political and economic conditions of the greater Chad Basin in the 1820s, 1850s, and 1870s (Barth 1965c; Denham, et al., 1826; Nachtigal 1987).⁷⁰ These accounts cover the period after the 18th century FulBe *jihad* (holy war) until the colonial conquest at the beginning of the twentieth century. There is relatively little information on the Far North of Cameroon in comparison to the detailed descriptions of Borno, Kano, and Sokoto in northern Nigeria. A number of early European travelers toured through the Far North of Cameroon, but they spent far more time in northern Nigeria. I have used their descriptions to sketch the general historical economic context of the greater Chad Basin and assess the incorporation of FulBe pastoralists in the wider pastoral economy. Travelers' accounts supplement historical studies of the precolonial economy of the greater Chad Basin (Baier 1980; Fika 1978; Hopkins 1973; Kerven 1992; Mukhtar 2000; Okediji 1973).

⁷⁰ Most of the travelers spoke Arabic and often one or more local languages; Barth, for example, spoke some Fulfulde (Barth 1965c).

Markets

All travelers describe in detail the markets of the towns and villages through which they traveled. The organization of the markets in different quarters where different merchandise was sold in stalls or little shops resembles that of modern-day markets in the Far North of Cameroon.

The market-place was on a higher ground, a little to the south of Sansan Birnee. The place of itself is a little village. The goods were exposed for sale in booths, or houses, open at the side next the street. The different wares were arranged each in a particular quarter, – knives, scissors, needles, and beads; silken cords and pieces of silk; sword slings and kohol cases; gubga tobes and turkadees; beef, mutton, and fowls; gussub, beans, Indian corn [...] There were stalls, besides, for making and mending every thing in common use. (Denham, et al., 1826:208).

A similar range of agricultural products was sold at the markets, including current cash crops: cotton, groundnuts, onions, and sorghum. A wide variety of manufactured and imported products was sold as well. Markets were located in the center of the towns, close to the palace of the sultans (Denham, et al., 1826:135). Each town had a weekly market day, while some larger towns had daily markets (e.g., Kano). The market days of the towns succeeded each other in turn such that traders could go from one market to the

next (Barth 1965a:531).⁷¹ The quantity and quality of the supplies differed per market and scale of the settlements. An even greater variety of goods (luxury items, manufactured items and food) was found at the weekly markets of the larger towns. The main difference between them and today's markets is the absence of a slave trade, which constituted a major part of the economy of the greater Chad Basin in the nineteenth century. Many of the traveler's accounts comment on the slave raids and trade and show how the empires of Borno and Sokoto were based on a slave economy to perform labor for food and cash crop production.⁷²

Trade Networks

The travelers describe the different trade networks – their routes, traders, products, and prices – and how they connected the Chad Basin with coastal West Africa, the Magreb, Middle East, and Europe. Dyed cotton was exported from northern Nigeria to Mali (Barth 1965a:511); kola nuts from the Ashanti in southern Ghana were traded and transported north across the Sahara to Tripoli in Libya (Denham, et al., 1826:196); while slaves, ostrich feathers, ivory, tamarind fruits, skins, hides, and Korans written in Borno

⁷¹ The weekly market day of Mindif, a town in the rainy season transhumance area of the Far North, was Friday in the 1850s just as it is today and apparently it was a buzzing market back then as well (Barth 1965c).

⁷² Many slaves were raided among the Musgum, Masa, Tupuri and other non-FulBe and non-Muslim populations of the southeast corner of the Far North Province.

were transported to the Magreb. The different trade networks were organized by ethnic group, each specialized in a particular merchandise and route (Mukhtar 2000:52). The livestock trade was primarily in the hands of the Hausa, who were organized in an elaborate trade network of agents, drivers, middlemen, and traders that connected the savanna with the humid south where livestock traders formed a large contingent in the Hausa quarter of Ibadan (cf., Cohen 1965). The Hausa trade network involved the trade of kola nuts and salt from the Ashanti to the savanna and cattle and cloth from the northern emirates (Okediji 1973:3).⁷³

Livestock Trade

Livestock trade constitutes an important sector of the economy in the northern emirates: “We had a [...] market, in front of one of the principal gates of the town [Kukuwa, the capital of Borno]. Slaves, sheep, and bullocks, the latter in great numbers, were the principal live stock for sale. There were at least fifteen thousand persons

⁷³ However, the market economy and the use of money or multi-purpose means of exchanges was patchy in West Africa. Some groups, such as the Tiv (Bohannon 1955) and the Bobo (Saul 2002), were not fully participating in the market economy, even though trans-Saharan caravans passed right next to their villages. Other groups, such as the Hausa, were fully incorporated in the market economy. Some of the non-encapsulated people traded one or a few commodities (e.g., beer, cereals) with other, more incorporated groups without adopting market economy or multi-purpose money. There was, what Guyer (1995) calls, an interface where market and non-market communities interacted that did not dissolve despite the contact. Thus, one cannot automatically assume that FulBe pastoralists were participating in the market economy because the areas they lived in were part of a larger market economy.

gathered together, some of them coming from places two and three days distant”(Denham, et al., 1826:93-4). In the 1850s Barth (1965b:119) reported weekly sales of at least 350 cattle at the Sokoto market. Some animals were destined for local consumption; others for export to the West African coast (Denham, et al., 1826; Okediji 1973:3). Local livestock traders made small profits by exploiting price differences between the weekly rotating markets.⁷⁴ Long-distance livestock traders meanwhile exploited the lack of livestock in the forest zones of coastal West Africa due to trypanosomiasis and the demand for kola nuts in the savanna zone (Baier 1980:147; Hopkins 1973:58-73; Mukhtar 2000; Okediji 1970; Quarles van Ufford 1999:56).

FulBe Incorporation into the Market Economy

European travelers’ accounts do not provide an in-depth description of the pastoral FulBe economies. Indirectly, we learn enough from their descriptions to know that FulBe pastoralists were engaged in the market economy long before the colonial period. The travelers describe their encounters with FulBe and Arab called Shuwa pastoralists, give descriptions of their cattle, list types of livestock sold at markets, write about the constant supply of milk, and the FulBe women who sold it at the local markets

⁷⁴ “Sheep are transported in this way for a very small profit, being bought in Wurno, for 1200, or, when on credit, for 1400 shells, and sold in Sokoto for 1500”(Barth 1965b:126). The same principle of higher price for credit is used today. It is a hidden interest since Islam does not allow Muslims to earn interest.

(e.g., Barth 1965b:185-186; Denham, et al., 1826: 275-276).⁷⁵ The large number of livestock sold at local markets and the existence of a long-distance livestock trade to the coast shows that in addition to milk marketing, FulBe pastoralists also sold live animals. The revenues from dairy and animal sales were used to buy cereals and other merchandise. Okediji describes how Hausa agents at the turn of the century would visit nomadic FulBe camps with inducement goods, namely salt, foodstuffs, beads, cloth, and cash (Okediji 1973:10).

The historical evidence shows that the markets in the greater Chad Basin were well developed and connected to other regions through the trade caravans long before the arrival of Europeans and subsequent colonialization. Travelers' accounts and historical studies reveal that FulBe pastoralists were not isolated from the market economy. Pastoral products such as dairy, livestock, and hides were commodities and part of long-distance trade networks that connected the Chad Basin with coastal West Africa, the Magreb, the Middle East, Europe, and East Africa. FulBe pastoralists sold animals and dairy products and consumed market goods. In short, the market economy was an integral part of the FulBe pastoral system that allowed them to exchange pastoral products for cereals and other goods.

⁷⁵ Milk was a desired drink for the travelers. In fact, sour milk seems to be one of the staple foods of the travelers. It is one of the foods – in addition to meat and honey – that was frequently offered to guests.

COLONIAL PERIOD, 1900-1960

The devastating impact of colonialism on many African (pastoral) societies is well documented (Davidson 1992; Little 1992; Rodney 1972; Wolf 1982). However, its effects across Africa varied considerably. In the East African white settler states, pastoralists were forced out of ancestral rangelands (Campbell 1993; Jacobs 1975), while in West Africa fewer Europeans settled. The suppression of the indigenous slave trade during the colonial period brought relative peace after centuries of turmoil allowing FulBe pastoralists to exploit more rangelands than before (Stenning 1959). One cannot generalize impacts without such understanding of pastoral societies in colonial Africa.

The question is how the colonialization affected the pastoral economy of the greater Chad Basin. This requires a discussion of the colonial administrations and policies of Cameroon and Nigeria since Borno State in neighboring Nigeria was and is still considered the lungs of the (pastoral) economy of the Far North of Cameroon. The historical literature suggests that the impact on the pastoral economy was minimal in greater Chad Basin.⁷⁶ Ferguson (1967) has noted that the most remarkable feature of the pastoral economy in the greater Chad Basin is that relatively little has changed over the

⁷⁶ This section is primarily based on secondary sources since I did not ask my informants specifically about the impact of the colonial period. The *colons* came up twice in conversations and interviews with informants. Once in the context of the history of the village of Wuro Hoore Ladde; forced labor (*corvée*) on roads apparently made the ancestors of the agro-pastoralists decide to leave their previous site in Fadaré. It also came up once in the context of education because of the policy of the colons that involved traditional FulBe chiefs to force their people to send their children to school.

last two hundred years. Despite the expansion and growth of the pastoral economy, the infrastructure and institutions of today's livestock trade in the greater Chad Basin is very similar to those in the precolonial period.

The Nigerian system for marketing beef is one of the most remarkable examples in the developing world of a large-scale, completely indigenous marketing system. Operating across international boundaries, it is a multi-million-pound industry that involves thousands of persons and hundreds of thousands of cattle. Government regulation is limited almost entirely to the requirements for health certificates and regulation of trade routes. Many cattle trade routes and markets in use today existed before the colonial period...(Ferguson 1967:12).

The success of the Nigerian pastoral economy has been attributed to the lack of direct interference of the colonial administrations in the livestock trade (Kerven 1992:67).⁷⁷ The British colonial administrations had planned to overhaul the indigenous cattle marketing system in Nigeria, primarily with the goal of eliminating the various middlemen and providing a cheaper supply of meat to the urban markets in the south (Ferguson 1967:64-5). But the reorganization of the cattle marketing system never took place due to the substantial financial investments that were required and because existing

⁷⁷ "There was apparently no intervention in the operations of the traditional marketing systems, managed by the Hausa merchants and traders, and there was no attempt to tamper with market forces through price controls or quotas"(Kerven 1992:67). The only sector of the pastoral economy that the colonial administration sought to control was the production, processing, and export of hides and skins (Adebayo 1992; Quarles van Ufford 1999:60). The most likely reason that they interfered with this sector was the demand for leather during the World War I.

indigenous structures were more efficient. There was simply no evidence that intermediaries took too large a cut, big traders were fixing prices, or that the indigenous system was inefficient (Ferguson 1967).

The French and British colonial policies concerning the livestock trade became known as the ‘meat policy’ (*politique de la viande*) because its foremost aim was to increase the supply of meat to the urban consumers in the south (Quarles van Ufford 1999:59). Instead of overhauling the indigenous cattle marketing system, the colonial administrations stimulated the supply of meat to the urban consumers in the south by supporting and building on the existing infrastructure and institutions of the pastoral economy and the livestock trade. They generally limited their policies to the marketing structures rather than by direct intervention with individual pastoral producers.

Introduction of Veterinary Services

One of the few exceptions to the unofficial policy of non-interference with pastoral producers was the introduction and promotion of modern veterinary services. The investments in veterinary structures were part of the meat policy of the colonial administrations (de Haan 1997; Quarles van Ufford 1999:59). The idea was that disease control would allow pastoralists to sell more animals (Kerven 1992: 8). The British and the French establishment of modern veterinary services were aimed at disease and

parasite control, in particular the eradication of rinderpest and the control of tsetse flies responsible for the spread of trypanosomiasis. The rinderpest epidemic at the beginning of the nineteenth century had had a devastating effect on the livestock holdings in the Chad Basin and the colonial authorities were keen to avoid another disaster.

Supporting Livestock Trade Infrastructure

The colonial conquest improved security of trekking routes between rangelands as well as between livestock markets, thereby stimulating the pastoral exploitation of rangelands and the livestock trade (Okediji 1973:13). The colonial conquest of the Far North gradually ended the hundred-year war between the FulBe and neighboring populations, referred to as *haaBe* by the FulBe (Iyébi-Mandjek and Seignobos 2000a). The war did not end immediately or completely; *haaBe* raiding of FulBe herds in the nomad's lands continued up to the 1930s (Beauvilain 1989; Issa and Adama 2002). However, the relative peace in the greater Chad Basin stimulated the growth and development of trade and markets, which led to more imported products that could be traded with pastoral products (cf., Smith 1962).

Colonial authorities attempted to redirect the trade cattle flows but were largely unsuccessful. During the colonial period, trade cattle from the Far North of Cameroon were exported to southern Nigerian rather than to southern Cameroon, thereby following

the precolonial trade and caravan routes. The construction of roads, railroads, and slaughterhouses along the trekking routes in Nigeria greatly facilitated the transport of cattle from northern Nigeria to the south and thereby stimulated the supply from the Far North and Chad to meet the increased demand from Nigeria. The colonial authorities also actively developed local markets along the trekking routes. The French colonial authorities in northern Cameroon, for example, established the livestock market of Bogo, now one of the largest livestock markets in the province, to stimulate the livestock trade and control the cattle flow from Chad to Nigeria as well as redirect some of that flow to Maroua butchers (Beauvilain 1989).

A number of scholars have suggested that the long-distance cattle trade that connected markets in Chad, Cameroon, Niger, and Nigeria grew significantly during the colonial period at the beginning of the twentieth century (Amanor 1995:359; Azarya 1978; de Haan 1999; Fika 1978; Kerven 1992). Others have argued that this trade was expanding even before colonialization (Baier 1980; Mukhtar 2000; Okediji 1970). There is however, no good evidence to support either view because there are no good records of long-distance cattle trade in pre-colonial and early colonial periods. What is clear is that the long-distance cattle trade was of great economic importance long before colonialization. Export of cattle from the greater Chad Basin to southern Nigeria was so strong that already by the end of the nineteenth century the demand in the south fixed the prices of cattle in the Chad Basin (Okediji 1973:3).

Levying Taxes

One colonial intervention directly aimed at increasing the marketing of cattle was the cattle tax. The British had taken over the cattle tax, called *jangali*, from the Hausa and FulBe emirates in northern Nigeria but unlike its predecessor, the tax was collected in cash rather than kind, which drew FulBe pastoralists more into the market because they had to sell animals to pay their taxes (Kerven 1992:51).⁷⁸ The fact that taxes were collected in colonial currencies led to extra-ordinary economic activity and market participation of the local populations right around tax collection time. The goal of levying taxes was to force farmers to produce a marketable surplus and herders to sell their animals, thereby supplying the cities and plantations in the south with meat. It is unclear how successful these policies were in achieving their goal of drawing pastoralists further into the market. FulBe pastoralists have always avoided excessive demands from local and supra-local rulers, and they were notorious for avoiding colonial tax payments by simply moving away (cf., Meek 1925). How many pastoralists actually paid taxes remains thus unclear.

The colonial period in the Far North was relatively short. The greater Chad Basin was conquered at the turn of the century and its colonialization lasted about sixty years.

⁷⁸ One of the immediate effects of the imposition of the cattle tax in Nigeria was an influx of cattle to Cameroon. The French colonials, on the other hand, in addition to a property tax, which was lower than in Nigeria, levied a sales tax at the livestock markets (de Haan 1999). In Nigeria, livestock was marketed tax-free, and as a result, cattle were smuggled back across the border to be marketed in Nigeria.

Under the colonial administrations of the British in Nigeria and the French in Cameroon, the pastoral economy grew and expanded (Ferguson 1967). Kerven (1992) argues that the success is due to the lack of intervention, while others emphasize that the relative peace, improved infrastructure, veterinary care, and development of markets stimulated the pastoral economy and drew FulBe pastoralists more into the market economy (Azarya 1978; de Haan 1999). Although it is clear that the pastoral economy in the greater Chad Basin continued to flourish, it is less clear how individual pastoral households were affected by the colonial policies that aimed to draw them into the market economy since the aggregated data do not indicate how much tax they actually paid nor how many animals they sold.

THE PASTORAL ECONOMY, 1960-2000

A number of recent studies focus on the pastoral economy from a macro-economic perspective, investigating price trends at livestock markets, development of the 'national herd', terms of trade, and commercial off-take (i.e., the animals sold from a herd)(Fafchamps and Gavian 1997, 1996b; Ferguson 1967; Fricke 1979; Nunow 2000; Quarles van Ufford 1999). These studies have increased our understanding of the African pastoral economy, its structure, institutions, and dynamics. However, too often, scholars extend conclusions based on the study of macro-economic data to the economic behavior

of individual pastoralists and pastoral households without having studied them (e.g., Dietz, et al., 2001). National herd size, provincial livestock sales, and local terms of trade tell us little about the economic behavior of individual pastoralists or how they *make ends meet* (for a similar argument on African agriculture see, Berry 1984:61-3).⁷⁹

The reverse is also true. It is imperative to examine pastoralists and pastoral households in the context of the local, national, and international pastoral economy. African pastoralists are no longer, and some never were, isolated from the market economy; their pastoral products are commodities sold in local, urban, and foreign markets. One thus has to consider the macro-economic context in which pastoralists operate and market their pastoral products.

The Current Economy of the Far North Province

The Far North of Cameroon is primarily an agricultural economy. The main cash crops in the Far North are cotton, groundnuts, onions, rice, and sorghum – the primary subsistence crop. The production and marketing of cotton, the main cash crop in the

⁷⁹ Some authors reach conclusions about individual pastoralists based on macro-economic data (Dietz, et al., 2001) but there are serious limitations to this line of reasoning. An increase in the number of cattle for sale on livestock markets in the Far North, for example, does not necessarily mean that local pastoralists are selling more cattle (or a higher percentage of the cattle in their herds). The cattle might come from outside the province and reflect improved infrastructure and security in Chad, or greater insecurity and cattle raiding in Sudan (Jok 2001).

province, is organized by Sodecoton, which is a joint venture of the Cameroonian state and the French Compagnie Française pour le Développement des Fibres Textiles (CFDT)(Roupsard 1987). Sodecoton is considered the motor behind the modernization and intensification of agriculture through agricultural extension and introduction of ploughs, fertilizers, and insecticides (Roupsard 1987). Sodecoton has also become the motor behind the transformation of pastoral systems in the Far North. Fisheries in the Logone Flood Plain and Lake Maga is another source of income for many who dry fish and sell it for local consumption and regional export to Nigeria.

There is little industry in the Far North. Commercial artisan production is mainly limited to leatherwork, which is sold locally as well as exported to Gabon. An important economic activity is trade: import/export, smuggling, wholesale, and retail. The general trade pattern follows that of the colonial period, with primary agricultural goods exported to Nigeria and manufactured goods imported from Nigeria (Southern Cameroon is less important for the economy of the Far North than Nigeria). Borno State in Nigeria, which borders the Far North on the west, continues to be the economic lungs of the Far North as in pre-colonial times (Seignobos 2000f). The population of the Far North is considered the poorest within Cameroon and poverty remains the most pressing problem for the rural population, which makes up 80% of its population (PNUD 1998).

Cameroon was relatively well off in the 1970s because of its oil resources, minerals (e.g., bauxite, iron ore), and favorable agricultural conditions. However, the country has been in a major economic crisis since 1985, partly because of a fall in commodity prices combined with IMF structural adjustment programs and market

reforms. The devaluation of the common currency of Francophone West and Central Africa, the FCFA in 1994 improved the competitive position of Cameroon in the global and regional economy somewhat, in particular, in relation to Nigeria. Towards the end of the 1990s, the economy rebounded with people in the Far North investing in business and property.

Infrastructure in the Far North is relatively well developed along certain axes; paved roads connect the major cities Maroua, Garoua, Ngaoundéré, and N'djamena, the capital of Chad (see map 3.1). The majority of the roads are dirt roads, which makes travel in the rainy season more difficult but not impossible. The challenge derives from the seasonal rivers, *maaje* (singular *mayo*), that overflow and block roads temporarily. An elaborate system of 'public' transport links the towns and villages in the province. Traffic increases significantly on market days when traders use public transport to bring goods to the market. The number and size of the weekly markets, which includes livestock, continues to increase; in 2000, a new livestock market opened in Guidiguis.

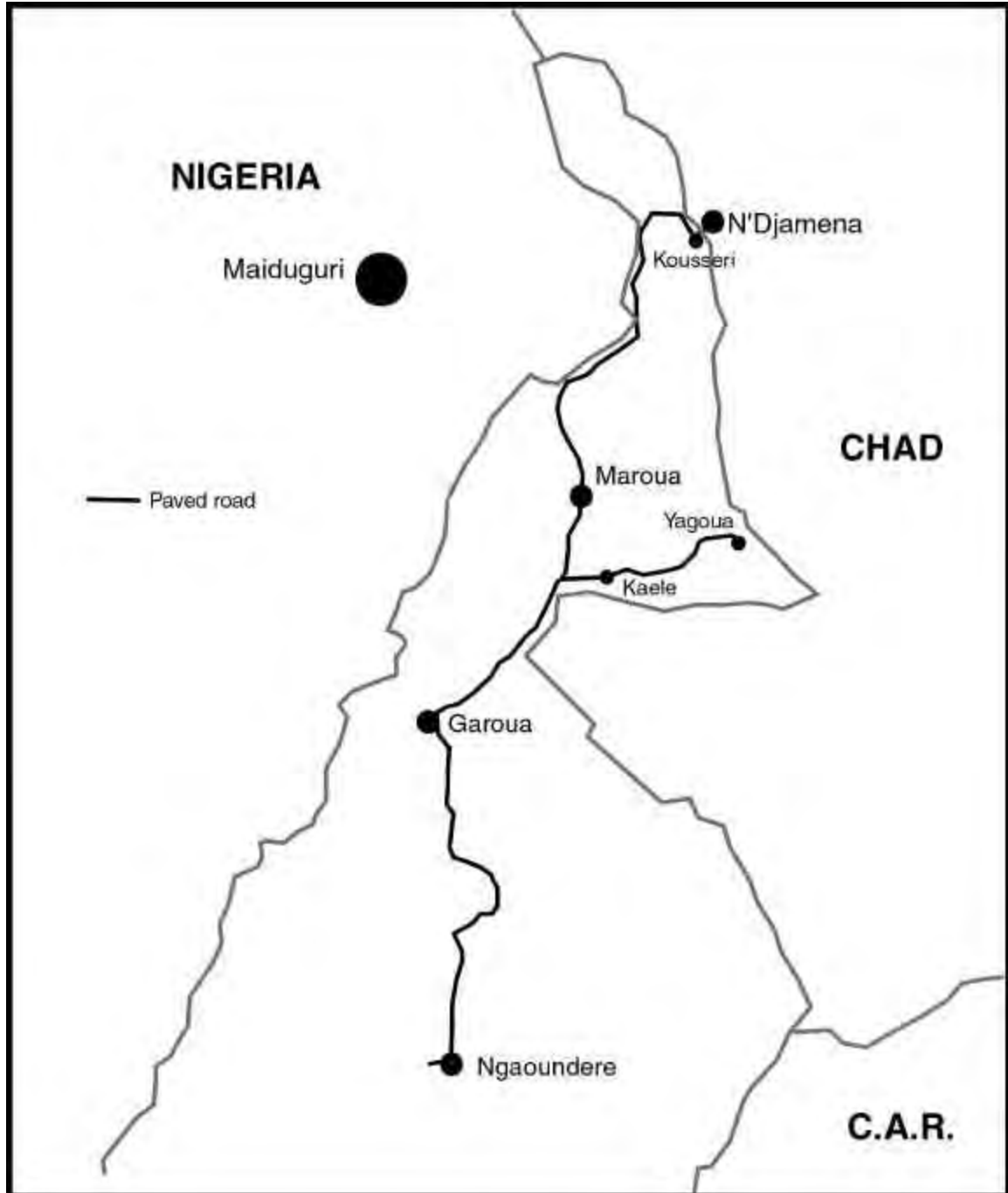
The pastoral economy is an important economic sector in the Far North. Twenty-five percent of the national herd is located there and cattle provide a significant source of income for thirty percent of the rural population in the province (Njoya, et al., 1996). The main pastoral groups are the FulBe in the Diamaré and Arabs (called Shuwa) in the Logone-Chari. The dry season rangelands of the Logone Flood Plain and the plains of the Diamaré make the Far North very suitable for pastoral development. However, estimations of livestock numbers show a decrease in the number of cattle in the province

over the last two decades (Beauvilain 1981, 1985, 1989; Marty 1992; Seignobos 2000a, 2000b).

An estimated 100,000 cattle, 130,000 sheep, and 200,000 goats are sold annually at local livestock markets throughout the Far North (see also, Frechou 1966). The pastoral economy represents an estimated 37.7 million U.S. dollar market, which makes it the most significant agricultural sector in the Far North.⁸⁰ There are approximately 25 different weekly cattle markets in the Far North and new ones continue to open. Sales volume at the markets currently ranges from 25 in Mindif to 1,000 cattle sold per week in Moulvoudaye. The volume at the Maroua market increased more than 100% from 2,800 cattle in 1995 to 6,200 cattle in 2000 (data from MINEPIA). The Nigerian demand, which is fueled by its large population and high rate of urbanization, remains the driving force behind the pastoral economy in the Far North. In short, the pastoral economy of the Far North is a dynamic sector that continues to grow and expand.

⁸⁰ This takes into account the following: cattle sales 21.5 million, dairy sales 15.9 million, and hides and skins production 0.3 million US dollars. The other agricultural sectors are: cotton production 24 million US dollars, rice production about 6.5 million US dollars, and vegetable gardens about 8 million US dollars (Iyébi-Mandjek 2000; Rounsard 2000a; Rounsard 2000b). The almost 8,000 cultivators of gardens had revenues from 500,000 to 1,000,000 FCFA a year in 1985, which means 6 billion FCFA (Iyébi-Mandjek 2000). In the same year (1985), 120,000 ton of cotton was produced for a price of 150 FCFA per kilogram, which amounts to about 18 billion FCFA per year (Rounsard 2000a). The cultivation of paddy rice in the Far North Province amounts to 60,000 ton for a price of 78 FCFA per kilogram for the farmer, which amounts to about 5 billion FCFA (Rounsard 2000b).

Map 3.1: Infrastructure in Northern Cameroon



There are only a few paved roads in northern Cameroon. They connect the provincial capitals – Maroua, Garoua, and Ngaoundere – and a few other towns.

International Livestock Trade

The Cameroonian government since independence in 1960 has interfered little in the pastoral economy. Its policy follows the colonial era of supporting and developing the existing infrastructure of the regional and international livestock trade from Chad and Cameroon to Nigeria. Various aspects of the international livestock trade, e.g., transit taxes, import taxes, vaccination requirements, and trekking routes, have officially been regulated in a number of treaties by the governments of Chad, Central African Republic, Cameroon, and Nigeria. In practice, however, the international livestock trade remains an informal economy that is barely touched by the governments of the different states. Most flows of cross-border trade networks are unregistered and illegal; “traders in general do not seem to be bound by a legal exchange sphere, demarcated by import prohibitions, regulations, and taxes” (de Haan 1999:223). Official numbers seriously underestimate the volume of the international livestock trade (Beauvilain 1985:102; Frechou 1966). This makes it difficult to assess the volume of the cattle transit from Chad and Cameroon to Nigeria. The unofficial estimate is that somewhere between 400,000 and 600,000 cattle are exported annually to Nigeria, either from Chad via Cameroon, or directly from Cameroon (Marty 1992:15).⁸¹ The official estimates are 90% lower.

⁸¹ Not only are animals from Cameroon and Chad exported to Nigeria; the westward flow of trade cattle also includes animals from Sudan (personal communication veterinary assistant in Bogo).

Sanitary Barrier

There is an additional reason why the pastoral economy of the Far North is so strongly tied to the Nigerian economy; cattle from the northern provinces cannot be transported to the urban consumers in the southern cities of Yaoundé and Douala.⁸² A sanitary barrier was established just north of Ngaoundéré to halt the spread of trypanosomiasis to the south. It is unclear whether it is truly a sanitary barrier or a commercial barrier that protects the marketing interests of ranchers in the Adamawa, many of whom are ministers or other high government officials, since trypanosomiasis had already crossed the barrier in the 1920s. It also is unclear whether the quarantine actually redirected much trade cattle from North to South Cameroon. Nigerian demand for cattle in neighboring Borno State was probably far stronger than that from southern Cameroon. The quarantine then only consolidated the pre-colonial pattern of exports of trade cattle from the Far North to Nigeria.

Livestock Markets

⁸² Southern Cameroonian consumers in Yaoundé and Douala are instead provided by livestock from Chad, the Central African Republic, and the Adamawa Province.

Most of the cattle sold on livestock markets in the Far North are exported to Nigeria. This flow of trade cattle from east to west also structures the livestock trade within the province; livestock prices are lower in the east than in the west (see map 3.2). The demand from Nigeria has become increasingly more important in fixing the prices at the local livestock markets in the Far North (on Niger see, Fafchamps and Gavian 1996a). Over the last five years, the demand from Nigeria has been so strong that livestock prices remained constantly high, even during the rainy season when prices formerly used to drop. This means that local economic and climatic fluctuations do not affect the livestock prices and trade as strongly as before, and that pastoralists in the Far North have become more protected from local droughts and disasters (Beauvilain 1985:106-7).⁸³

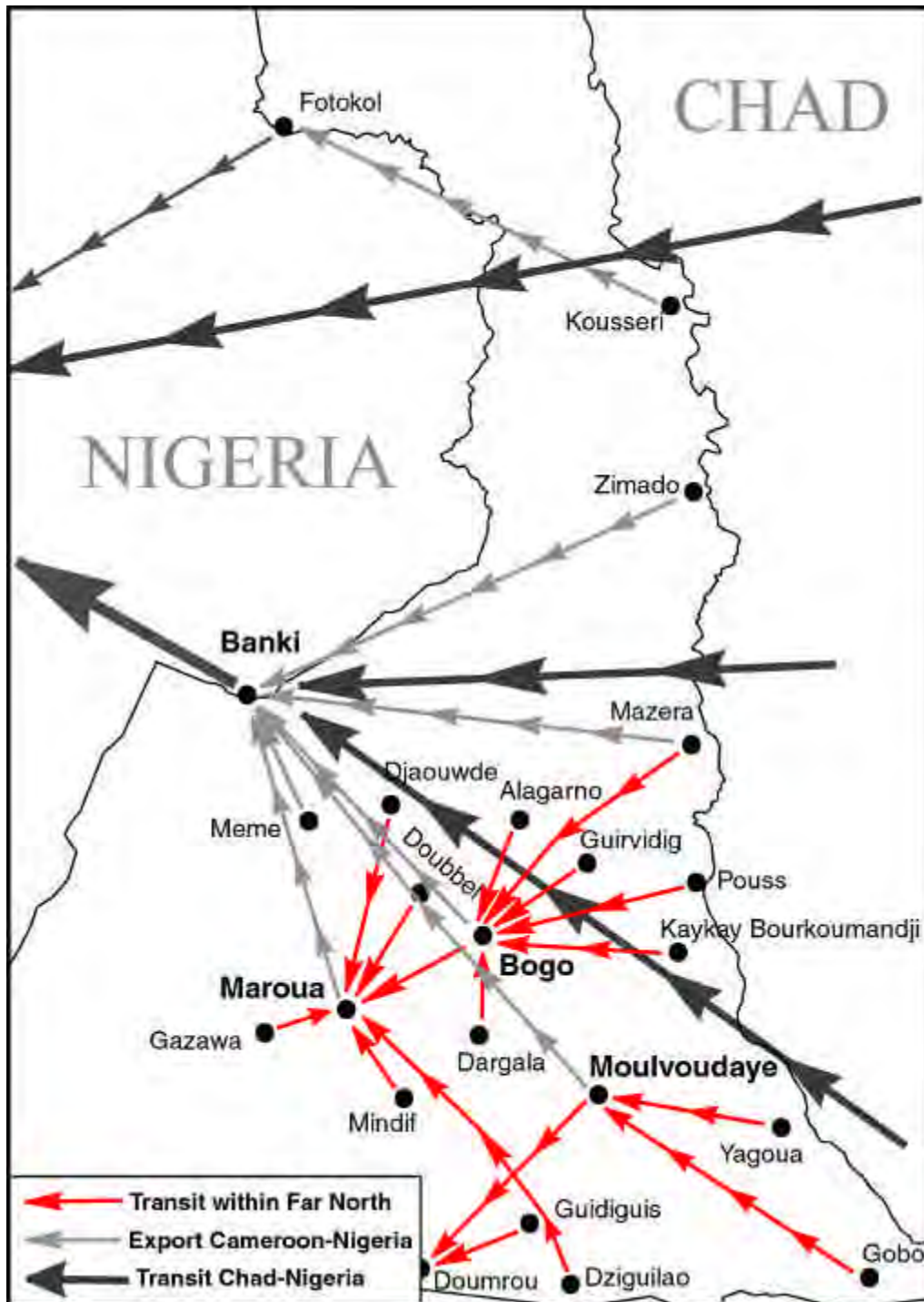
Previously, during droughts in the Sudan-Sahelian zone of West Africa, cereal prices and livestock prices were negatively correlated; cereal prices would skyrocket while livestock prices plummeted (Sen 1981:121; Sutter 1990:360). Now Nigerian demand determines livestock prices in the Far North, they no longer co-vary as strongly with local ecological risks such as drought and epizootics (for similar trend in Niger see,

⁸³ Because demand for trade cattle is not affected by local conditions, livestock prices do not drop immediately when disasters strikes, save under extraordinary circumstances. This was the case, for example during the dry season of 1998, a year of drought, when an epizootic of Hemorrhagic septicemia (*kiikoyel*) ravaged the Logone Flood Plain. Animals affected by Hemorrhagic septicemia they have only 10% chance of survival, and most animals affected die within a day. FulBe refer to the dry season of 1998 as *hitaande banga banga* (the year of banga banga, which is another name for Hemorrhagic septicemia). Many pastoralists in the flood plain were selling their dying animals at the same time and this led to a dramatic drop in cattle prices on the Mazera market, one of the biggest livestock markets in the dry season transhumance area of the Logone Flood Plain. Some animals were sold for less than 10,000 FCFA (\$13). This was the price of half a 100-kilogram sack of sorghum. Other livestock markets in the Far North, however, were less affected because the epizootic was so localized.

Fafchamps and Gavian 1996a). However, the dependence of Nigerian demands means that the local livestock trade in the Far North is affected by other factors such as fluctuations in the exchange rate of the FCFA and the Naira, the Nigerian currency, and the world oil market.⁸⁴ In the 1980s, the Nigerian economic crisis and unfavorable exchange rates caused a decrease in demand for livestock, which provoked a recession in the pastoral economy of the Far North that lasted for a decade. Since the devaluation of the FCFA in 1994 by 50%, demand and livestock prices have steadily climbed and cattle have become a valuable commodity in the Far North. It is unclear whether the advantages of pastoralists' incorporation into the global market economy outweigh the disadvantages of market risks.

⁸⁴ During the oil boom in Nigeria, which started in the early 1970s and peaked in the early 1980s, the number of cattle traded in northeast Nigeria increased threefold (Kerven 1992).

Map 3.2: Livestock Markets and Trade Cattle Transit in the Far North Province



The flow of trade cattle goes from east to west. Some cattle are directly exported from Chad to Nigeria; others are sold in Cameroon and then exported to Nigeria.

Dairy Marketing

Unlike the livestock trade, which is an international economy, dairy marketing is primarily a local economy due to the lack of pasteurization and refrigeration. It is traditionally dominated by pastoral FulBe women who process fresh milk (*BiraaDam*) into sour milk (*pendiiDam*), butter (*leeBol*), and/or yogurt (*nyallunde*) and market these products door-to-door or at markets in nearby villages. Women transport the sour milk and the butter in a special gourd (*fendirde*, plural *pendirDe*) that also serves as an advertisement.⁸⁵ The local dairy economy is the most understudied sector of the pastoral economy in the Far North, despite its importance for local consumers and producers (for an exception see, Mbanya, et al., 1995). My estimates suggest that the dairy sector in the Far North represents an annual value of 15.9 million U.S. dollars.⁸⁶ The demand for local dairy products in Maroua is strong and has recently fueled major changes in dairy marketing in the peri-urban area.⁸⁷

⁸⁵ Butter is sold in small balls (*tepaawol*, plural *tepaaji*) of 50 to 100 grams, while sour milk is sold per *horde* (spoon shaped gourd with a size ranging from about 75 to 300 ml). FulBe women in the Diamaré use a standard gourd to transport their milk: the *fendirde*. The *fendirde* is about 60 centimeters in diameter and can contain up to 20 liters of milk (the butter is transported floating in the sour milk).

⁸⁶ There are an estimated 640,000 cattle in the Far North. Average percentage of females in my sample is 75%. The fecundity rate is .52 (Njoya, et al., 1997a). I assume that one liter a day per lactating cow is marketed. Calves are weaned after seven months and the household continues to milk for another month, which adds up to eight months. One liter processed into sour milk and butter is sold for 200 FCFA (\$0.25).

⁸⁷ In addition to the marketing of local dairy products, there is also a small urban market for industrial processed milk products from the Adamawa Province, but there is no industrial production of dairy products in the Far North. Two national yogurt brands are sold in Maroua: *Kossam* (milk in Fulfulde) and *Yaourt So Ngnintsa*. The yogurt container of 12.5 centiliter cost about 175 to 200 FCFA (\$0.25) and are only sold in urban markets with dependable electricity (see also, Essomba, et al., 2002).

One major change is that dairy marketing is no longer solely the domain of pastoral women. Non-pastoral and non-FulBe traders, male and female, have entered the dairy economy in Maroua, and are acting as intermediaries who buy dairy products from pastoral producers and sell them to urban consumers. It is becoming increasingly uncommon for female pastoral producers themselves to sell dairy products directly to consumers in the urban area of Maroua. The marketing of dairy products has become a profession; *Dum sanaa'a* (it is a profession) as peri-urban FulBe said.

In response to the growing urban demand, dairy processing has also changed. In order to increase their profits, FulBe women use different milk processing techniques to extract more fat from the milk because butter fetches higher prices than sour milk: 1,000 FCFA (\$1.35) per kilogram versus 160 FCFA (\$0.21) for a liter of sour milk (Mbanya, et al., 1995: 52).⁸⁸ In addition, FulBe women and other older, non-pastoral, non-FulBe dairy maids (*FulBerewBe*, literally 'old women') often added water to the sour milk to increase volume and profits (cf., Buhl 1999; Waters-Bayer 1985). Peri-urban FulBe pastoralists suggested that the increase in watered-down milk was associated with the commercialization of milk by non-pastoral, non-FulBe women.

Traditionally fresh whole milk was not or rarely sold by FulBe (Buhl 1999:239; Buhl and Homewood 2000; Waters-Bayer 1985). FulBe told me that fresh whole milk was only consumed within the household and could not be sold. It was not sold because of cultural taboos but also its very short shelf life at room temperature, about 4 to 5

⁸⁸ Peri-urban FulBe women extract more fat from the milk through repetitive pouring and removing the fatty foam (*kettungol*) that it generates. The remaining sour milk is practically fat-free.

hours.⁸⁹ Today, however, fresh whole milk was sold from the corral or compound early in the morning right after milking, directly to consumers but also to intermediaries in the peri-urban area of Maroua. Male merchants bought milk directly from a number of producers and then sold it to wealthier urban consumers or restaurants. An increasing number of Maroua restaurants have cooling facilities and could serve their customers fresh milk throughout the day.⁹⁰ Other traders delivered fresh whole milk on their bicycles directly to wealthy urban consumers with refrigerators.

The effects of the growing urban demand for dairy products extends beyond the peri-urban area, even to the distant transhumance area of the Logone Flood Plain. Maroua merchants regularly travel to the Saturday market of Guirvidig, about 60 kilometers east of Maroua, to buy sour milk by the gallon from local pastoral FulBe women and nomadic FulBe women.⁹¹

⁸⁹ Since the temperatures in the Far North exceed room temperature, commercialization of fresh milk at markets is not economic. Fresh milk obtained at 6:00 in the morning curdles by 10:00 in the morning (Mbanya, et al., 1995). Sour milk, on the other hand, can be kept much longer, for several days. An additional reason why sour milk and butter are marketed instead of fresh whole milk is that FulBe women earn more when they sell sour milk and butter separately. Although fresh milk is more expensive than skimmed sour milk because of its higher fat content, the revenues of sour milk and butter together are higher according to FulBe women (but this has been questioned Boutrais 2002:7).

⁹⁰ One trader collected fresh whole milk every day from FulBe women in the peri-urban area of Maroua. He supplied a number of restaurants in Maroua daily on his motorcycle and paid the women at the end of the week (for similar development in N'djamena see, Duteurte, et al., 2002).

⁹¹ The large number of transhumant pastoralists at the shores of Lake Maga south of Guirvidig (Ndiyam Shinwa) guaranteed a significant and steady supply of milk in Guirvidig. The Maroua merchants brought large plastic jerry cans to transport the milk. In Maroua, the milk was conserved in the same gourds from which the women sell the milk. The sour milk was sold throughout the week by women. The locals in Guirvidig complained that the merchants were buying all the milk and do not leave enough for the local population. During the Muslim month of fasting, the Ramadan, FulBe in the Far North break the daily fast with *gaari*, a porridge in which sour milk is one of the favored ingredients. As a result, during the Ramadan, demand is high for sour milk. In 2000, Maroua merchants went to the Saturday market of Araynaba in the Logone Flood Plain to buy sour milk from pastoral women on transhumance. Araynaba is more than a three-hour drive to the east from Maroua (and a seven-hour roundtrip). Maroua merchants also

While other scholars have documented that commercialization is associated with increasing control of men over milk within the household (Hush-Ashmore 1996; Oboler 1996), the developments in the Far North show this is also true outside pastoral households in the public dairy economy. Moreover, the fact that men have entered the dairy economy using motorized transportation is an indication of a growing and profitable dairy market in the urban and peri-urban areas (for a similar development in Ngaoundéré and N'djamena see, Boutrais 2002; Duteurte, et al., 2002; Essomba, et al., 2002).⁹²

Hides and Skins

Other products of slaughtered animals, hides and skins, form another longstanding component of the pastoral economy in the Chad Basin. Hides, skins, and leather goods from the Chad Basin were sold across the Sahara as early as the seventeenth century (Adebayo 1992). Today, the hides and skins industry represents a market volume of an

bought milk in Mindif, 25 kilometers to the south of Maroua, by the gallon. The young men on the motorcycles one sees on the road with jerry cans are today no longer transporting Nigerian gasoline, but sour milk.

⁹² Despite the evidence of a dynamic and booming local dairy economy, some researchers and development organizations have argued that there is no market for local dairy products (Barazandeh 1997; BONIFICA 1992; Bulteau 1997; Njoya, et al., 1997d). Maybe the researchers have only eye for 'modern' dairy industry and overlook the growth of the informal dairy economy.

estimated 300,000 US dollars annually.⁹³ The tanning process is in the hands of indigenous or local trader-tanners, who buy hides and skins of small stock and cattle from butchers and people who have slaughtered animals for auto-consumption. They tan the hides and then sell them directly to local leatherworkers or to the NOTACAM – a partially state-owned company that has the monopoly on buying and selling tanned leather (there are some clandestine exports to Nigeria where prices are higher). Leather goods are sold locally or exported to Gabon.

Veterinary Services

The greatest effort of the Cameroonian government concerned the development of veterinary services, which was a continuation of colonial policies. Obligatory vaccinations were provided gratis by the colonial and Cameroonian administrations, and consequently veterinarians were very popular among pastoralists, because improved animal health directly affected herd growth (Boutrais 1992). Since 1980, the vaccinations are no longer free and today cost 375 FCFA (\$0.50) per animal per year (which is less

⁹³ This is based on the following numbers: 33,142 cattle were slaughtered in 1994-1995 (MINEPIA) times 5,000 FCFA per hide add up to 165,710,000. An estimated 50,000 small stock (in 1983 25,000 were sold in Bogo times 1,300 FCFA per skin is 65,000,000. Together this is more than 230 million FCFA or over 300,000 US dollars annually.

than 1% of the animal's market value).⁹⁴ Consequently, the popularity of veterinarians has decreased considerably, and many pastoralists now consider vaccinations unreasonable taxes.

The veterinary infrastructure in northern Cameroon is well developed. Veterinary nurses are trained locally at the veterinary school in Maroua. While veterinarians are trained at LANAVET (*Laboratoire National Vétérinaire*) in Garoua, which also produces vaccines, diagnoses diseases, and surveys epizootics. In the last thirty years, the number of local veterinary centers, responsible for vaccinations, in the Far North has almost doubled from 13 in 1966 to 22 in 1999 serving approximately 600,000 cattle (Frechou 1966). More were added during my fieldwork.

Another, more recent development, the liberalization of veterinary care, which is part of the Structural Adjustment Programs (SAP) that the Cameroonian government is implementing under pressure of the International Monetary Fund (IMF) has further improved veterinary care. The end of the state monopoly on veterinary care has led to a rapid increase in private clinics and vendors of veterinary medicines and vaccines. The overall result is greater access to reliable veterinary services for pastoralists throughout the province and in particular close to the urban center of Maroua.

⁹⁴ In 2001, cattle were vaccinated for black quarter, bacterial anthrax, Hemorrhagic septicaemia, and Bovine pleuropneumonia.

Corruption

The greatest impediments to the development of the pastoral economy are not the official policies of the Cameroonian government, but the informal politics of its bureaucrats, what has been called the *politics of the belly* (Bayart 1993). The politics of the belly is a Cameroonian expression, which has numerous equivalents throughout sub-Saharan Africa. It denotes (primarily, but not only) the accumulation of wealth through tenure of political power implied by the proverb: ‘the goat grazes wherever it is tied’ (Bayart, et al., 1999). “What all African states share is a generalized system of patrimonialism and an acute degree of apparent disorder, as evidenced by a high level of governmental and administrative inefficiency, a lack of institutionalization, a general disregard for the rules of the formal political and economic sectors, and a universal resort to personal(ized) and vertical solutions to societal problems (Chabal and Daloz 1999: xix).

This condition of the African state, often glossed as corruption, both facilitates and impedes the development of the pastoral economy, in particular the livestock trade. Cameroonian authorities in northern Cameroon facilitate trade by generously providing export licenses and by partial levying of the various ‘pastoral’ taxes (e.g., property tax, sales tax, customs) many of which are never paid by pastoralists (Boutrais, et al., 1992:4). Moreover, the largest share of these taxes enters the pockets of the state’s representatives rather than the treasury’s (Olivier de Sardan 1996). The volume of the pastoral economy

means that the government posts in towns with sizeable livestock markets were coveted by many in the ruling political parties, and that the appointment of a veterinarian was always a political (and patrimonial) decision.

Corruption can also impede the development of the pastoral economy. In 2000, a political conflict between the ruling national party and an opposition party led to the downfall of the Bogo livestock market, which was until then the largest in the Far North province. Instead of facilitating the livestock trade by levying lower than the official custom rates from Chadian traders (and pocketing it as personal income), government officials strictly enforced the existing laws and regulations by asking them for identification and demanding the official custom rates. After one month of ‘harassment’, Chadian traders took their cattle directly to Nigeria bypassing the Bogo market, where market volume declined from 1,000 to a mere 100 cattle per week.⁹⁵

Terms of Trade

⁹⁵ A similar thing happened in the 1960s in Moulvoudaye, which was then the biggest livestock market in the Far North. However, when customs officers confiscated 644 cattle on 14 February 1969, the market slipped and sales dropped from 5,288 in January to 1,917 a month in February (Beauvilain 1985:99). Since then, the flow of Chadian trade cattle was redirected via the less populated areas north of Bogo. The market of Moulvoudaye did not really recover and the Bogo took over the position of the largest livestock market (Beauvilain 1985). However, due to similar ‘bureaucratic obstructions’ Bogo lost its position of largest livestock market to Moulvoudaye in the summer of 2000.

Since the diet of all FulBe pastoralists in the Far North consist predominantly of sorghum, it is important to know what the terms of trade are for pastoral products in relation to sorghum. Generally, researchers calculate the terms of trade for cattle and cereals, but in many cases, it would be more appropriate to calculate the terms of trade for milk and cereals because milk rather than animals is marketed by FulBe households to purchase sorghum. The problem is that there are very few data on milk prices over the last decades.⁹⁶

Recent studies focusing on caloric terms of trade show that pastoralists generally receive more calories when they exchange cattle for cereals (Dietz, et al., 2001; Zaal 1998).⁹⁷ A comparative study of ten African pastoral societies based on data from the literature shows that caloric terms of trade range from 1:1 in drought years to 20:1 in good years for cattle and cereals, in which a ratio lower than 1 is negative and anything above 1 positive for pastoralists (Dietz, et al., 2001). For West Africa Dietz et al., reported caloric terms of trade for cattle and cereals that ranged from 6 to 20 (Dietz, et al., 2001).

The caloric terms of trade for cattle and sorghum in the Far North Province have long been in favor of pastoralists; ranging from 3.8 during the 1973 drought to 46.2 in

⁹⁶ This lack of data on milk marketing is partly due to the fact that production and marketing are more difficult to measure than the marketing of animals, but the focus on cattle also reflects a male bias since milk is generally the female domain in pastoral societies.

⁹⁷ In fact, there is no evidence that the caloric terms of trade have ever been disadvantageous for African pastoralists. I do not think that the caloric terms of trade is a good indicator to assess the economic position of pastoral households within a particular region, but it allows for comparative study. My main objections to the use of the caloric terms of trade are: pastoralists do not trade calories but animals; animals unlike calories, are bulky goods; it is unclear how meat and animal prices are correlated; and, finally, terms of trade expressed in kilograms of sorghum is more meaningful for pastoralists and researchers concerned with household economics.

2000, with an average of 16.8 (see table 3.1 and figure 3.1).⁹⁸ The caloric terms of trade for milk and sorghum over the last five years were also in favor of pastoralists, ranging between 3.9 and 19.1 with an average of 9.7. For nomadic pastoral households who do not cultivate sorghum, this means that dairy sales potentially cover the sorghum needs of a household in the rainy and cool dry season. In the hot dry season, the household would need to sell one or two cattle to buy additional sorghum. This does not take into account expenditures such as taxes, clothing, healthcare, tea, sugar, kola nuts, and other food items.

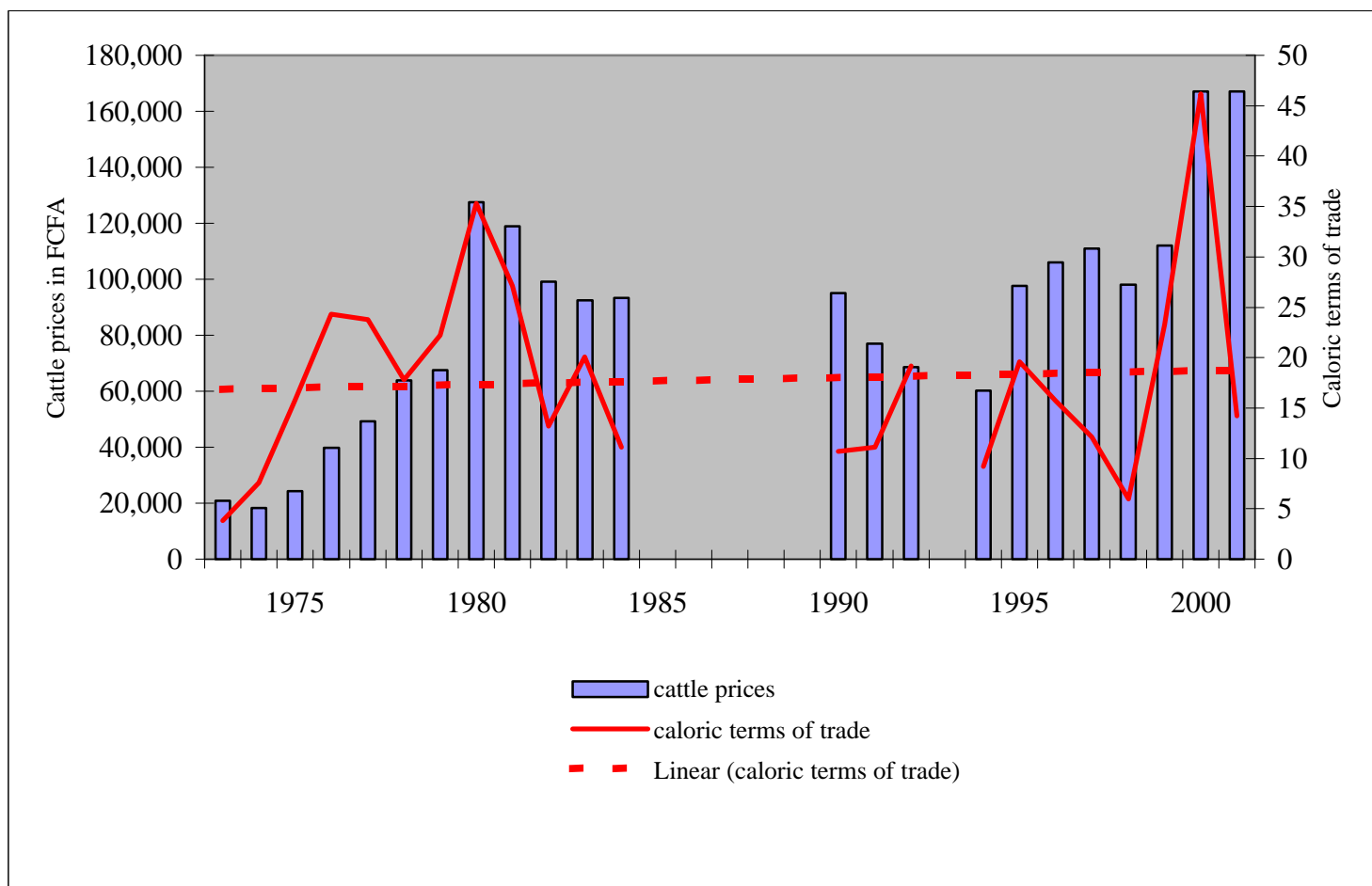
⁹⁸ The assumptions are that a liter of milk has 800 kcal, a kilogram of sorghum 3,500 kcal, and a kilogram of meat 2,300 kcal, and that the average net weight of cattle is 100 kilograms (Zaal 1998). There is considerable fluctuation in the terms of trade over time. My analyses show that there is no correlation with changes in rainfall patterns and that there is weak relation to changes in exchange rate. Similar analyses in Niger showed livestock prices were correlated to droughts (but not rainfall) and international livestock demand from Nigeria (Fafchamps and Gavian 1997).

Table 3.1: Relative Prices of Sorghum and Cattle, 1906-2001

	Sorghum Price per Kilo	Cattle Price (Bull)	Caloric Terms of Trade
1906	0	10	30.4
1927	1	200	3.0
1930	0	45	6.8
1932	0	70	5.3
1973	83	20,800	3.8
1974	37	18,200	7.6
1975	24	24,400	15.8
1976	25	39,800	24.3
1977	31	49,200	23.8
1978	55	63,800	17.8
1979	46	67,600	22.2
1980	55	127,490	35.3
1981	67	118,905	27.1
1982	114	99,055	13.2
1983	70	92,475	20.1
1984	128	93,240	11.1
1990	135	95,000	10.7
1991	106	77,000	11.1
1992	55	68,709	19.2
1994	100	60,269	9.2
1995	76	97,697	19.6
1996	103	106,000	15.7
1997	140	111,000	12.1
1998	249	98,000	6.0
1999	73	112,000	23.3
2000	55	167,000	46.2
2001	179	167,000	14.2
Average			16.8
SD			10.2

* 1906 currency is in Thaler; 1927, 1930, and 1932 are in FF; the remainder is in FCFA.
Data from (Beauvilain 1985; 1989; Timmermans 1998; MINEPIA)

Figure 3.1: Cattle Prices and Caloric Terms of Trade, 1973-2001



Linear (caloric terms of trade) represents a trend line, which suggests that there is no structural change in the caloric terms of trade of sorghum and cattle over the last 25 years.

SUMMARY

Historically, FulBe pastoralists have lived in or at the margins of precolonial states in the greater Chad Basin where they participated in the market economy through sales of pastoral products and consumption of market goods. The pastoral economy has connected FulBe pastoralists to coastal West and North Africa for centuries and continues to be an important and growing economic sector in the greater Chad Basin. Colonial and postcolonial government policies generally have focused on supporting the existing infrastructure of the indigenous livestock trade, rather than intervening directly in the pastoral production system of individual households. As a result, the pastoral economy generally has been advantageous for FulBe pastoralists in the Far North as is indicated by the terms of trade of pastoral products and sorghum. What the discussion of the pastoral economy in the greater Chad Basin does not show is how individual FulBe pastoralists in the three villages participated in these macro-economic structures, which is what I will examine in the next chapter.

CHAPTER 4: MARKET INCORPORATION

INTRODUCTION

Market incorporation has been held responsible for radical changes in pastoral societies, however it is important to discern between different forms and degrees of pastoralists' incorporation in the market economy in order to pinpoint whether and how market incorporation is responsible for the transformation of the peri-urban pastoral system.

History shows that pastoralism has been an important economic sector in the greater Chad Basin for centuries; however, the historical data on livestock trade and traders reveals little about the participation of individual FulBe pastoralists in the market economy. It can be deduced that they were connected to the larger market economy but there is little to no information on the extent of their participation.

In this chapter, I will qualify the incorporation of FulBe pastoralists in the three villages in the market economy along several dimensions in order to assess whether market incorporation in general or a particular form of it is responsible for the transformation of the peri-urban pastoral system. I will argue that it is not the commoditization of pastoral products or the consumption of market goods but rather the commoditization of production inputs, i.e., the substitution of free forage with costly

cottonseed cakes that is partly responsible for the transformation of the peri-urban pastoral system.

DEFINING MARKET INCORPORATION

One of the problems of the cross-cultural comparisons of pastoralists' incorporation into the market economy is that incorporation, integration, commoditization, and articulation can refer so many different economic behaviors and are often used interchangeably. Is market integration primarily about the commoditization of pastoral products, about increased dependence on the market for consumption goods, or about privatization of pastoral resources that were formerly held in common? Clearly, there is variation in the forms and degrees of market incorporation of pastoral societies. However, there is also variation within pastoral societies; not all economic activities are equally informed or affected by the market principles of supply and demand nor are all pastoralists in a society incorporated in the market economy in the same way or to the same degree.

The question is how to assess market incorporation of pastoralists. One can assess the degree and forms of market incorporation along a number of different dimensions, which I will briefly discuss here.

1) Commoditization of pastoral products

- 2) Consumption of market goods
- 3) Monetary income from non-pastoral sources
- 4) Commoditization of production inputs
- 5) Market-oriented production
- 6) Market exchanges within pastoral society

The first dimension is the commoditization and marketing of pastoral products (e.g., meat, wool, milk, animals), which means that animals in addition to a use and social value also have an exchange value. Commoditization does not mean, however, that the exchange value always outweighs the use and/or social value of livestock (Swift 1979). However, when livestock only has exchange value, pastoral production has become market-oriented rather than subsistence-oriented (dimension five).

The second dimension concerns the consumption of market goods including both food and non-food items. Dietz et al. (2001:194-5) make a distinction between food and non-food consumption items in their discussion of the commercialization process of pastoral societies, which is unnecessary because to my knowledge pastoralists that buy food items (e.g., cereals) also buy non-food items (e.g., beads, clothes) and vice versa.

The third dimension is the contribution of monetary income from non-pastoral sources to pastoral households. Many pastoralists are what Salzman calls multiple-resource pastoralists (Salzman 1972; Salzman 2000:89) meaning they pursue multiple subsistence and market strategies in addition to pastoralism, for example agriculture, wage labor, crafts, hunting, and trade. When pastoralists engage in strategies that involve monetary income from non-pastoral sources through trade or wage labor, they become

more incorporated into the market economy. Again, this does not necessarily mean that pastoralists are no longer subsistence oriented only that they have they have additional sources of income for subsistence.

The fourth dimension is the commoditization of production inputs, which marks a radical transformation for a production system that is based on the exploitation of free natural pastures. The commoditization of production inputs (or means of production) can take many forms that range from the exchange of sorghum stalks for manure with neighboring farmers to the purchase of commercially produced salt to the use of wage labor and the privatization of grazing land. The commoditization of production inputs does not necessarily lead to a market-oriented production system. However, it can lead to a capitalist production system when animals, labor, and land have become commodities bought and brought together by capital.

The fifth dimension of market incorporation is whether the production is subsistence or market-oriented (cf., Salzman 2000:90)⁹⁹ or, in other words, whether pastoralists are capitalists or not. Market-oriented production implies that pastoralists raise animals primarily to make a profit and that they sell animals, wool, or dairy products when the prices are high, not when they have to meet household needs. When pastoral products are commodities in the global market economy and pastoralists are integrated in the world market system, it does not make the producers capitalists (cf.,

⁹⁹ However, Salzman mistakenly classifies pastoral FulBe as a market-oriented economy based on the argument that the cattle they sell are exported to coastal West Africa (Salzman 2000:358).

Bradburd 1990:168). When pastoralists sell animals at the market, it does not automatically mean that they are producing for the market.

One could argue that when they sell animals to meet the social and biological needs of the household, their production is subsistence-oriented (called indirect subsistence by Spooner 1973:3). Some pastoral strategies are more clearly oriented to subsistence, e.g., nomadic pastoralists who sell enough animals to provision the family but no more; while other strategies are more oriented to the market, e.g., sedentary pastoralists who buy exhausted animals at the market to fatten and resell them for a profit. However, the distinction between subsistence and market systems is overly simplistic (Salzman 1981:161). Social and biological subsistence needs are always locally defined (and thus to a certain extent arbitrary). Pastoralists, even when they raise animals to feed, clothe, house, and marry their dependents, want the highest price for their animals or animal products. On the other hand, pastoralists who fatten animals for the market, use the profits to feed, clothe, house, and marry their dependents. It is therefore more appropriate to write about subsistence- and market-oriented strategies rather than subsistence- and market-oriented pastoralists, but even then, the terms remain ambiguous.

The sixth dimension is whether market exchange is the predominant form of exchange within a society or not. The general idea is that pastoralists (like peasants) engage in market exchanges at the market where they sell their animals and buy their cereals, but follow other principles of exchange among kin and other pastoralists (e.g., generalized or balanced reciprocity)(Sahlins 1972; Shipton 1989). When pastoralists

follow market principles in exchanges with other pastoralists or within the household, this can be interpreted as a sign that they are more incorporated in the market economy. The more they follow these market principles in different social exchanges, the more capitalistic their society becomes.

The dimensions do not represent necessarily an evolutionary scale of market incorporation, though dimensions 2 and 4 require that dimensions 1 or 3 are also true. Nor are these dimensions automatically linked; commoditization of pastoral products or production inputs does not lead necessarily to market-oriented production. Pastoralists can be simultaneously incorporated in the market economy along one or more dimensions to different degrees. The dimensions are analytical categories that allow me to qualify the incorporation of FulBe pastoralists in the market economy of the greater Chad Basin and assess its role in the transformation of the peri-urban pastoral system.

Commoditization of Pastoral Products

Animals and animal products have been commodities sold by FulBe pastoralists in the Far North for centuries. Cattle not only have commercial value; FulBe raise cattle for a number of reasons ranging from security, status, and identity. However, one of the primary reasons for raising cattle is economic; they are the main source of income for the pastoralists in the three villages. Practically all the pastoral households in the three

villages sold cattle to meet household needs.¹⁰⁰ Nomadic pastoralists sold the most animals, which was expected since they do not cultivate sorghum. The nomads sold on average 2.0 animals per Adult Consumer Equivalent (ACE), versus 0.8 and 0.9 in the agro-pastoral and peri-urban villages respectively (see table 4.1). When one compares commercial off-take (as a percentage of total herd size) in these three villages – 18% in the agro-pastoral village and the nomadic village, and 14% in the peri-urban village – with other West African pastoralists (11 to 13%) or sub-Saharan African pastoralists (5 to 10%), the numbers are relatively high.¹⁰¹ However, these aggregate percentages in the literature do not show the variation within pastoral groups or across years. Sutter (1987) found that poorer FulBe pastoralists in northeastern Senegal had commercial off-take rates that were twice as high compared to wealthy pastoralists (respectively 21% and 10%). Moreover, off-take rates may have been higher than ‘normal’ in the three villages because 2000-2001 was a drought year in the Far North of Cameroon.¹⁰²

FulBe marketing of cattle was relatively unresponsive to changes in prices (see also, Hart and Sperling 1987; Rounsard 1987:203), although they always consider which

¹⁰⁰ Three agro-pastoral households did not sell cattle. Two agro-pastoral households did not have the right of disposal over the animals in their corral and one agro-pastoral household had a steady income from small stock trade

¹⁰¹ Calculations of commercial off-take are based on sales over the year as percentage of the starting herd at the beginning of the year. Others have calculated off-take as percentage of the total number of animals that were at any time present in the herd in any given year (thus including animals born, loaned, given away) (Fratkin, et al., 1999)(personal communication Elliot Fratkin). It is often unclear how other scholars calculate off-take, particularly, the percentage of what total herd size they use (e.g., Amanor 1995; Sutter 1987:215). Calculating off-take seems simple and clear at first but is complicated and messy mainly because family herds are complex and continually changing entities.

¹⁰² Annual income from small stock sales ranged from 36,000 to 82,500 FCFA (\$48 to \$110) for pastoral households in the peri-urban village; from 7,000 to 112,000 (\$9 to \$149) in the agro-pastoral village (with an average of 30,000 FCFA (\$40); and approximately 75,000 FCFA (\$100) for nomadic pastoralists. In all three villages, revenues from small stock sales represented less than 10% of the value of cattle sales.

markets offer the best prices while taking into account transportation costs.¹⁰³ When possible, FulBe pastoralists time their sales to fetch higher prices. The problem, however, is that prices at livestock markets fluctuate unpredictably and FulBe pastoralists have no way of knowing in advance whether prices will go up or down next week or month. A sudden influx of trade cattle from Chad may spoil the market, while increased patrolling of the border by Cameroonian customs officers may lead to higher prices. My surveys of changes in herd size over the year 2000-2001, show that the timing and the number of cattle sold by FulBe pastoralists was not determined by fluctuations in prices, but by the needs (or problems) of the household. FulBe said that they did not 'touch' animals (*meeman na'i*) if there was no need (to buy sorghum or cottonseed cakes, hire agricultural wage laborers, or finance the dowry for a daughter who was getting married). Peri-urban pastoralists with significant monetary income from non-pastoral sources had more flexibility in the timing of livestock sales because they could use this income when livestock prices were too low or no appropriate animal in their herd were available for sale.

Traditionally, dairy was probably the most important in terms of daily subsistence as FulBe women sold or exchanged sour milk and butter for sorghum and other foodstuffs. Today, this is no longer in the case, even though all the households with a milk surplus, i.e., beyond household consumption, sold dairy products. There was simply

¹⁰³ Pastoralists sold their animals at the largest nearby livestock market (which generally had the best prices): Bogo for the agro-pastoralists, Maroua for the peri-urban pastoralists, and Mazera, Kaykay Bourkoumandji, and Moulvoudaye for the nomadic pastoralists depending on the time of the year and transhumance routes.

not enough surplus to cover all the daily provisions of the household. Nomadic women came closest to the traditional pattern and were able to feed their household with dairy revenues in the rainy and cool dry season. In the agro-pastoral village, however, milk yields were relatively low and only a few women at any one time were selling dairy products because of the small number of lactating cows per household.¹⁰⁴ In the peri-urban village milk yields were higher due to the feeding of cottonseed cakes but because of institutional changes in the organization of pastoral households, there was little surplus milk to be marketed. The milk sold in the peri-urban village was bought by itinerant women from neighboring villages. These older women (*FulBerewBe*), often non-pastoral and non-FulBe, went from pastoral compound to pastoral compound to buy sour milk and butter and then continued to walk to Maroua where it was sold either at the market or door-to-door to urban consumers. This system allowed secluded FulBe women in the peri-urban village to continue to earn an income through the sale of dairy products. The estimated weekly income from dairy sales for peri-urban women was probably less than 500 FCFA (\$0.65) per week. In the agro-pastoral village it ranged from 1,500 to 6,000 FCFA (\$2 to \$8) depending on the season, the number of lactating animals, and sales location, while nomadic women were likely at the high end of that range.¹⁰⁵

Income from the sales of hides and skins was negligible. Hides and skins were sold only when people slaughtered an animal at home and this happened only at special

¹⁰⁴ The low number of lactating and gestating cows was partly due to endemic brucellosis in the agro-pastoral village.

¹⁰⁵ I did not collect systematic data on milk yields and dairy sales and these numbers are an informed guess based on interviews and observations throughout the year.

occasions such as the annual Muslim sacrifice feast of *Layha* and other ceremonies.¹⁰⁶

None of the FulBe pastoralists were involved in the tanning and leather industry since it was considered slaves' work, as was most manual and wage labor.¹⁰⁷

There is some evidence that FulBe pastoralists are consuming more market goods. This has apparently not yet led to major changes in the marketing of pastoral products since there are no indications that FulBe pastoralists sell more cattle than before or that they are marketing more dairy products. The percentage of male animals in herds is one indication of greater commercial off-take. Male animals are relatively useless for pastoral production purposes and are generally the first animals to be sold, save for the breeding bull and its successor (and the few pack oxen that nomadic pastoralists use for transport). Increased cattle sales should lead to lower percentages of males in the family herds. Comparable data available in the Far North of Cameroon show in fact a reverse trend (BONIFICA 1992; Njoya, et al., 1996). Today, the percentage of males is higher than in 1940, which suggests that FulBe pastoralists are not selling more animals to finance their

¹⁰⁶ The main ceremonies in FulBe social life that involve the sacrifice of an animal are: name giving (*indeeri*), initiation (*naastirndu, soro*), circumcision (males only) (*juulnordu*), finishing the Koran (*doa*), marriage (*ba nga*), the end of the Ramadan (*juulde sumaye*), and the Muslim feast of sacrifice (*Layha, Tabaskii* called *id-al-adha* in Arabic). On the day of the feast of sacrifice, *Layha*, which commemorates the obedience and faith of Abraham and the mercy of Allah, all Muslims (ideally) sacrifice a sheep. Save for the feast of sacrifice, which is an annual feast, ceremonies in which animals are slaughtered are relatively rare. It is not the case, that meat is a regular part of diet because of frequent feasts. Households also slaughter their own animals when they are exhausted or sick and about to die. Muslim FulBe can only eat the meat of animals that have been sacrificed properly. When an animal dies before it has been properly sacrificed, its meat cannot be eaten by Muslim FulBe, it is forbidden or *haram*, and the carcass is practically worthless. Many FulBe buy animals to slaughter on the feast days rather than sacrifice their own animals - often because they do not have appropriate animals for sacrifice (age, sex, size, or property).

¹⁰⁷ Manure, strangely enough, was not (yet) a commodity. Pastoral households in the peri-urban village gave, rather than sold, manure to neighboring farmers. This might change in the future as the agricultural system becomes more intensified in the peri-urban area.

changing consumption pattern (unless they are selling more females)(see table 4.2).

There is also no indication that FulBe pastoralists have greater buying power due to changes in the terms of trade of cattle for sorghum because there are no significant long-term changes over the last thirty years (see figure 3.1).

Marketing of pastoral products is an important source of income for FulBe pastoralists in all three communities. There is, however, no evidence that they are marketing more animals or dairy products than before. On the contrary, FulBe pastoralists indicate that dairy revenues are no longer the most important source of income in terms of daily subsistence; this is particularly true in the peri-urban and agro-pastoral villages.

Table 4.1: Cattle Marketing in Three Villages, 2000-2001

	Number of Cattle Sold	Percentage of Herd	Animals per ACE	Average price	Total Revenues	Revenues per ACE	ACE
Nomadic Pastoralists	10.8 (\pm 2.1)	18% (\pm 8.3)	2.0 (\pm 1.1)	95,922	1,035,958	156,963	6.6
Agro-Pastoralists	3.3 (\pm 2.3)	18% (\pm 12.4)	0.8 (\pm 0.7)	84,737	279,632	54,829	5.1
Peri-Urban Pastoralists *	8.8 (\pm 2.3)	14% (\pm 9.0)	0.9 (\pm 0.5)	100,136	881,196	69,386	12.7

The peri-urban category includes village and bush herds for each household. Averages per village; standard deviations are given in parentheses. ACE is Adult Consumer Equivalents. Nomadic pastoralists sell more animals per consumer than pastoralists in the other two villages, primarily because people in the latter two cultivate their own sorghum. Peri-urban pastoralists do not sell more cattle per consumer than the agro-pastoralists.

Table 4.2: Sex Ratios in FulBe Herds, Northern Cameroon, 1940-2000

	Year	Males	Females
Far North Province (Dautzatz in \BONIFICA, 1992 #1644)	1940	18.1	81.9
Pétté, Far North Cameroon (BONIFICA, 1992 #1644)	1963	19.4	80.7
North and Far North Province (Njoya, 1996 #1666)	1996	32.9	60.8
Peri-Urban Pastoralists	2000	24.7	75.3
Agro-Pastoralists	2000	23.7	76.3
Nomadic Pastoralists	2000	29.0	71.0

Sex ratios in FulBe family herds can be an indicator of commercial off-take. Since males are sold more often, a lower percentage of males might indicate a larger commercial off-take. The data suggest that peri-urban pastoralists are not selling more animals than in the past because the percentage of male animals in their herds is higher than in the past.

Consumption of Market Goods

None of the pastoral households in my sample was entirely self-sufficient in food. All households purchased food and non-food items at local markets, although there was considerable variation between and within villages with regard to the degree of consumption of market goods.

The basic diet of FulBe pastoralists in all three villages was the same and consisted of sorghum with a sauce of leaf vegetables, which occasionally contained dried fish or meat, depending on the means of the household head. Most FulBe had meals twice daily, one in the morning and one in the evening. Some wealthier households in the peri-urban village had three daily meals: beignets (a sort of donut) with coffee in the morning, and sorghum and sauce at noon and in the evening. The quality of the meals was also better in the wealthier households; their *nyiiri* (cooked sorghum, food) was prepared with off-season sorghum (*muskuwaari*), which is considered tastier than rainy season sorghum (*njigaari*). The sauces in the wealthier households were also richer in ingredients and protein and, as a result, more expensive.¹⁰⁸ Many poorer households, on the other hand, had days without any food during the hunger period (*sadirnde*, i.e., the rainy season prior to the sorghum harvest). About 20% of the peri-urban and 5% of the agro-pastoral

¹⁰⁸ Sauces called *haako* (literally ‘leaves’) are generally made of leaf vegetables, some oil, and salt. Such a minimal sauce is called *haako baleeho* (black sauce). The richer sauces – a *haako wodeeho* (red sauce, the color referring to meat) – have generally more oil or butter and additional ingredients such as chili pepper, beans, onions, tomatoes, dried fish, and/or meat (cf., Eguchi 1973).

households skipped meals entirely for a couple of days during the hunger period of 2001. Other households shifted from sorghum to paddy rice, which was cheaper but considered less nutritious.¹⁰⁹ In short, the quantity and quality of diets varied considerably depending on the means of the household head.

All pastoral households with lactating cows consumed milk, either fresh, sour, or as yogurt, but there was considerable variation in its caloric contribution to the daily diet.¹¹⁰ Milk was a significant part of the nomadic diet but less so in the agro-pastoral and the peri-urban villages. Most agro-pastoral households had few lactating animals and their milk yields were generally low; there was thus limited milk available for auto-consumption. In the peri-urban village, milk yields were higher, but households were also much larger, and consequently, less milk was available per household member.¹¹¹

¹⁰⁹ FulBe said that rice was not as nutritious as sorghum; *Maarori haarata* ‘rice does not satisfy’; a couple of hours after a meal you are already hungry. Rice used to be a food for feasts and for the wealthy, *yaake maaroori sey juulde* ‘in the past, [we ate] rice only at a feast’; now it has become the staple food for the poor, *maaroori sey sadirnde* ‘rice only in the difficult period’.

¹¹⁰ These statements are based on observations, not on systematic measurements of milk production and consumption. Goats and sheep were not milked. Milk was consumed fresh (*BiraaDam*), as buttermilk (*pendiiDam*), or in a porridge (*gaari*). When resources were available, women prepared milk with sugar and rice (*dolaaDam*). FulBe women in all three villages prepared porridge with sorghum flour, water, and sour milk for infants and young children (and occasionally for the adults in the household). Adults did not consider porridge to be food. *Ndiyam meere* ‘it is only water’. Wealthier households in the peri-urban village prepare a more nutritious porridge with tamarind, peanuts, sugar, and sour milk. During the Muslim fasting month of Ramadan, all FulBe households break the fast after sunset prayer (*mangariba*) with *gaari*. The richness of the *gaari* is another reliable indicator of household wealth. In the agro-pastoral village, for example, the *gaari* of some households contained ingredients that were gathered in the bush to compensate for the lack of sugar and sour milk.

¹¹¹ In a study of nomadic and agro-pastoral FulBe in Niger, researchers found that milk respectively provided 36% and 19% of the daily calories (Bernus 1988:330). These numbers are probably lower in the three villages in this study where the bulk of the daily calories came from sorghum consumption. The only exceptions were the young nomadic herdsman that went on a transhumance (*luci*) (separate from the rest of the family) with the best animals (*hooreeji*). These young men subsisted on fresh milk for a period of a couple of months because they did not have women preparing food for them.

Cattle have little to no consumption value for FulBe pastoralists in terms of meat. In fact, it is considered extremely bad form for FulBe to perceive cattle as a source of meat.¹¹² Ritual slaughter was not so regular that it constituted a significant food source, as is the case in some pastoral societies (Barfield 1993:20). In fact, animals were rarely slaughtered, in most households only once a year, and then only small stock. Moreover, many pastoralists preferred to buy cattle or small stock at the market rather than to slaughter their own. The members of the wealthier peri-urban pastoral households who ate meat more regularly got it from Maroua butchers, not from slaughtering their own animals. All households in all three villages sacrificed small stock for the sacrifice feast of Layha, while a few wealthy households in the peri-urban and the nomadic villages sacrificed additional bullocks for that occasion.¹¹³ Cattle primarily provided milk and monetary income; meat was the least important in terms of subsistence.

Sorghum was the most important subsistence crop in the Far North and all households in the agro-pastoral and peri-urban village cultivated the rainy season and the off-season variety. The degree of sorghum self-sufficiency is highly correlated with the rainfall patterns. In good years, all agro-pastoralists in Wuro Hoore Ladde produced enough sorghum to feed their households throughout the year (see table 4.3). In the peri-urban village, on the other hand, eight households were unable to produce enough

¹¹² When an agro-pastoralist in Wuro Hoore Ladde remarked that he hoped that one of the animals in his corral (but which he did not own) would die so that he could eat meat, he was declared a non-FulBe and non-pastoralist by the other villagers.

¹¹³ Agro-pastoralists, who were poorer in terms of livestock numbers, were appalled by my question whether they slaughtered cattle for Layha; *kay hirsī nagge!?* 'kay [= exclamation of surprise] sacrificing a cow!?'

sorghum in the good rainfall year of 1999; all other eighteen households were self-sufficient.¹¹⁴ In bad years, most households in the two sedentary villages fail to produce sufficient sorghum to feed their household throughout the year. This was the case in the year 2000-2001, when only one household produced enough sorghum to feed the household and many others did not harvest anything and were dependent on their sorghum stock (if available) and market purchases. Sorghum prices increased rapidly as the dry season progressed and more households finished their stock and were forced to purchase sorghum at the market. In the past, FulBe argued, there was not enough sorghum for sale at the local markets during drought years. In recent drought years, however, there was sufficient sorghum on the local markets due to improvement of market infrastructures and access to international markets (see also, Mortimore 1998:108), this according to my informants has come at a price. Sorghum is available but it is too expensive for the poorer households (Sen 1981). Consequently, many poorer households in the agro-pastoral and the peri-urban village went without food for a number of days during the hunger period of the 2001 rainy season.

Leaf vegetables (*haako*) are the primary ingredients of the sauces that accompany the twice-daily sorghum. They are gathered in the bush, home grown by women, or bought on the market (fresh and dried). A number of sedentary women cultivated leaf vegetables on a small plot near or in the compound. In principle, women own the crop and can decide themselves whether to allocate this for household consumption or market

¹¹⁴ Some households with sorghum surpluses in 1999 sold part of their harvest. Other households never sold sorghum *Kay! Mi sooray, nyaami tan* 'kay [= exclamation of surprise] I do not sell, I only eat'.

it for personal needs. The majority of women who cultivated leaf vegetables allocated them primarily for household consumption. Some of them, mostly agro-pastoral women, produced enough to feed the household throughout the year. Most households, however, depended on the market for purchases of leaf vegetables.¹¹⁵

A quantitative way to assess FulBe pastoralists' dependency on market goods is through an inventory of their consumption patterns. I have used general data on household expenditures to construct a model of household consumption and production using Bradburd's (1990:61) concept of Basic Maintenance Costs (BMC) to estimate the minimum annual consumption of market goods per households in the three villages. The BMC consist here of the following components: sorghum consumption, non-sorghum food consumption, milling, firewood, and health costs.¹¹⁶ The BMC does not take into account the social and physical reproduction of the household (e.g., travel to family, marriage, house construction). The BMC also does not include luxury items such as tea, sugar, and kola nuts, of which the consumption differs from household to household. The

¹¹⁵ Most households in the two sedentary villages also cultivated some maize (*masarji*), which was used as hunger-breaker in the rainy season because it matures quickly and can be harvested after 45 days. It helps people to cover the difficult period until the sorghum harvest. Other subsistence crops are sweet potatoes (*dankali*), leaf vegetables (*folere*), okra (*baskooje*), and melons (*baikooje*). Not all households cultivated these crops, which eliminate the need for some market purchases but certainly not all.

¹¹⁶ Adults consume 292 kilograms of sorghum per year (based on interview data, average for all villages), which is higher than what the FAO (Food and Agriculture Organization) reports as the minimum (190 kilograms) but similar to what Mortimore's informants reported (285 kilograms)(Mortimore 1998:103). It is unclear what explains the difference between the FAO recommendations and the reported consumption of sorghum in Mortimore's and my studies.

BMC represent averages of good and bad rainfall years for pastoral households in each village.¹¹⁷

In the nomadic village, the BMC per consumer are the highest, 130,020 FCFA (\$173), primarily because of their higher sorghum and health expenditures, which are partially compensated by higher milk yields (see table 4.4). In the agro-pastoral village, the BMC are the lowest, 78,320 FCFA (\$104) per consumer, mainly because they have no expenditures for firewood, which is collected by women and lower prices for agricultural products at rural markets. In the peri-urban village, the BMC are 93,675 FCFA (\$125) per consumer. The estimated BMC per household give a different picture because they reflect the average number of consumers per household: respectively 399,432 FCFA (\$533), 858,132 FCFA (\$1,144), and 1,189,673 FCFA (\$1,586) in the agro-pastoral, nomadic, and peri-urban village. The greatest part of the BMC consists of consumption of market goods: 56%, 68%, and 72% in respectively the agro-pastoral, peri-urban, and nomadic village. The expenditures on market goods, food items, were considerable, particularly in drought years due to purchases of sorghum at inflated prices (see figure 4.1).

¹¹⁷ I have calculated the basic maintenance costs for the poorer farmer households and wealthy pastoral households in peri-urban village separately because the consumption patterns, sorghum consumption, food expenditures, and household sizes were significantly different. The average household size of the wealthy class is 15.2 adult consumer equivalents; for the poorer households it is 4.2. I have estimated that the costs for gifts and clothes for the wealthy pastoral households are higher. I also adjusted the expenditures for poorer households in dry years. Poorer household heads will skip a year buying cloth and clothes for their wife and children. They limit their sorghum consumption and reduce their expenditures on other foodstuffs. In fact, they often go without food for a couple of days in the hunger period. Finally, poorer households will collect their own firewood, whereas wealthier households buy all their firewood. Here, I will only discuss data concerning the pastoral households in the peri-urban village, which are all wealthy.

In addition to the purchase of sorghum and other food items, households also depend on the market for non-food items (e.g., clothes, tools), herd costs (e.g., cottonseed cakes, salaried herders) and other miscellaneous expenses (e.g., travel, medicines, agricultural labor, dowry items). There is evidence that FulBe pastoralists' consumption of non-food market goods has increased in the last decades. Today, FulBe pastoralists, men and women, use and own more market goods than ever before. This becomes immediately clear looking at the materials used in house construction; besides adobe, there is cement, industrially processed wood, and aluminum roofing. Comparing the interiors of houses of older women (who have not sold their dowry) with those of younger women, one sees that the dowry has increased substantially in volume and monetary value over time. More dowry items are purchased in the market than ever before: wooden bed frames, mattresses, armoires, enamelware, radios, tapestries, etc.. The contrast is even greater when one compares the dowry of nomadic and agro-pastoral women with that of peri-urban women. True, many of the more traditional dowry items, such as gourds, gourd covers, beds, woven mats, and ceramic water jugs are also purchased through market exchanges, but many are home-made, possibly in the village, and some by FulBe themselves. Today, however, practically all dowry items in the sedentary villages are industrially produced and purchased at the market. Moreover, they represent a much greater monetary value than before because of the greater quantity and quality of goods.

The market economy plays an important role in daily subsistence and there is evidence that the consumption of non-food items from the market has increased over the

last decades. However, an evaluation of commoditization of pastoral products above suggests that it is unlikely that this increased consumption of market goods has changed marketing patterns of pastoral products.¹¹⁸ The question is then how FulBe pastoralists finance the increasing consumption of market goods. Most likely, the increased consumption of market goods was financed with income from non-pastoral sources (i.e., off-farm income).

¹¹⁸ Another explanation is that dairy revenues have increased but all my informants argued that the opposite was true, despite the growing demand for milk in the urban and peri-urban areas.

Table 4.3: Sorghum Production in two Sedentary Villages, 1999 and 2000

	1999 (Good Year)		2000 (Drought Year)	
	Total yield in kilograms	Surplus per consumer	Total yield in kilograms	Deficit per Consumer
Agro-Pastoral Village	3,319 (1,484)	440 (376)	581 (497)	-174 (102)
Peri-Urban Village	3,236 (3,843)	421 (801)	468 (728)	-209 (75)

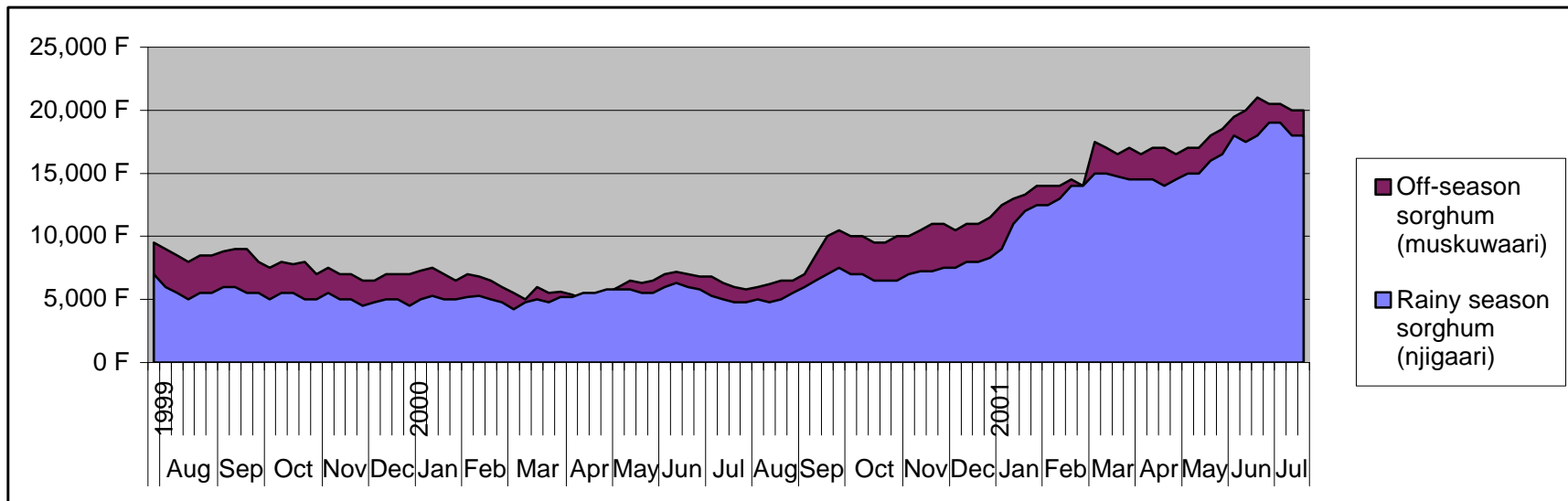
The numbers are averages of all the households in each village. Standard deviation is given in parentheses. Sorghum production is self-reported. *Total yield in kilogram s* includes rainy season and off-season sorghum harvest. The average reported sorghum consumption per consumer was 292 kilogram per year (using data from all three villages). I used this average to calculate the sorghum *deficit* or *surplus* per consumer for each household. Deficits are given in red.

Table 4.4: Basic Maintenance Costs in three Villages (in FCFA)

		Peri-Urban Pastoral Households	Agro- Pastoral Households	Nomadic Pastoral Households
	Milk (auto consumption)	4,750	4,750	36,000
	Sorghum (auto consumption)	24,850	29,350	0
Market Purchases	Sorghum	16,875	21,750	51,100
	Vegetables, condiments	19,200	15,000	18,000
	Milling	2,150	2,920	2,920
	Firewood	18,250	0	0
	Taxes	300	300	0
	Health expenditures	2,000	2,600	18,500
	Clothing	5,000	1,500	3,000
	Durable goods	300	150	500
	BMC per consumer (ACE)	93,675	78,320	130,020
	BMC per household	1,189,673	399,432	858,132
	Average number of consumers	12.7	5.1	6.6
	Total subsistence production per ACE	29,600 (32%)	34,100 (44%)	36,000 (28%)
	Total market purchases per ACE	64,075 (68%)	44,220 (56%)	94,020 (72%)
	Total market purchases per household	852,198	225,522	620,532

BMC are calculated per Adult Consumer Equivalent (ACE). I have made the following assumptions. Price of sorghum is 100 FCFA/kilogram in a good year and 250 FCFA/kilogram in a drought year. Milling costs 10 FCFA per kilo. Firewood costs 50 FCFA per day, which is a low estimate. Agricultural goods are cheaper in the rural areas. Milk costs are at 150 FCFA/liter. Milk consumption is estimated as .75 liter per person per day for nomadic pastoralists and .1 liter for agro-pastoralists and peri-urban pastoralists. Milk production in drought years is 75% lower. Milk consumption is constant throughout the year. Health expenditures are the averages in each village. Clothing and durable goods are estimates based on observations of market purchases of people in each of the three villages.

Figure 4.1: Sorghum Prices at Bogo Market (per 100 kilogram in FCFA), 1999-2001



Data from Projet Développement Paysannal et Gestion de Terroirs (DPGT) (with permission). Rainy season sorghum is harvested mid October; off-season sorghum is harvested beginning of February. 1999-2000 was a relatively good rainfall year, while 2000-2001 was a bad rainfall year.

Income from Non-Pastoral Sources

FulBe pastoralists in the agro-pastoral and peri-urban village were not ‘pure pastoralists’; they pursued a multi-resource strategy in which derived income and subsistence from a wide variety of economic activities including agriculture, crafts, and most importantly trade (Salzman 1972). These activities generally provided a steady additional income and thus extra subsistence security (Berry 1993:193).

Traditionally, the FulBe in the Far North had not been part of the merchant world; trade was not their profession (*sanaa’a*)(Burnham 1994; Santoir 1994). Today, an increasing number of FulBe men and women earn an income through commerce, other than the sale of pastoral products. Many FulBe household heads in the two sedentary villages were the first in their family to get involved in this type of commerce.¹¹⁹ While none of the nomadic pastoralists in Wuro EggoBe had additional income from non-pastoral sources, the majority of the sedentary households had an additional income from non-pastoral sources: 56% in the agro-pastoral village and 81% in the peri-urban village.¹²⁰ In the agro-pastoral village, household heads either earned an income through

¹¹⁹ Many of the fathers of the Kanuri household heads in the peri-urban village were involved in trade compared to none of the fathers of the FulBe household heads.

¹²⁰ I have not conducted a systematic survey of people’s incomes in the three communities, so the following are informed estimates. Women generally earn somewhere between 200 to 2,000 FCFA (\$0.25 to \$2.50), with an average of 500 FCFA (\$0.66). Men’s weekly income from livestock trade ranges from about 2,500 FCFA (\$3.50) for intermediaries and drivers in the agro-pastoral village to 50,000 FCFA (\$135) for wealthy cattle traders in the peri-urban village. Incomes from crafts and wage labor in the peri-urban village are relatively small.

involvement in the livestock trade as intermediary, cattle driver, or trader (78%) or through maraboutage (Islamic magico-religious practices that clergy perform for their clients)(22%)(see table 4.5). The sources of income of households in the peri-urban village were more diverse; most household heads were involved in trade (52%), others in crafts (14%) and horticulture (14%), and a few in maraboutage (10%) and wage labor (10%) (see table 4.6). In addition, in the sedentary villages, women were engaged in commercial activities such as the retail sale of petrol, vegetable oil, sugar, salt, and spices; or the sales of homemade donuts and peanut products, while a few women in the peri-urban village sold homemade woven covers for gourds, and woven cotton blankets.¹²¹ In the peri-urban village, 26% of the women had an independent personal income from non-pastoral sources, versus 7% of the women in the agro-pastoral village and 0% in the nomadic village.

In addition to subsistence, agricultural activities also provide an additional source of income for pastoralists in the two sedentary villages. Most households sold sorghum at the local markets when they had a surplus, and a few non-pastoral households in the peri-

¹²¹ Women were involved in three types of commercial activity in the villages; 1) buying in bulk and selling retail (e.g., sugar, kerosene for lamps); 2) buying ingredients, processing, and then selling retail (e.g., peanuts, beignets); and 3) crafts (e.g., woven gourd covers, cotton blankets). Most of the products were sold within the village but sometimes women venture out to local markets. The profits of these small commercial activities and crafts range from 20% for the peanut processing to 100% for gourd covers, generating income ranging from 300 to 1,000 FCFA per week (\$0.40 to \$1.30). However, women often went 'bankrupt' (*ceede taayi*, literally 'the money is cut') as emergencies cut into the working capital. Women engaged in income-generating activities for a variety of reasons: to take care of their children, have more autonomy, assist their (father's) family, and to participate in the social network of the *njaayo* gift exchanges (cf., van Santen 1993) but not to support their husbands. Successful female traders were admired and respected by men and women alike, especially when they maintained modesty through seclusion while making profits. They served as role models for other women in the village, who apologetically said *mi joodi non* (I am just sitting) or *Dum lumbindiri juuDe joodi* (sitting with crossed arms), when asked about their commercial activities. Many of the secluded women employed children or servants to overcome the practical obstacles of seclusion.

urban village sold horticultural products such as tomatoes, mangos, baobab leaves, and other leaf vegetables. Cotton was the primary cash crop, and 75% of the agro-pastoral households and 88% of the peri-urban households had cultivated cotton at some point in the past and respectively 44% and 85% did so in 2000-2001. Cotton revenues in the peri-urban village ranged from 800 to 1,000,000 FCFA (\$1 to \$1,350) per household and from 44,000 to 140,000 FCFA (\$59 to \$187) in the agro-pastoral village. Nowadays, cultivating cotton was said to be no longer as lucrative as it used to be due to lower fertility, yields and prices. Peri-urban pastoralists also cultivated cotton to have cheap and more reliable access to cottonseed cakes since planters had the option to be paid in kind with cottonseed cakes, produced by Sodecoton, which has the monopoly on cotton cultivation in Cameroon (discussed in chapter five).

In short, households in the agro-pastoral and peri-urban village followed multiple resource strategies to secure subsistence (Salzman 1972). Many of these strategies provided an alternative source of monetary income, which served different goals for different households. For many agro-pastoral households, a diversification of economic activities was crucial for economic survival in that they compensated for the poverty in livestock or failure of sorghum harvests. For peri-urban pastoralists, on the other hand, a diversification of economic activities supported the pursuit of wealth and reflected a reorientation to other careers than pastoralism (e.g., commerce). In the peri-urban village, economic diversification and monetary income from non-pastoral activities also served to finance the commoditization of pastoral production inputs.

Table 4.5: Off-farm Income in the Agro-Pastoral Village

Household	Source of Income
1	Trade (cattle)
2	Trade (intermediary at livestock markets)
3	Trade (sheep)
4	Maraboutage, retail (Nigerian goods), retail (Nigerian goods)
5	NA
6	Trade (intermediary at livestock markets)
7	NA
8	Maraboutage
9	NA
10	Trade (intermediary at livestock markets)
11	NA, trade (intermediary at livestock markets), retail (Nigerian goods)
12	NA
13	Trade (cattle driver)
14	NA
15	NA
16	Trade (small stock)

NA means that there was no off-farm source of income in the household. The off-farm source of income of the household head is listed first, then sources of income of other (male) household members are listed. None of the household heads was engaged in multiple off-farm activities.

Table 4.6: Off-farm Income in the Peri-Urban Village

Household	Source of Income
1	Maraboutage, maraboutage
2	Crafts (tailor)
3	Trade (cattle), retail (clothes), trade (peanuts)
4	Retail (Nigerian goods)
5	Trade (skins)
6	Producer (baobab leaves)
7	Wage labor (water pump)
8	Producer (garden)
9	Retail (cloth)
10	NA
11	Trade (kola nuts)
12	Crafts (bicycle repair)
13	Wage labor (construction)
14	Producer (mango)
15	NA
16	Crafts (mason)
17	Trade (cattle)
18	NA, retail (Nigerian goods)
19	Trade (sheep)
20	NA
21	NA
22	NA
23	Trade (dried fish)
24	Trade (sorghum), crafts (tailor)
25	Maraboutage
26	Trade (dried fish)

Pastoral households are in **bold**. The household heads in the peri-urban village that were involved in crafts or wage labor were either Kanuri or RiimayBe. Crafts were considered taboo by FulBe because of its association with slavery. FulBe in the peri-urban village would say ‘so-and-so’s father made shafts for lances’ meaning ‘he is a son of a slave’. Wage labor was stigmatized and considered taboo among the FulBe; they preferred to be hungry over working for others, which they considered a form of slavery. This stigma applies less to salaried herders. Trade was not taboo for the FulBe and FulBe household heads were either traders or earned an income through maraboutage.

Commoditization of Production Inputs

The commoditization of production inputs, I will argue here, is one of the main factors responsible for the transformation of the peri-urban pastoral system. The commoditization of production inputs signals a trend towards a capitalist production system in which pastoral means of production – labor, lands, and animals – are brought together by capital. I will not argue here that peri-urban pastoralists have become capitalist producers, but that the commoditization of pastoral means of production, and in particular the significant increase in production costs, has new and far-reaching consequences for the management of the family herd.

The commoditization of production inputs and the increase in production costs are primarily the result of an intensification of the pastoral system, in particular the extensive use of cottonseed cakes and hulls in the peri-urban village. No longer, do peri-urban pastoralists rely on free natural forage in the dry season; all cattle feed in the dry season is purchased through market exchanges. This has led to significant differences in expenditures between the three villages. The annual production costs per animal in the peri-urban, agro-pastoral, and nomadic village were respectively 12,371 FCFA (\$16.50), 1,581 FCFA (\$2.10), and 2,344 FCFA (\$3.15) per animal. The increasing commoditization of production inputs in the peri-urban village and the intensification of the pastoral system will be discussed in detail in chapter five. Here I will briefly discuss the commoditization of the other means of production: labor, land, and animals.

Labor has been a commodity since the nineteenth century when FulBe are noted for using slaves for agricultural, herding, and household tasks. All households that could afford the costs of wage labor for agricultural tasks or herding used it. It allowed households to solve labor bottlenecks, have more time for leisure or Koranic study, or increase agricultural production. Herding labor has been a commodity for long. In the past, herders were compensated for their labor in kind with a heifer or bullock every three or four months. In the last forty years, herders have also been paid in cash, and today the two systems co-exist, although the cash system is the most common. Although, the monetarization of herding labor has led to changes in the pastoral system, it is not responsible for the recent transformation of the peri-urban pastoral system (herding labor is a commodity in all three villages). However, the use of wage labor allows households to diversify their economic activities, which in turn supports the intensification of the pastoral system.

Rangelands, until recently, were owned and managed by the traditional, colonial, and current government authorities. In contrast to other societies, rangelands were never communally owned by pastoralists in the Far North Province. FulBe pastoralists lived interspersed with agriculturalists of different ethnic groups. In the pre-jihad 18th century, pastoralists would request permission to access rangelands from local chiefs of these farming groups (e.g., Zumaya, Guiziga). After the jihad in the early nineteenth century and the establishment of FulBe emirates in the Far North, FulBe pastoralists negotiated with the FulBe chiefs, *laamiiBe*, over access to rangelands and security in exchange for tribute (Moritz, et al., 2002). For pastoralists, the FulBe emirates provided relatively safe

and secure access to rangelands in the Diamaré (Moritz, et al., 2002).¹²² When the Europeans conquered northern Cameroon, they incorporated the traditional FulBe chiefs in the colonial administration. The Germans and then the French did not directly interfere with relations between traditional chiefs and pastoralists. The independent republic of Cameroon continued the hands-off policy in which pastoralists negotiated with traditional authorities over access to rangelands.

In practice, the tenure regime of rangelands in the Far North Province can be considered an open access one in which there are few restrictions for pastoralists (cf., Ostrom 1990:23). Pastoralists' primary contacts continue to be the traditional authorities: FulBe *laamiiBe* in the Diamaré, Musgum and Kotoko Sultans in the Logone Flood Plain.¹²³ No pastoralist is refused access to rangelands in the Far North as long as they pay taxes to the authorities. Requier-Desjardins (2001) has argued that there is some degree of regulation of rangeland access through the differential payment of taxes. Pastoralists pay taxes to governmental, municipal, and traditional authorities in each municipal district. However, non-Cameroonian pastoralists and pastoralists from outside a district pay more than 'resident' pastoralists. In addition, a system of seniority operates in which pastoralists who have practiced transhumance in a particular area for a number of years pay fewer taxes than recent arrivals (Requier-Desjardins 2001). I would add that the differential taxation is not resulting from conscious efforts on the part of the

¹²² FulBe Access to rangelands in the Logone Flood Plain was arranged with Musgum and Kotoko sultans following the same principle of tribute in exchange for access and security.

¹²³ The governmental and municipal authorities, on their part, use the agents of the traditional authorities in their contacts with and tax collection from pastoralists.

authorities to regulate access, rather efforts to increase revenues. Moreover, as long as pastoralists pay, they are not refused access by the authorities (nor by fellow pastoralists).

The problem of increasing pressure on rangelands lies not with competition among pastoralists for grazing lands but with agriculturalists who clear bush and convert rangelands to agricultural fields as pastoralists have little recourse since their pastoral use rights are not recognized (or at least not actively supported) by the authorities (Moritz, et al., 2002). One such conflict over grazing lands in the peri-urban village has led to the privatization of rangelands in which one pastoralist has bought the exclusive use rights over approximately 25 hectares of land during the rainy season. The commoditization and privatization of rangelands, however, remains rare, and most rangelands remain open and free for all in the Far North Province.

Cattle have been commodities for centuries. They are marketed for meat, but also bought and sold by FulBe pastoralists as means of production. FulBe herds grow due to natural growth but also through market purchases; though the latter represents only a small percentage of the total number of animals in the three villages (about 1 to 2%)(see table 4.7). In the nomadic village, cattle were primarily purchased for breeding purposes or to rejuvenate the herd by replacing older, barren cows with younger heifers.¹²⁴ In the

¹²⁴ Two of the animals bought by nomadic pastoralists were breeding bulls that came from nomadic FulBe Udaa'en, on transhumance in Cameroon from Niger, who had tall and beautiful, mahogany-red cattle. We saw them passing when we were driving by and my nomadic passenger went silent in admiration (*Di ndaaroto, ndaaraa Di* 'the cattle are worth admiring, admire them'). When FulBe buy cattle, they prefer to buy directly from other pastoralists. FulBe do not trust bulls that are sold on the market. Many nomadic FulBe secretly castrate their bulls before they sell them (out of spite) and because they do not want to see someone else profit from animals that once belonged to them. This resentment of seeing someone else profit is even stronger for female animals, which can reproduce and thus grow to a large number of animals. This is also the reason why FulBe prefer to sell their cattle to strangers on the market rather than to people they know.

agro-pastoral village, all five animals were bought by two households who fattened them using cottonseed cakes and sorghum stalks and then resold for a profit. Only young men pursued this strategy of fattening to earn extra income.¹²⁵ In the peri-urban village in 2000-2001, four animals were bought for fattening, three were bought for sacrifice at the Muslim feast of Layha, another three were bought as long-term investment, and one was bought as a short-term (one year) depository (*siga* 'savings'). All peri-urban pastoralists bought animals at the market, an average of two per household, more than in the other two villages. In short, buying in cattle in the nomadic village was a long-term investment in the family herd. In the two sedentary villages, buying cattle was primarily a means to make more money either through fattening or as (long and short-term) investments.

The commoditization of labor, land, and animals suggests a partial shift towards a capitalist production system in the peri-urban village. This commoditization of means of production, in particular the use of cottonseed cakes, has far-reaching consequences for the management of the family herd but does not necessarily lead to market-oriented production.

Market-Oriented Production

¹²⁵ Two sons in one household bought two exhausted cows for 25,000 and 35,000 FCFA, spent 44,000 FCFA on cottonseed cakes to fatten them, and sold them a couple of months later for 200,000 and 130,000 FCFA respectively, with is a 200% profit. However, not all people are that successful; the other household in the agro-pastoral village took losses pursuing the same strategy due to combination of bad luck and bad management decisions.

The fact that pastoral products have been commodities for centuries does not necessarily mean that the production system of FulBe pastoralists was market-oriented. Market-oriented production implies that pastoralists raise animals primarily to make a profit rather than meet household needs. In practice, it is difficult to make a clear-cut distinction, although it is possible to categorize some of their economic activities as more or less subsistence- or market-oriented.

In general, pastoralists in the three villages pursued strategies that can be labeled as subsistence-oriented. The primary goal of FulBe pastoralists was to increase herd size in order to achieve the secondary goals of subsistence security, insurance against disasters, wealth in animals, and status. My survey of herd changes shows that FulBe pastoralists in all three villages mainly sold animals on a need-basis. The social and/or biological needs of the household determined when and what animals were sold (Bierschenk and Forster 1991; Bourgeot 1981; Quarles van Ufford 1999:6).

FulBe make a distinction between two kinds of need: *haaje* and *bila*. *Haaje* refers to everyday needs such as feeding and clothing the household and predictable expenses for marrying off one's children. *Bila*, often translated as problems, are unexpected expenses such as medical costs, judicial costs, or compensation for damages to farmers' fields. FulBe make a further distinction between two levels of problems depending on what animal they have to sell: *haaje be'i* (goat problems) and *haaje na'i* (cattle problems), referring to magnitude of the anticipated costs in terms of the market value of the animals. 'Goat problems' are on the order of 10,000 to 20,000 FCFA (\$13 to \$26), while 'cattle problems' are in the order of 60,000 to 100,000 FCFA (\$80 to \$130). The

market value of the animals sold always matched closely the financial need of the household. Small stock and young bullocks were sold for smaller expenses; older bulls and cows were sold for larger expenses. Fluctuations in livestock prices at local markets have little to no effect on the number of cattle sold by pastoral households in the three villages. All the livestock sales recorded in the villages (and the timing thereof) were in response to household needs rather than fluctuations in prices.

A growing number of FulBe in the two sedentary villages, however, pursued a market-oriented strategy of fattening in addition to their ‘traditional’ extensive pastoral strategy.¹²⁶ This fattening strategy (*gantaago*) involves keeping a few animals in a corral or stable, giving them antibiotics and anti-trypanosomiasis treatments, while feeding them cottonseed cakes, sorghum stalks, and other supplementary feed (e.g., rice bran, bean tops, beer dredges), salt, and lots of water (Reiss 1997:219).¹²⁷ Two fattening strategies can be distinguished: the ‘finishing off’, i.e., fattening of older animals from

¹²⁶ Although there are some similarities between fattening and the intensive pastoral system in the peri-urban village (described in chapter five) – mainly the extensive use of cottonseed cakes – the intensification in the peri-urban village is very different from and should not be confused with fattening. In the fattening strategy, cottonseed cakes are used to make a profit, while in the intensive peri-urban system cottonseed cakes are used to ensure that animals in the family herd survive the dry season. There are a number of other differences. First, fattening animals are kept in stables; animals in the family herd go to pastures daily even though they find their nutrition primarily in the enamelware bowls and troughs in the village. Animals in the family herd also go on transhumance in the rainy season; fattening animals do not. Second, fattening animals are bought on the market; animals in the family herd are generally acquired through the social matrix of kin and community through inheritance, gifts, or loans. Third, fattening animals are raised for immediate profit; while animals in the peri-urban family herds are raised for a multitude of reasons such as savings, security, subsistence, profit, milk, and bridewealth. Generally, the people who engage in fattening in the Far North are not FulBe pastoralists but bureaucrats and other urban folk who diversify their economic activities.

¹²⁷ This fattening strategy is called *élevage embouche* in the French literature. In the Far North of Cameroon, both sheep and cattle are fattened, the former generally only for the sacrificial feast Layha. Transport on foot to the markets counters the effects of fattening and therefore one finds fattening only close to livestock markets (or large centers of meat consumption, i.e., urban centers).

the family herd before they are sold, and the purchase on local markets of cheap emaciated animals that are fattened and resold later.

‘Finishing off’ old animals from the family herd before they are sold at the local market is a strategy that was followed by household heads in the two sedentary villages but not in the nomadic village. Old and barren animals that were previously directly taken to the local livestock market to be sold were now fattened first so that they fetched a significantly higher price. Household heads used the revenues primarily for subsistence purposes, which illustrates the ambiguity of the two categories of subsistence- and market-oriented production.

Since the late nineties, peri-urban pastoralists who have entrusted herds to nomadic or hired herders also use the strategy of ‘finishing off’ animals that are on transhumance. In the past, peri-urban pastoralists with entrusted herd(s) let their herders sell exhausted animals to transhumant butchers or at local livestock markets in the transhumance area for very low prices.¹²⁸ Today, when an animal is too diseased or exhausted to continue the transhumance, absentee owners send a pick-up truck to the corral of the herder, and transport the animal back to the village. There the animal is given a regimen of antibiotics and then fattened using cottonseed cakes, hulls, and sorghum stalks. Prices at the Maroua market are much higher than in the transhumance

¹²⁸ In addition to the market for fresh meat, there is also a market for dried meat in the Chad Basin (Frechou 1966: 91). The dried meat market is tied to the dry season transhumance areas of the Logone Flood Plain and the shores of Lake Maga, which are farther removed from the bigger population centers. Transhumant butchers follow the transhumant pastoralists and buy animals that transhumant pastoralists are unable to sell at one of the local weekly livestock markets because the animals are too diseased or exhausted. These butchers dry and later sell the meat.

zones, and peri-urban pastoralists easily make up for the extra expenses of transportation, veterinary treatments, and cottonseed cakes. However, this strategy requires a considerable amount of ready cash available and a social network that includes people with a pick-up truck (or access to one).¹²⁹

The other fattening strategy of buying emaciated animals on local markets and reselling them later for a profit is a strategy in the two sedentary villages that is used by mainly young men between the ages of 25 to 35. All the individuals who pursued this fattening strategy had an additional income from trade because it required a significant financial input, at least 100,000 FCFA (\$135), to buy cottonseed cakes to feed one animal for four to six weeks. Fattening profits ranged from 10,000 to 60,000 FCFA (\$13.50 to \$80). However, many people lose money because they do not take into account all the costs, pay too much for the animal to begin with, or suffer some misfortune.

Fattening, and buying of animals more generally, is also a way for wealthier pastoralists with surplus cash to avoid the Islamic prohibition on earning interest. One of my informants in the peri-urban village of Wuro Badaberniwol had bought a young bullock at the Maroua market, and I asked him repeatedly why he did not buy a female calf or heifer that would increase his herd size in the end. Although, increase in herd size was important to him, he had bought this animal specifically with the goal of storing money and selling it with a profit the following year. Others buy animals to resell them in

¹²⁹ Poorer transhumant pastoralists lack the capital to follow this strategy and have no choice but to sell their exhausted animals to the transhumant butchers for a small fee. Some transhumant pastoralists find the amounts offered by the transhumant butcher offensively low, and prefer to slaughter the animal themselves and distribute the meat gratis among family and friends.

the following rainy season, not necessarily for a profit, but to store the money in cattle for later covering the costs of agricultural wage laborers.¹³⁰

Another form of market-oriented animal husbandry that involves the feeding of cottonseed cakes aims to increasing milk yields and marketing of dairy products. Two households, one agro-pastoral and one peri-urban, used cottonseed cakes with the explicit goal of increasing milk production for marketing purposes. Other women talked about the idea and its effectiveness but they lacked the cooperation of their husbands, the financial means, or the animals to pursue this strategy. My calculation (discussed in chapter five) shows that the investment in cottonseed cakes pays off and leads to higher milk yields and higher revenues. The households that used cottonseed cakes for dairy purposes still had a common fund to which both wife and husband contributed (discussed in chapter seven).¹³¹ All pastoral households with a milk surplus beyond household consumption marketed dairy products, but most of them did not use extra capital inputs to increase their dairy revenues. Even though the two households aimed at maximizing profits, they used the dairy revenues for household subsistence needs, thereby illustrating again the ambiguity of the concepts of subsistence- and market-oriented production.

The market-oriented strategies described above – e.g., fattening and increasing milk yields using cottonseed cakes – are more accurately described as a shift towards

¹³⁰ Ferguson has suggested that fattening is a strategy to tie up money so that at the beginning of the rainy season, when they sell the animals, people have money available for labor and ploughing in the agricultural season (Ferguson 1967:72-3). FulBe pastoralists in the Far North sell cattle to hire seasonal agricultural laborers but it is unclear whether they fatten animals for this purpose.

¹³¹ The peri-urban pastoralist, Yeero, fed his cattle more cottonseed cakes than were necessary for survival in order to increase milk yields. His was the only peri-urban household in which dairy revenues were still contributed to a common household fund (see chapter nine for a detailed discussion of this household).

diversification of the pastoral economy rather than its transformation towards a market-oriented system. The two systems – extensive pastoralism and fattening – are separate but co-existing activities within pastoral households. Fattening is in many ways more similar to cultivating cotton than raising cattle in the family herd. It represents a diversification of pastoralists' economic activities aimed at increasing cash income, not a change of their management of the family herd, which is aimed at long-term security and subsistence.

Market Exchanges within Pastoral Society

When market exchanges – those in which the value of the object exchanged is determined by supply and demand – become more prominent with a society one could argue that its members become more incorporated in the market economy. Although, money is generally used in market exchanges, the use of money does not necessarily mean that exchanges are market exchanges. The FulBe indirect dowry (*sadaaki*) traditionally consisted of one heifer that was given by the groom's father to the bride. Over the last five decades, there has been a monetarization of the indirect dowry and now practically all the exchanges of indirect dowry involve cash rather than cattle (discussed in chapter eight). However, the exchange of indirect dowry has not become a market transaction; the amount of cash given as indirect dowry is not a reflection of the bride's market value.

On the other hand, one can argue that contracts between herd owners and hired herders, an exchange that did not involve money in the past, was a market exchange. In the past, hired herders were paid in kind and given a heifer or bullock every three to four months, while today they are generally paid a monthly salary that ranges from 5,000 to 7,000 FCFA (\$6.5 to \$9). In both cases, the herding contract is a market exchange, even though rates have changed very little over the last twenty-five to fifty years.

Market exchanges do occur between and within FulBe households. Cattle are not only exchanged or given in traditional exchanges such as the *nanngaaye* loan of a heifer or the *sukkilaaye* gift of a heifer from parent to child (discussed in chapter eight). I recorded a number of sales of cattle within and between households in all three communities, but more so in the peri-urban village. Milk was sometimes sold in the two sedentary villages between but not within households. However, milk was also frequently given to other households that were in need. FulBe men and women who are engaged in petty trade sometimes sold their commodities – e.g., beignets, sugar, and peanut oil – to people from neighboring households or to people in their own household (discussed in chapter seven). But, again, they also gave away some commodities to friends, family, and/or people in need.

In conclusion, the social life in the three villages is not dominated by market exchanges, but it was not regarded inappropriate to use market exchanges within and between households, particularly in the peri-urban village.

SUMMARY

The chapter's analysis shows that FulBe pastoralists participate in the market economy along all dimensions (save for the nomadic pastoralists who did not have a monetary income from non-pastoral sources). There is, however, considerable variation between and within villages with regard to the degree in which they are incorporated in the market economy.

The peri-urban pastoralists are more involved in the market economy than pastoralists in the other two villages. They purchased more market goods; more of them had an alternative, non-pastoral source of income; they spent more on pastoral production inputs; and market exchanges featured more prominently in their social life. Peri-urban pastoralists did not sell more cattle nor was their pastoral production system more market-oriented than in the agro-pastoral and nomadic village. The commoditization of production inputs and increased consumption in the peri-urban village were instead financed with non-pastoral income, which was higher than in the other two villages. Moreover, the increase in production costs was a response to the disappearance of rangelands rather than a response to the market (discussed in chapter five).

CHAPTER 5: INTENSIFICATION

INTRODUCTION

The disappearance of rangelands is one of the main threats to the sustainability of African pastoral systems (Fratkin 1997; Niamir-Fuller 1999b). The pressure on rangelands is also an urgent issue for FulBe pastoralists in the Far North Province of Cameroon, which has one of the higher population densities in the Sudan-Saharan zone of West Africa (83 per km²). The Sudan-Saharan zone stretches from Senegal to Sudan and provides livelihoods for both agriculturalists and pastoralists who are in direct competition for scarce resources (Raynaut 1997). The growing population, urbanization, and the expansion of (intensive) agriculture around the cities in this zone over the past decades have led to the disappearance of the bush and a loss of natural forage in peri-urban areas during the dry season. Peri-urban pastoralists in the Far North have adapted to this predicament by splitting their herds, entrusting cattle to nomadic pastoralists who are permanently on transhumance and feeding the remainder of the village cattle cottonseed cakes and cottonseed hulls in the dry season. Peri-urban pastoralists in the Far North thus combine intensive and extensive strategies to cope with the disappearance of rangelands, and provide thereby a challenge to the dominant development paradigms of modernity and mobility that stress either intensive or extensive strategies.

Reliance on cottonseed cakes results in a more labor- and capital-intensive form of pastoral production in the peri-urban village. One direct consequence of the intensification of the pastoral production system is a considerable increase in the financial costs of raising cattle. Today, peri-urban pastoralists have to sell cattle to feed their families and family herds – sometimes as many animals as are born in the same year – whereas in the past they only sold cattle to provision the family. This raises the question whether intensification of pastoral systems using cottonseed cakes is a sustainable alternative to extensive pastoralism traditionally practiced by pastoralists in the Sudano-sahelian zone. Peri-urban pastoralists disagree among themselves whether the use of cottonseed cakes is a sustainable strategy.

In this chapter, I will examine the autonomous development of the peri-urban pastoral system and evaluate its economic performance by comparing production costs, herd growth, and financial returns of the pastoral systems in the three villages.

PASTORAL ECOLOGY

The Far North Province of Cameroon, located between 10 and 13 degrees north (latitude) and 14 and 16 degrees east (longitude), has a semi-arid climate with one rainy season from May through September. Average annual rainfall ranges from 1,000 mm in the southern end to 400 mm in the northern end of the province (l'Hôte 2000). The

research villages are located between the 600 and 800 annual rainfall isohyets and have between 40 and 60 rainy days per year (Boutrais 1983; l'Hôte 2000). Rainfall differs significantly from one year to another and within a single season and is spatially extremely variable (see figure 5.1). The amount of rainfall and number of rain days can even vary significantly within a 15-kilometer radius.¹³² This temporal-spatial variance in rainfall has severe repercussions for the well being of man and animals since the lack of rainfall or an erratic temporary distribution of rainfall can mean harvest failure and lack of natural forage for animals. There is direct correlation between the amount of rainfall and the production of herbage, which follows rainfall in space and time (le Houérou 1985). The average rainfall in the Sahel has declined slightly over the last fifty years, which means that livestock production, average weight or overall numbers, must decline to accommodate this trend (Mortimore 1998:63).

In the last ten years, rangeland ecologists have challenged conventional succession models of rangeland vegetation and introduced new models that distinguish between rangelands in equilibrium and disequilibrium, often referred to as 'new rangeland ecology' (Behnke Jr., et al., 1993; Ellis and Swift 1988; Ellis, et al., 1993; Little and Leslie 1999). In semi-arid and arid areas with extreme fluctuations in rainfall (i.e., a coefficient of variation of more than 30%) it is impossible to discern the effect of livestock populations on rangelands because of high variability. In those disequibrial

¹³² In 1978, at four weather stations in the town of Yagoua, a variance of 17 rain days (44, 61) and a variance of 611 mm rainfall (350 mm, 961 mm) was measured (Beauvilain 1989:44). Due to the annual variation in rainfall, it remains difficult to determine whether this represents a real trend in declining rainfall or is the result of random fluctuations (Mortimore 1993:63). Average rainfall in Maroua over the last 50 years was 814 mm and a standard deviation of plus or minus 148 mm. Coefficient of rainfall variation is SD 148 divided by mean 814 times 100 (Mortimore 1998:74).

systems, opportunistic grazing and stocking strategies are the most effective because droughts are frequent and will crash livestock numbers (Mortimore 1998; Sandford 1982). In these systems, it is unlikely that livestock populations will overgraze the range. In equilibrial systems, on the other hand, vegetation change is gradual and follows a more classic succession pattern, which means that overstocking will have a greater impact on the environment (Behnke Jr., et al., 1993; Coppock 1993).

The coefficient of variation of rainfall in Maroua is 18%, which is considered an equilibrial regime, means that overstocking would have a greater impact in the long term on the environment than rainfall fluctuations. However, in areas with equilibrial rainfall regimes, some rangeland areas may be in disequilibrium (Scoones 1993). The relation between rainfall variation, grazing pressure, and rangelands remains unclear in areas with equilibrial rainfall regimes such as the Far North of Cameroon as this is the under-theorized part of the ‘new rangeland ecology’.

Two phytogeographic zones of vegetation characterize the province, the Sudanian (Sudano-sahelian) in the southern grades to Sahelian (Sahelo-sudanian) in the Logone Flood Plain (CIRAD-CTA 1996) (see map 5.1).¹³³ Although, the Sahelian zone is characterized by lower rainfall and a shorter rainy season, the seasonal flooding of the Logone Flood Plain makes the zone one of the most important dry season rangelands in the Chad Basin (Schrader 1986; Seignobos 2000b).

¹³³ The area north of the line that can be drawn between the towns of Waza and Pouss is considered Sahelian (Sahelo-sudanian).

Pastoralists from Cameroon and neighboring Nigeria and Niger, trek each November to the Logone Flood Plain when the water retreats to exploit the excellent quantity and quality of the rangelands. The saying *Bori booro nyalbi* ‘the Logone River is like [or has] a sack of calves’ expresses the value of the Logone Flood Plain for FulBe pastoralists: cattle in the flood plain are well fed and reproduce fast. In addition, the numerous depressions that are interspersed throughout the plain and the rivers that intersect it provide surface water throughout the dry season for their cattle. The size of the flood plain is about 5,000 km² and sustains over 10,000 pastoralists and an estimated 200,000 cattle in the dry season.

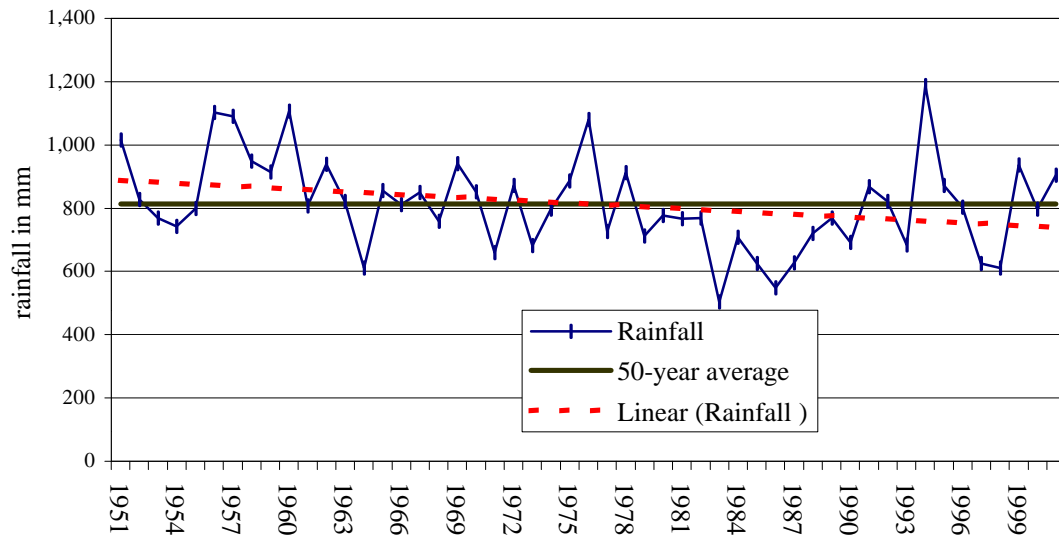
At the start of the rainy season, the Cameroonian transhumant pastoralists return to the higher elevated dunes of the Diamaré, while pastoralists from neighboring countries return to their respective countries. The Diamaré plains are covered by a woody savanna, in which clay vertisols (*karal*, plural *kare*) are used for the cultivation of off-season sorghum (*muskuwaari*) since they retain water much longer than the sand dunes (*yoolde*, plural *yoole*) that run parallel along the ancient shorelines of Lake Chad. The less populated areas of the Diamaré (e.g., north of Moulvoudaye and south of Guidiguis) that are used as rainy season transhumance areas are characterized by relatively dense vegetation and tall trees. The bush in the more populated peri-urban areas of the Diamaré, on the other hand, is rapidly disappearing as vertisols are cleared for off-season sorghum fields and trees are cut by wood sellers. The Diamaré plains and the Logone Flood Plains form complementary resources for pastoralists in the Far North; the former provide pastures in the rainy season, the latter in the dry season (Requier-Desjardins 2001:28).

In the rainy and harvest season from mid-June to mid-October, there is fresh forage in abundance. The problem is the dry season. In November, all grasses in the Diamaré plains dry up and their nutritional value and palatability diminishes. During the eight-month dry season, cattle lose considerable weight and become more susceptible to diseases. Animal losses are the highest during this season. The seasonal variation of fodder resources means that the physical state of cattle alternates from well fed to seriously emaciated within a yearly cycle (Little, et al., 1999:19; Schareika 2001: 82-83).¹³⁴ The bottleneck of the difficult period has been dubbed the ‘dry season crunch’ (Frechou 1984:431)(see figure 5.2). The primary goal of FulBe pastoralists in the semi-arid ecology of the Far North Province is to overcome this dry season crunch and get their animals through the dry season into the next rainy season (cf., Schareika 2001).¹³⁵ This is achieved through a focus on animal nutrition, in particular the fattening of animals in the rainy season so that they have enough reserves to survive the long dry season (Schareika 2001). In the dry season, the focus is on preventing weight loss. Traditionally, pastoralists achieved the goal of preventing weight loss of their animals through transhumance, in which herders and animals trek to the rangelands with the highest quality and quantity of forage.

¹³⁴ Pastoralists go through a similar cycle as labor demands increase in the dry season (longer treks to find forage) and milk production decreases (Little, et al., 1999; Loutan and Lamotte 1984; Mortimore 1998:61).

¹³⁵ FulBe pastoralists take the goal of getting cattle through the dry season sometimes very literally. They believe that if the first raindrops fall on their animals or when the animals taste the first young shoots or drink the water of the new rains, they have succeeded in overcoming the dry season crunch: *na’i seetini*. The story goes that one herder traveled to the southern tip of the province to collect rain water in a bottle and bring it back to his animals

Figure 5.1: Rainfall in Maroua-Salak, 1951-2001



Linear (rainfall) represents a trend-line, which suggests a decline in annual rainfall over the last fifty years as is documented for average rainfall in the Sahel (Mortimore 1998:63). Data comes from the Ministry of Transportation, Provincial Delegation of the Far North Province, Provincial Meteorology Service.

Map 5.1: Transhumance Zones in the Far North Province



The Logone Flood Plain is the dry season transhumance area for pastoralists in the Far North and neighboring countries of Niger and Nigeria. In the rainy season, transhumant pastoralists can be found primarily in the Mindif-Moulvoudaye area, but also in the Guidiguis area to the south.

Population Growth

The Far North Province has some of the highest population densities in the Sudan-Sahelian zone of West Africa. Over the last decades, the population has grown from 1,396,124 in 1976 to an estimated 2,838,000 in 2000 (Seignobos 2000g) (see table 5.1). The average annual population growth is approximately 3% (Seignobos 2000g).¹³⁶ However, the natural increase of the sedentary FulBe population is relatively low (David and Voas 1981). One of the reasons is that FulBe have higher sterility rates than neighboring groups due to a higher incidence of sexually transmitted diseases (David and Voas 1981; Podlewski 1966). There is some indication that nomadic FulBe populations are characterized by a natural increase (David and Voas 1981; Podlewski 1971), although the effect of out-migration on population growth remains unclear for nomadic FulBe in the Far North.¹³⁷

The population density in the Far North averages about 83 inhabitants per square kilometer (Seignobos 2000g). The densities in the traditional rainy season transhumance zones – the so-called no-man's lands separating the FulBe lesDe from other ethnic groups – and the dry season transhumance zone of the Logone flood plain, are much lower (10

¹³⁶ The population growth of the Far North Province is similar to the average annual population growth rate for Sahelian areas (World Bank 1994).

¹³⁷ Sandford (Sandford 1976:60), after reviewing the scant literature on pastoral demographics, concluded that there is no evidence of growing pastoral populations in sub-Saharan Africa. This might be due to substantial out migration into non-pastoral activities because Leslie et al., (1999) found that Turkana pastoralists had fecundity rates that were relatively high.

per km²) than the densities in the Diamaré plains (70 per km²) and peri-urban area of Maroua (100 to 149 per km²).

It is not the general population growth in the Far North Province that is the driving force behind the intensification of the pastoral production system in the peri-urban area, but more specifically the population growth in Maroua and the expansion of the city. The annual population growth of the provincial capital Maroua is 9% of which 6% is due to in-migration (Iyébi-Mandjek and Seignobos 2000b).¹³⁸ This population growth has led to a rapid expansion of agriculture and disappearance of the bush in the peri-urban area as recent migrants from the rural areas and autochthonous populations continue to farm (and clear fields) in the immediate environments of the ever-expanding city. In addition, there has been an intensification of agriculture in the immediate surroundings of Maroua, where horticulture has become more common (e.g., irrigated gardens and orchards)(Iyébi-Mandjek 2000; Timmermans and Groot 2001).

¹³⁸ The urbanization rate of Maroua is similar to the urbanization rate for the Sahel (see also, Mortimore 1998:101; World Bank 1994).

Table 5.1: Population and Population Density in the Far North Province, 1976-2000

	1976	1987	1992	1995	2000
Population Far North	1,396,124	1,880,866	2,141,000	2,467,000	2,838,000
Density per km²	40.8	54.9	62.5	72.0	82.8
Population of Maroua	62,600	123,000	162,000	210,000	323,000

1995 and 2000 are estimations (data from Seignobos 2000g).

Pressures on Rangelands

There is little doubt that rangelands are disappearing as urban populations grow and agricultural areas expand around the population centers of the Far North, in particular around Maroua. In addition, the appropriation of land by the Cameroonian state for wildlife conservation and agricultural development projects, notably Waza National Park, SEMRY Irrigated Rice Cultivation, and the Mindif-Moulvoudaye Agro-Pastoral Project has diminished rangelands by 237,500 hectares in barely three decades.¹³⁹ All this suggests that the pressure on the remaining rangelands has increased. Recent decades, however, also show a decline in cattle numbers from approximately 950,000 in 1970 to approximately 640,000 in 1990 (see figure 5.2).¹⁴⁰ Since it is unknown exactly how many square kilometers of rangelands have disappeared due to agricultural expansion, it

¹³⁹ The establishment of the Waza National Park reduced the available rangelands by 170,000 hectares in 1968, although a number of pastoralists continued to pasture in the park (Scholte, et al., 1999). Irrigated rice projects of SEMRY (I, II, and III) reduced available rangelands by 52,500 hectares between 1975 and 1985 (this includes Lake Maga); while the Mindif-Moulvoudaye Agro-Pastoral Project excluded non-resident pastoralists (i.e., all transhumant pastoralists) from 15,000 hectares in 1979.

¹⁴⁰ I collected data on the pastoral economy from the Ministry of Livestock, Fisheries, and Animal Industries. I checked this with data from the literature (Beauvilain 1981, 1985, 1989; Marty 1992; Seignobos 2000a, 2000b). The information from the government services is generally unreliable due to a lack of resources and corruption on the part of veterinarians. Estimations of livestock population numbers by veterinary and other services vary considerably (Boutrais 1996); estimations for one year ranged from 650,000 to 1,200,000 head of cattle (Marty 1992). Writers of the government reports clearly warn the reader that the numbers are unreliable. Nevertheless, scholars often seem to ignore these warnings and tend to grasp any numbers with great eagerness “because of our obsession with quantification” (Toulmin 1994:16). I have therefore only used this information for approximations of trends in changes of livestock numbers over time. The numbers suggest that livestock numbers have been going down for the last two decades in the Far North of Cameroon. The fact remains that, and this is the most important point that I want to make here, we do not really know how many cattle there are in the province and whether cattle populations are increasing or decreasing (see also, Toulmin 1994:16).

remains unclear whether grazing pressure on rangelands has increased. In fact, the net combined effect of appropriation of rangelands by the state for development projects and wildlife conservation, and the decline in cattle numbers in the last three decades, actually led to a reduction in the provincial grazing pressure from 28 animals per km² in 1970 to 20 animals per km² in 1990. Another question is, assuming grazing pressure has increased due to agricultural expansion, whether this has led to rangeland degradation and where.

Claims of rangeland degradation in the Far North are nothing new; colonial officials made such claims as early as the 1920s (e.g., Beauvilain 1989:284; Frechou 1966: 25; Njoya, et al., 1997a:110). But despite numerous experimental and observational studies, no conclusive evidence supports such claims (see for example, Lavaux 1993).¹⁴¹ It remains difficult, if not impossible, to assess whether rangeland degradation is taking place because rainfall and forage production fluctuate considerably in space and time in semi-arid and arid rangelands (Behnke Jr., et al., 1993; Homewood and Rogers 1987; Sandford 1982; Scoones 1995).

Because it is impossible to make general statements about the state or degradation of rangelands in the Far North, I have estimated the grazing capacity, i.e., the number of animals that can live off the forage available in a determined period for the rangelands

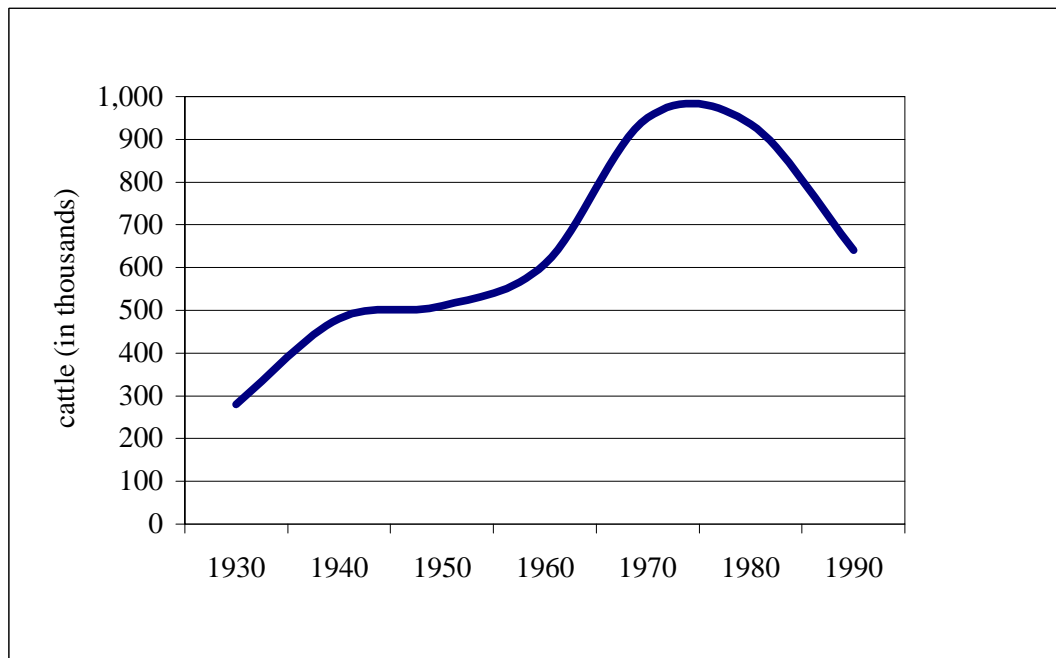
¹⁴¹ One of the problems of rangeland studies is to extrapolate from particular areas to the province as whole. There is considerable variation throughout the province in population densities, agricultural expansion, and state of rangelands and this makes it almost impossible to make any statements about the state of the rangelands in the Far North Province. One cannot conclude from aggregate data on livestock densities (28.5 TLU per km² in the Far North Province) that the province has problems of overgrazing, (see for example, Njoya, et al., 1997a). Moreover, grazing patterns are very flexible and mobility is high as is evidenced by the fact that one-third of all cattle in the Far North go on transhumance.

that are used by pastoralists in each village.¹⁴² The biomass study allows comparison of natural forage availability in the three villages during the 2001 dry season.¹⁴³ While the biomass study does not indicate anything about changes in rangeland productivity or rangeland degradation, it reveals sufficient forage available in the transhumance zones of Lake Maga and the Logone Flood Plain. The study also confirms what was clear from simple observations: there is practically no forage in the peri-urban areas. The grazing capacity, i.e., the number of animals that can live off the forage available in a determined period, is extremely low in the peri-urban area (see table 5.2). Cattle in the peri-urban area could not survive without supplementary feed such as cottonseed cakes, cottonseed hulls, and sorghum stalks.

¹⁴² The method used to assess of biomass was developed by Breman & de Ridder (1991), and operationalized for the Far North Province by van der Jagt & Abatcha (1997).

¹⁴³ The ‘dry season crunch’ is the limiting factor in the ecological system for pastoralists and their animals in the Far North – there is no shortage of forage in the rainy season – therefore, measurement of dry season forage availability is the most important.

Figure 5.2: Evolution Cattle Population in the Far North Province 1930-1990



The figure represents the averages of the data presented in the literature (Beauvilain 1989; CIRAD-CTA 1996; Frechou 1966; Marty 1992; MINEPIA 1995; Requier-Desjardins 2001; Seignobos 2000a). The data on livestock numbers in the Far North Province are unreliable and the figure therefore only represents approximations of numbers and changes of cattle populations over time.

Table 5.2: Biomass and Grazing Capacity in the 2001 Dry Season

Location	Vegetation type	Estimated Biomass (kg/ha)	Grazing Capacity (animals per day)
Peri-urban area Maroua	Woody/grass savanna	1,361	11
Agropastoral area	Woody/grass savanna	2,992	87
Shores of Lake Maga	Grass savanna	7,003	340
Logone Flood Plain	Grass savanna	12,556	574

Data collected by CFAILD Maroua, commissioned by the author. The shores of Lake Maga (*Ndiyam Shinwa*) and the Logone Flood Plain (*Yaayre*) are the transhumance areas of nomadic pastoralists from Wuro Eggobe and the bush herds of the peri-urban pastoralists from Wuro Badaberniwol. Grazing capacity is calculated per 100 hectares for the last three months of the dry season of 2001 (March-June).

INTENSIFICATION

FulBe pastoralists in West Africa have always fed their cattle supplementary feed in addition to natural forage from rangelands. They engage in exchanges of sorghum and millet stalks for manure with agriculturalists (e.g., Breusers, et al., 1998; van Driel 1999). Stalks continue to provide an important source of nutrition and roughage for cattle in the Far North of Cameroon but cottonseed cakes are now the most important feed for peri-urban cattle. The increased use of cottonseed cakes as supplementary feed and the associated increase in production costs reveal an intensification of pastoral systems throughout the Far North Province. This process has gone farthest in the peri-urban area of Maroua, where the expansion of agriculture and subsequent disappearance of rangelands provides the driving force behind the intensification. In the peri-urban village of Wuro Badaberniwol, cottonseed cakes and hulls formed the primary source of nutrients and roughage for cattle, such that they substitute rather than supplement natural forage.

Intensification refers here primarily to a transition from a pastoral production system that relies on ‘free’ natural forage to a more capital-intensive production system that relies on costly cottonseed cakes, cottonseed hulls, sorghum stalks, and other commodified inputs. The use of cottonseed cakes and hulls also entailed extra labor demands. The purpose of intensification was not to increase the output per animal (i.e., milk yields and fertility rates). Its foremost aim was to get animals through the dry season

scarcity of feed. Peri-urban pastoralists fed their cattle enough cottonseed cakes to make sure that they were in a healthy condition; as a result, their animals were not much fatter than the cattle in the agro-pastoral village.

Pastoral intensification is understudied, though there is an extensive development literature on livestock and intensification (e.g., Bourn and Wint 1994; McIntire, et al., 1992; Mortimore and Turner 1991; Williams, et al., 1999). But this literature describes a different group of rural agricultural producers and different processes of intensification, farmers who integrate livestock in their agricultural system, not pastoralists who intensify their pastoral system.

The intensification of the pastoral production system in the peri-urban village is not an intensification of land-use in which livestock are integrated in the agricultural production system using manure as fertilizer and sorghum stalks as fodder. Instead, it is an intensification of livestock production rather than land-use.¹⁴⁴ Intensification also does not refer to an increase in the number of animals per unit of rangeland. In fact, the relation between rangeland and animals becomes irrelevant, at least in the dry season, as natural forage is replaced by cottonseed cakes.

The intensification is also not a response to the greater demand for livestock products brought on by an increase in urban demand and income (cf., Gass and Sumberg 1993). Although, livestock prices in Maroua have increased in the last twenty years from approximately 100,000 FCFA in 1982 to 160,000 FCFA in 2001, there is no discernable

¹⁴⁴ To give an indication of the degree of pastoral intensification versus agricultural intensification, I would like to point out that sorghum stalks, which are used as animal feed, are a commodity in the peri-urban area and cattle manure, which can be used as fertilizer in the fields, is not.

trend in changes in relative prices of sorghum and cattle. It is unlikely that higher livestock prices have driven the process of intensification since commercial off-take rates in the peri-urban village were similar to that of the other two villages: 19%, 18%, and 19% in respectively in the peri-urban, agro-pastoral, and nomadic villages (and only 10% when the peri-urban bush herds are included). Peri-urban pastoralists' goal of intensification is to ensure the survival of their animals in the dry season. Their first priority is not higher milk yields, higher fecundity rates, or fatter bulls. Intensification is a response to the disappearance of rangelands.

It seems an oxymoron – an intensive pastoral system – since pastoral systems are per definition extensive and rely primarily on free natural forage. One could suggest that it is better to refer to the intensive system in the peri-urban area simply as animal husbandry rather than as pastoralism. I would argue, however, that it is appropriate to speak of an intensive pastoral system. The intensification is limited to the dry season when no natural forage is available and concerns only the animals that remain in the peri-urban area. In the rainy season, these same animals are sent on transhumance to the Mindif-Moulvoudaye area where their entire nutritional intake comes from natural forage.¹⁴⁵ Moreover, another part of the herds is permanently entrusted to nomadic pastoralists who are on transhumance in the Logone Flood Plain and the shores of Lake Maga in the dry season. Animals are continually exchanged between the bush and the village herds depending on milk and cash needs of the household, labor availability, and

¹⁴⁵ According to my informants, this leads to the strange paradox that the village cattle that were fed cottonseed cakes in the dry season lost weight in the rainy season, while all other cattle in the Sahel gain weight in the rainy season.

the health and condition of the animals in the bush herd. The autonomous development of the peri-urban pastoralists thus involves a combination of intensive and extensive strategies that are fully integrated, (cf., Reiss 1997:222). Cottonseed cakes are not an alternative to transhumance; they complement each other. In fact, the intensification of the peri-urban pastoral system in the dry season is only possible because the same animals go on transhumance in the rainy season (cf., Mortimore 1998:147). The increased milk production and higher reproductive rates would most likely not compensate for the higher production costs if cattle were to be fed cottonseed cakes throughout the year instead of only during the dry season.

The purpose of intensification is not increasing the output per animal nor do peri-urban pastoralists use cottonseed cakes to raise cattle for the market and fetch higher prices. Peri-urban pastoralists pay for costly cottonseed cakes so that their animals survive the dry season. Ultimately, they were primarily raising cattle for the next generation. The main change in their pastoral systems is that in the dry season, natural forage has been replaced by cottonseed cakes. Therefore, it is not an oxymoron to refer to an intensive pastoral system.¹⁴⁶

A Recent Phenomenon

¹⁴⁶ Moreover, peri-urban pastoralists continue to identify themselves as FulBe pastoralists although, they have increasingly less daily involvement with the management of the herd. Few peri-urban pastoralists are herding themselves; most of the herding is done by salaried herders.

The intensification of pastoral production systems through the increasing use of cottonseed cakes in the peri-urban area of Maroua is a recent phenomenon. FulBe pastoralists in West Africa have long the natural forage for their cattle with sorghum stalks and cottonseed for centuries. People in northern Nigeria were feeding their animals cottonseeds early in the nineteenth century (Denham, et al., 1826:192).¹⁴⁷ Today the use of cottonseed cakes is widespread among FulBe agro-pastoralists in West Africa (Blench 2001; Buhl 1999; Demirag 2002; Fricke 1979; van Raay 1975; Waters-Bayer 1985). However, the degree of intensification and the dependence on cottonseed cakes as observed in the peri-urban village of Wuro Badaberniwol is recent and unprecedented.

Cottonseed cakes have been produced locally by sodecoton (Société de développement du coton du Cameroun) since the late 1960s. Sodecoton, the fourth biggest business in Cameroon, is one of the most profitable partly state owned businesses. The cultivation of cotton is also one of the main sources of agricultural income for peasants in northern Cameroon (Ali 1994; Roupsard 1987; Zuiderwijk 1998). Sodecoton, created in 1974, is a joint venture of the Cameroonian state and the French Compagnie Française pour le Développement des Fibres Textiles, which own respectively 70% and 30% of the company. The primary activities of sodecoton are the promotion of cotton cultivation, processing, and selling.¹⁴⁸

¹⁴⁷ “Cotton seed bruised is very much use for feeding sheep, bullocks, asses, and camels. These animals soon become extremely fond of it; it is an excellent food for fattening them”(Denham, et al., 1826:192).

¹⁴⁸ In the Far North, sodecoton can be almost considered as a state within the state as it has taken over many of the government tasks (e.g., maintaining roads, agricultural development).

The processing of cotton is done in the two factories (Maroua and Garoua). In addition to cotton fibers, the company produces cottonseed oil (damaor, which is marketed locally for cooking) and animal feed: cottonseed cakes and hulls. In the factories, seeds are removed from the cotton fiber, then crushed to separate the hulls from the seed, and finally pressed or heated to extract the oil. The residue with added minerals and vitamins is sold in 60-kilogram sacks under the names Nutribet and Alibet (from the Maroua and Garoua factories respectively).¹⁴⁹

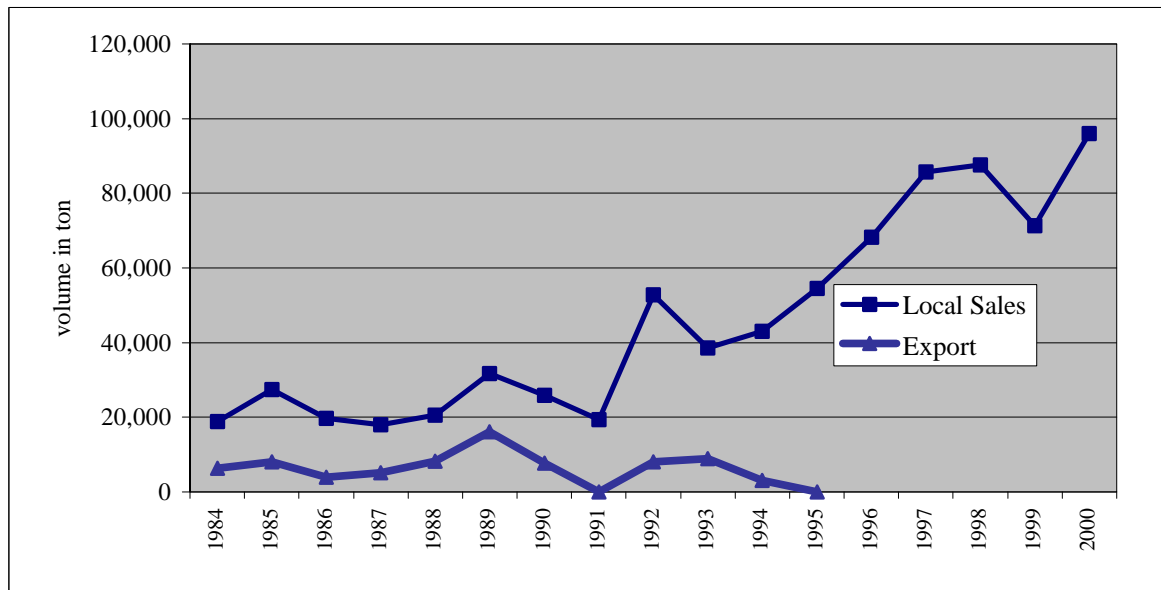
Animal feed remain a minor activity and source of income for sodecoton; they account for only 2% of the total revenues or 1.8 billion FCFA (2.4 million US dollars), but they have become extremely important for pastoralists in the Far North. One indicator of the growing use of cottonseed cake among pastoralists is sales and revenues, which have increased almost exponentially over the last two decades (see figure 5.3). Sodecoton earned about 300,000 FCFA (\$400) from cottonseed cake sales in 1983/1984, which increased to about 1,800,000,000 FCFA (\$2,400,000) in the 1999/2000 administrative year. Sodecoton has been considered the motor behind the development of the agricultural sector in northern Cameroon because of its technological and institutional support to rural populations, e.g., introduction of ploughs, fertilizer, pest control, cooperatives (Roupsard 1987). Today Sodecoton is also the motor behind the

¹⁴⁹ Sodecoton adds 3% calcium, 1.5% salt, and 0.5% concentrated minerals and vitamins to 95% cottonseed cakes to make Alibet and Nutribet (BONIFICA 1992:10). Nutribet has a higher oil content because of different extraction methods in the older Maroua factory. The French terms for cottonseed cakes and hulls are *tourteaux* and *coque*. FulBe refer to cottonseed cakes as *marware* or *bakkewa* (Nutribet) *garware* or *lammuga* (Alibet) or simply as *turto*. Hulls are referred to as *cake bi'e*, *laato turto*, or *afufa*.

development of the pastoral sector through the sale of cottonseed cakes and hulls as well as the marketing of veterinary medicine.

Cottonseed cakes and hulls were not widely used as animal feed in the Far North until the droughts of the early 1980s, when many pastoralists were exposed for the first time to their nutritional advantages. Earlier attempts of Sodecoton to persuade farmers and pastoralists to use cottonseed cakes for draught animals (used for the cultivation of cotton) had not met with great success. Until 1993, cottonseed cakes were exported to Scandinavia because of the lack of local demand, while hulls were dumped in the seasonal river just behind the Maroua refinery. Only in the 1990s did local demand for cakes and hulls begin to grow significantly with demand far exceeding supply in the long dry season of 2000-2001. That year pastoralists were anxiously trying to buy 7,500 FCFA 60-kilogram sacks of cottonseed cakes and 2,000 FCFA sacks of hulls to save their animals from starvation. The slow and long process of diffusion of cottonseed cakes as supplementary feed for draught animals played an important role in the autonomous process of pastoral intensification. The slow adoption of technology and only when pressures on rangelands forced peri-urban pastoralists to use them closely follows Boserup's model of agricultural intensification in that costly innovations were only adopted when there was no other option (Boserup 1965; Boserup 1981).

Figure 5.3: Cottonseed Cake Sales, 1983 – 2000



Data are from the Sodecoton. Export of cottonseed cakes to Scandinavia stopped in 1994. Since then all sales have been local.

Labor Inputs

The use of cottonseed cakes has radically altered the daily management of cattle in the family herd. It has increased labor inputs in the feeding and the purchasing of cottonseed cakes.

Animals are fed cottonseed cakes twice daily, once in the morning before the animals go to ‘pasture’ and once in the evening upon return. Feeding cattle cottonseed cakes is labor intensive. In most pastoral households, cattle are fed individually, one-by-one, with each its own enamelware bowl rather than a common trough (see plate 5.1). Herders use enamelware bowls to feed each animal individually. Cottonseed cakes and hulls are mixed in a bowl and taken from each individual owner’s private stock (see plate 5.2). In addition to one person feeding the animals, another person controls the other animals, which are eager to get their twice-daily ration.¹⁵⁰ Depending on the number of animals, the feeding can take up to more than three hours a day. In the dry season, cattle get all their food in the village in the form of cottonseed cakes and hulls. It is just for ‘show’ that cattle go to pasture. One formerly nomadic FulBe who worked as a salaried herder in the peri-urban village said: *na’i damdamti non* ‘the cattle are just marching in the same spot [and do not graze at all]’.

¹⁵⁰ In agro-pastoral herds, one can easily recognize the few animals that are fed cottonseed cakes; they are the ones that run instead of mosey back to the corral.

The purchase of cottonseed cakes, hulls, and sorghum stalks is time-consuming as well as stressful because of unreliable supplies. FulBe pastoralists try to buy cottonseed cakes directly and cheaply from the producer, Sodecoton. By cultivating cotton, planters have the option to be paid in cottonseed cakes in addition to cash.¹⁵¹ Pastoralists were not always successful in getting cakes directly from sodecoton and the number of sacks they received generally did not suffice. Pastoralists had to buy additional sacks at the markets in Maroua as the dry season progressed. This required frequent trips to the city to find cottonseed cakes and hulls. Because supplies were unreliable and pastoralists tried to find the best deal, the purchasing of cottonseed cakes and hulls could become very time-consuming. Although, I did not conduct time-allocation studies, I observed that a number of pastoralists made daily two to three-hour bicycle trips to Maroua to buy cottonseed cakes and/or hulls.

The expansion of peri-urban agriculture into rangelands has created its own labor demands. In the dry season, after the harvest, herding in the peri-urban area can be done by a ten-year old *maccuDo* ('slave' derogatory term for non-FulBe laborer who works for FulBe). Because cattle get all their nutrition in the form of cottonseed cakes upon return to the village, no herding skill or experience is required. In the rainy season and the harvest season, however, the labor demands increase as herders have to be extra vigilant

¹⁵¹ Actually, it is more advantageous to be paid in cottonseed cakes because the market price is much higher than the factory/planter's price; as a result, there is a lively market in 'unused cottonseed cakes'. Pastoralists do not have the option to be paid only in cottonseed cakes, which could potentially solve many of the peri-urban pastoralists' problems of purchasing cottonseed cakes at local markets at inflated prices. One side effect of this payment in kind and the dependence on cottonseed cakes is that it has drawn peri-urban pastoralists increasingly into cotton cultivation.

to keep their animals out of farmer's fields. Since there are many fields and few pastures, herding requires constant attention. One pastoralist said *kaaki sedda kabDa haa korlal* 'the few cattle [that one can keep in the village] have to be attached to one's lower leg [with a rope]'. If the animals then try to enter a field, you will feel the pull, and can react immediately. In the peri-urban village, relations between herders and farmers were generally fractious with frequent compensations and penalties for damages to crops that were significant. One pastoralist's expenses for damages added up to 300,000 FCFA (\$400) or the equivalent of three head of cattle.¹⁵² This is one of the reasons why peri-urban pastoralists sent their animals on rainy season transhumance (*ruumgo*) to the Mindif-Moulvoudaye area where there are fewer fields and plenty of bush.

¹⁵² This pastoralist spent more on bribes at the various courts of justice than on the actual compensation: respectively 2,000,000 FCFA (\$2,650) and 300,000 FCFA (\$400).

Plate 5.1: Mixing Cottonseed Cakes and Hulls



Plate 5.2: Feeding Cottonseed Cakes



Capital Inputs

The most far-reaching consequence of intensification has been the enormous increase in production costs. Pastoral production costs have increased throughout the Far North Province but more so in the peri-urban area where the use of cottonseed cakes is the highest.

In the past, pastoral systems in the Far North were extensive, which meant that rangelands were used practically free of charge save what pastoralists had to pay as tribute to traditional chiefs (Moritz, et al., 2002). The use of production inputs was minimal. Moreover, many of these inputs were not commodified and free of charge. In the past, each pastoralist would take care of his own sick animals but sometimes they would consult a specialist (*kaydal*). Herding tasks generally fell to the older children in the household, although there was also a system in which herders from outside the household were hired and compensated with one animal (bullock or heifer depending on the contract) every three to four months. Up to thirty years ago, pastoralists in the Far North sent their animals on salt cures to certain pastures (*harde ngoolirde*) that were located throughout the area (Seignobos 1993). In short, the only financial costs in FulBe pastoral systems were taxes and/or tributes paid to traditional authorities, since even the mandatory annual vaccinations were free of charge due to state subsidies.

Today, most production inputs have become commodities.¹⁵³ Vaccinations are no longer free and now cost 375 FCFA (\$0.50) per animal. Pastoralists have also increased their use of modern veterinary products that are sold at local livestock markets, which increases production costs. Pastoralists no longer take their herds to free mineral licks and instead have switched to commercially sold salt and natron.¹⁵⁴ Herding was is by people from outside the household who were compensated in cash rather than in kind.¹⁵⁵ Taxes and tributes are still paid to traditional authorities, who share these revenues with governmental and municipal authorities (Moritz, et al., 2002). The biggest rise in costs, however, came from the use of supplementary feed of cottonseed cakes and hulls. The cost increase is highest in the peri-urban area where pastoralists use these products as a substitute for natural forage, whereas pastoralists elsewhere in the province only use the cakes and hulls as supplementary food for exhausted or malnourished animals.

Comparison of Production Costs

¹⁵³ The commoditization of pastoral production inputs is common in other more densely populated areas in West Africa (Bayer and Waters-Bayer 1995:67; Perrier 1983), but the costs in the peri-urban area of the Far North are comparatively much higher than elsewhere.

¹⁵⁴ Natron is a natural salt mainly composed of hydrate carbonate of soda (Pagot 1992). Today, commercially produced salt and natron sold on the local livestock markets have replaced the free salt cures. Two factors are responsible for this change: the salt licks have degraded, and commercial salt is easier and more time-efficient to use. However, prices for imported supplements have increased since the devaluation of the FCFA in 1994 (Njoya, et al., 1997a).

¹⁵⁵ Herder salaries in cash are cheaper for herd owners than payments in kind (bullock, heifer). Nomadic pastoralists paid kin in kind and 'outsiders' in cash. The herder costs here only include salaries but not the clothes, shoes, and 'cigarette money' which are give to herders.

The direct consequence of intensification was an enormous increase in production costs in the peri-urban area. Production costs have increased for all pastoralists in the Far North of Cameroon, but more so for peri-urban pastoralists. The overall average annual production costs per animal are significantly higher in the peri-urban village than in the agro-pastoral and nomadic villages, respectively 12,371 FCFA (\$16.50), 1,581 FCFA (\$2.10), and 2,344 FCFA (\$3.15) per animal. The costs in the peri-urban area are not only higher because of cottonseed cakes and hulls, although these are the most substantial, the costs of sorghum and hay, herding salaries, watering animals (e.g., labor), mineral licks (e.g., salt and natron), taxes, and compensation for damages to farmer's fields are also all significantly higher than in the two other villages.

The production costs in the peri-urban village are also high compared to the data that are available in the literature. The annual production costs in the Mindif-Moulvoudaye region are on average 2,322 FCFA (\$3) per animal (calculations based on data from, Requier-Desjardins 2001:51-64) and 4,397 FCFA (\$6) per animal in the Diamaré in a study of Mbanya et al., (1995).¹⁵⁶

In this section, I evaluate the costs of intensification by comparing the costs of different production inputs in the three villages. I focus on the comparison of the costs of

¹⁵⁶ The data from the first study is incomplete according to the author (Requier-Desjardins 2001). The second study aggregates data from the peri-urban areas of Maroua (Makabaye, Ngassa, Meskine) and agro-pastoral villages closer to the bush (Pétté and Bogo) (Mbanya, et al., 1995). Researchers in the Adamawa (Tchotsoua and Djeumene 2002) found that pastoralists spend on average 715,663 FCFA (\$954) on cottonseed cakes, which was on average 10,223 FCFA (\$14) per animal (however their sample included commercial ranchers).

the peri-urban village herds with the herds in the agro-pastoral and nomadic villages (see table 5.3). In chapter nine, I will compare the costs and economic performance of different groups of owners within the peri-urban village, e.g., household heads, individual owners within the household, and outsiders with entrusted animals.

Table 5.3: Annual Production Costs (in FCFA), 2000-2001

	Peri-Urban Village Herd	Peri-Urban Bush Herd	Peri-Urban All Herds	Peri-Urban Entrusted	Agro- Pastoral	Nomadic
Cottonseed cakes & hulls	7,687	52	2,367	3,511	206	116
Sorghum stalks & hay	432	0	131	1,018	130	0
Salt & natron	332	136	195	0	92	516
Vaccinations & medicines	625	925	834	425	402	965
Herder salaries	1,149	1,197	1,182	71	424	365
Taxes	248	363	328	7	187	266
Watering costs	625	0	190	0	0	0
Damages	1,274	0	386	36	105	116
Other costs (travel, etc.)	0	311	217	125	35	0
Costs per animal	12,371	2,984	5,831	5,193	1,581	2,344
Animals per herd	28	77	92	6	18	75
Total costs per herd	346,400	229,748	536,411	31,158	28,449	175,827
Number of herds	n=6	n=5	n=6	n=10	n=16	n=8

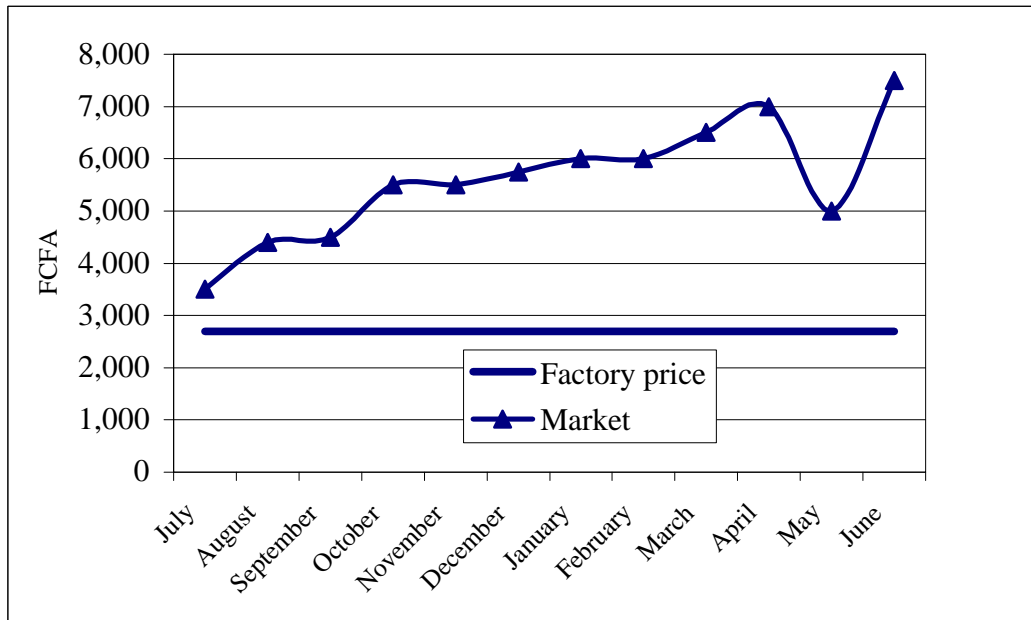
The numbers represent averages for each category for all the households in each village. The average costs per animal are calculated as the total costs in each village divided by the total number of animals in each village. Data was collected in multiple surveys of pastoral production costs throughout the year. The costs for peri-urban bush herds are slightly higher compared to the nomadic production costs, even though it is the same extensive pastoral system, because peri-urban bush herd costs include herder salaries and transport costs of the owners when they visit their herds.

Cottonseed Cakes and Hulls. Cottonseed cakes and hulls constituted 62% of the total costs of the pastoral production system in the peri-urban village or 7,687 FCFA (\$10.25) per animal. This is a considerably higher amount compared to agro-pastoralists and nomadic pastoralists whose costs are respectively 206 FCFA (\$0.25) and 116 FCFA (\$0.15) per animal, and who occasionally use cottonseed cakes to temporarily feed exhausted and sick animals (*tampuDi*). The price of cottonseed cakes increased as the dry season progressed and demand increased (see figure 5.4). Two-thirds of the cottonseed cakes were sold directly to cotton planters at a factory price by sodecoton at 2,750 FCFA (\$3.65) in 2000. This is the main reason why pastoralists cultivate cotton: to have cheap and reliable access to cottonseed cakes. The remainder of the cottonseed cakes was sold via personal networks of sodecoton CEOs to *alaji'en* 'businessmen' (singular *alaji*),¹⁵⁷ who resold at local markets for prices up to 7,500 FCFA (\$10) making a 100% to 300% profit (see also, Seignobos 2000b).¹⁵⁸ This 'speculation' makes pastoralists vulnerable to price increases and unreliable access.

¹⁵⁷ *Alaji* literally means someone who has made the pilgrimage to Mecca. Businessmen from northern Cameroon are often referred to as *alaji'en* because most (if not all) have made the pilgrimage (*hajj*)(Seignobos and Tourneux 2002:15).

¹⁵⁸ Prices are slightly lower closer to the production centers of Garoua and Maroua. Cottonseed cakes are 500 to 1,000 FCFA more expensive in the rural areas. People in the Far North refer to this type of business transactions as *speculation* (in French) and although, technically it is not speculation, it is experienced by FulBe pastoralists as exploitation (cf., Blench 2001:25; Kaufmann, et al., 1986).

Figure 5.4: Cottonseed Cake Prices, 2000-2001



Data was collected at livestock markets throughout the Far North Province. The market price in the figure represents the price for 60-kilo sacks of cottonseed cakes in Maroua. Prices in the rural areas are 500 to 1,000 FCFA higher. The dip in market prices in May was because of a false start of the rainy season when pastoralists and merchants believed that the dry season was over. The factory price is set at the beginning of the season by the Sodecoton. The supply of cottonseed cakes is practically constant throughout the year. Production is stopped for one month before the harvest for maintenance of the machines in the Sodecoton refineries.

Hay and Sorghum Stalks. The costs for sorghum and hay are higher in the peri-urban area for two reasons: peri-urban cattle consumed more sorghum stalks (*yombe*), and sorghum stalks were more expensive in the peri-urban area. Sorghum stalks are a commodity throughout the Far North, but because demand is much greater in the peri-urban area, prices are also higher (cf., Marty 1992:33).¹⁵⁹ Farmers sell sorghum stalks by the bundle (*waare*) or sheaf (*waagaare*). Prices for sheaves ranged from 1,500 to 20,000 FCFA (\$2 to \$27) depending on the quality and species of sorghum stalks, size of the sheaf, supply and demand, financial needs of the seller, and harvest. By the end of the 2001 dry season, peri-urban pastoralists bought hay that was cut for thatching roofs (*tiitiho*) to feed to their animals for 200 FCFA (\$0.25) a bundle. In contrast, in the agro-pastoral village cattle would feed gratis on the stalks of neighboring Masa farmers, while nomadic pastoralists did not use any sorghum stalks or hay at all.¹⁶⁰

Herding. The financial costs of herding in the peri-urban village are higher than in both the nomadic and the agro-pastoral village, primarily because few peri-urban

¹⁵⁹ In a publication of the Comité Diocésain de Développement (CDD), a Catholic development organization in Maroua, farmers are recommended to collect the sorghum stalks as soon as possible after the harvest, otherwise the animals of pastoralists will eat everything! (Les mots de l'éleveur: dictionnaire d'élevage, May 2000).

¹⁶⁰ Pastoralists in the Far North do not make or collect hay for supplementary feed because it is very labor intensive to collect enough hay, moreover it conflicts with labor demands of the sorghum harvest (cf., Bayer and Waters-Bayer 1995). The hay that was fed to cattle in the agro-pastoral and peri-urban village was originally collected for thatching roofs. A few pastoralists in the Far North (but none in my sample) cultivate sorghum with the explicit aim of feeding it solely to their cattle. They harvest the crop before it matures and thus has more nutrients (just as hay). Sorghum grown for this purpose is called *daldaari* (sorghum plants that have not yet matured). In general, FulBe seemed uncomfortable with the idea of feeding a 'human' crop to animals.

pastoralists are herding themselves. Instead, they hire others to do the herding. There are number of reasons why peri-urban pastoralists relied on salaried herders. First, they considered herding low status work which was to be avoided. Second, herding was considered incompatible with a commitment to Islam. The occupation of herding was associated with several vices including smoking, the use of alcohol, theft, and prostitutes. Salaried herders were often social outcasts addicted to alcohol and tobacco. Parents were therefore reluctant to use their own children as full-time herders because there was the risk that they might adopt bad habits and addictions, and stray from the religious path. Third, peri-urban pastoralists were relatively wealthy and thus could financially afford to hire herders. Fourth, herder salaries in the peri-urban areas were at the higher end of the continuum that ranged from 5,000 to 7,000 FCFA per month (\$6.50 to \$9).

Taxes. In principle, the cattle tax (*tax du bétail*) is calculated based on the number of animals per household, and thus one would expect to find no significant difference between taxes paid per animal in the two villages of sedentary FulBe. In practice, there is no correlation between the number of animals and the amount of tax pastoralists paid. Some pastoralists with 30 cattle paid nothing, while others who owned no cattle paid 1,000 FCFA (\$1.30). Membership in a political party (either government or opposition) and personal connections with the authorities are better predictors of the amount of taxes paid by pastoralists in the two villages. Nomadic pastoralists no longer pay cattle tax; instead they pay transhumance tax (*tax du transhumance*) in each municipality they

camp, about 10,000 FCFA (\$13) per herd. Peri-urban pastoralists also pay transhumance tax for their bush herds.

Salt and Natron. The difference in costs for salt and natron, which are used as mineral licks in the nomadic and the peri-urban villages were negligible. The costs for salt and natron in the agro-pastoral village, however, were much lower because the rangelands there were saline and grasses had a higher salt content. FulBe pastoralists in the Far North said they used salt and natron to stimulate the appetite (*miilu*) of the cattle in particular at the change of seasons. Peri-urban pastoralists used salt and natron mainly during the rainy season when the animals were on transhumance and no longer fed cottonseed cakes, which already have a high salt content.

Vaccinations and Medicines. Veterinary costs were highest in the nomadic village. This is due to three factors: (1) their animals came in frequent contact with unvaccinated herds, many from outside Cameroon; (2) the high density of cattle, especially near water sources, allowed for rapid spread of diseases; and (3) exhaustion from transhumance made cattle more susceptible to diseases. Interviews with agro-pastoralists revealed that their veterinary knowledge (both traditional and modern) was limited. They considered and experienced vaccinations as obligatory cattle taxes and did not appreciate

their preventive quality.¹⁶¹ In addition, agro-pastoralists were relatively poor and the limited cash available was generally not used for veterinary medicines. The veterinary costs for peri-urban pastoralists were higher compared to those of agro-pastoralists. Peri-urban pastoralists had more cash available and were used to the idea of financial investment in the family herd. They also perceived vaccinations as an investment in their cattle. Compared to the costs of cottonseed cakes, veterinary costs were considered minor in the peri-urban village. In the agro-pastoral village, on the other hand, veterinary costs, although lower than in the peri-urban village, represented one of the largest expenses.

Damages. The costs of damages were significantly higher in the peri-urban village compared to the agro-pastoral and the nomadic villages. Only one nomadic pastoralist had to pay damages of 70,000 FCFA (\$93) in the 2000-2001 season because of damages to a canal used by fishers in the Logone Flood Plain. Nomadic pastoralists generally did less damage to farmers' sorghum fields because they left the area before the harvest of the rainy season variety and the replanting of the off-season variety. Fields in the agro-pastoral village were mostly concentrated in the immediate surroundings of the village, and it was thus relatively easy to keep cattle out of fields. In many cases, cattle were purposely sent into sorghum fields to ensure that the animals were well fed (Moritz 2002a). Agro-pastoral herders weighed the risks and costs of getting caught against the

¹⁶¹ The low use of veterinary medicine in the agro-pastoral village was remarkable because one of the reoccurring and defining themes in the local histories of the village was an epidemic that practically had wiped out all its herds in the 1950s.

benefits of well-fed animals. Such damage generally occurred on market days, when people were not in the village and encroachments into fields thus were likely to go unnoticed and unpunished. Incidents in the peri-urban area were greater for a number of reasons. First, the risks of cattle getting into fields were higher. Second, peri-urban pastoralists were wealthier and thus given higher fines. Third, there was more animosity between pastoralists and agriculturalists in the peri-urban area and fewer conflicts were settled out of court, which is generally cheaper.

Questions of Economic Viability

The commoditization of production inputs and the increase in production costs has affected the way FulBe pastoralists manage their herds. *Nder jiiba Di nyaamata* ‘the cattle eat into your wallet’ FulBe said. It costs money to maintain and feed them. One informant said *min nyaami Di* ‘we [people and cattle] eat the cattle’. In other words, today cattle feed the family and the herd’, while in the past, cattle sales only provided for the family. One peri-urban pastoralist was selling so many animals to buy cottonseed cakes to feed the herd that intensification seemed like an economically unsustainable adaptation to the disappearance of rangelands.

Yeero, a peri-urban pastoralist in Wuro Badaberniwol, whose animals were unanimously regarded as the finest looking animals in the whole

village also had the highest production costs per animal: 19,194 FCFA (\$26). The animals were healthy and well fed, as evidenced by their smooth coat and fine soft skin *leeBre do waalti, laral do Diggi tilik*. However, this came at a price, since he also sold the largest number of animals in village, eight in total. To feed the family and herd, Yeero sold as many animals as were born (including females). In fact, he sold all the (two-year old) calves that were born the previous year. Due to the large number of sales, his herd size decreased over the year by one (from 27 to 26 animals). The revenues of the animal sales, 728,000 FCFA (\$971), covered the total production costs of 508,638 FCFA (\$678) but left little for the family.

Yeero's case raises the question whether intensification is an economically viable option for peri-urban pastoralists if they have to sell as many animals as are born to feed the family and herd. Pastoralists in the peri-urban village disagreed among themselves whether intensification was an economically viable strategy, whether transhumance was not more efficient, and whether intensification could be financed through the sale of animals of the family herd alone or whether additional outside sources of income were necessary.¹⁶²

¹⁶² Although, 2000-2001 was a drought year and prices for cottonseed cakes were higher, the concern of peri-urban pastoralists to make ends meet was not limited to drought years. Their concerns were also not without precedence. Boutrais (1990a: 85-86) found that at one point in time ranchers in the Adamawa spend more money on production inputs than that they could recuperate with the revenues of selling animals.

ECONOMIC PERFORMANCE

Although intensification has led to a significant increase in production costs, the use of cottonseed cakes has also considerable advantages aside from securing cattle's survival through the dry season crunch. Cottonseed cake is an excellent feed for cattle because it has a high content of protein (25-40%), fat (10-23%) and cellulose (25-30%). The nutritional value of cottonseed cakes and its effect on milk production and reproduction have been demonstrated in several experimental studies (Njoya, et al., 1997a; Njoya, et al., 1997b). FulBe pastoralists attest to these benefits of cottonseed cakes.¹⁶³ The question is whether the benefits of increased milk production and higher reproductive rates outweigh the production costs.

Reproduction

¹⁶³ The problem with cottonseed (cakes) is that it contains a poisonous plant pigment, gossypol, which can lead to (temporary) blindness. Peri-urban pastoralists told me that a number of their animals were becoming blind in the dry season due to the high intake of cottonseed cakes. This problem disappeared in the rainy season when the animals fed off natural forage. A Sodecoton employee told me that when animals are fed more than one kilogram a day, they risk blindness. The Catholic Diocese recommended less than 20% of daily intake in cottonseed cakes (Leng 1986:21). All animals in the peri-urban village were fed one kilogram (or more) per day and it represented more than 50% of their daily intake.

Fluctuations in nutritional intake in the Diamaré, particularly during the dry season crunch, affect bovine fertility rates, which are lower than they potentially could be (Mbanya, et al., 1995; Njoya, et al., 1997b). The traditional strategy of FulBe pastoralists in the Far North to maintain nutritional intake and fertility rates was to send cattle on transhumance to the Logone Flood Plain. Today, cottonseed cakes solve the problem of fluctuations in nutritional intake during the dry season; animals are better fed throughout the year and they have higher fertility rates.

Peri-urban pastoralists are aware that feeding cattle cottonseed cakes increases fecundity rates because cows become receptive much quicker after calving, thereby reducing the calving interval and increasing fecundity rates. The effects on reproduction depend on the quantity of cottonseed cakes given to animals. Pastoralists distinguish between feeding strategies that aim at surviving the dry season crunch versus those that aim at increasing reproductive rates and milk production. The choice of strategy depends on financial means and goals of the pastoralist. Experimental research has shown that supplementing natural forage with 0.5 to 1 kilogram cottonseed cakes increases fecundity rates of local cattle breeds up to respectively 50% and 55% (Njoya, et al., 1997a). Fecundity rates increase due to a reduction in the calving interval but also to the lowering of the age of first calving (Njoya, et al., 1995). Pastoralists argued, however, that giving too much cottonseed cakes could have adverse affects. When cows are too well fed, they come in heat too soon after delivery and cease to lactate, thereby depriving the existing

calf of milk. Thus, when calving intervals are too short, this can lead to higher rates of calf mortality.¹⁶⁴

The comparative data suggest that feeding cottonseed cakes leads to higher fecundity rates (see table 5.4). Many other factors affect fecundity rates in the three villages, for example the prevalence of brucellosis and drought, which makes it difficult to assess the effects of cottonseed cakes. The fecundity rates of the peri-urban village (0.52) are similar to those found in experimental studies in which cattle are fed cottonseed cakes in northern Cameroon (Njoya, et al., 1997b). Peri-urban pastoralists feed their animals about 0.5 to 1.0 kilogram of cottonseed cakes a day, which is within the range of the experimental study.¹⁶⁵

The fecundity rates of the agro-pastoral and the nomadic village, however, are relatively low compared to rates that have been documented in the literature for comparable systems. Njoya et al. (1997a; 1997b) found a fecundity rate of 0.48 for agro-pastoral herds in the Mindif region. Dahl and Hjort have suggested fecundity rates between 0.4 to 0.65 in the drylands of West Africa (Dahl and Hjort 1976; see also, de Leeuw and Wilson 1987). There are a number of possible explanations for these low fecundity rates. First, the low rates in the agro-pastoral village can be partially explained

¹⁶⁴ The same is true for cattle that are on transhumance in the Logone Flood Plain, if the conditions are good and animals are well nourished, they also become in heat too soon and this leads to higher calf mortality rates.

¹⁶⁵ My assessment that peri-urban pastoralists feed their animals about 0.5 to 1.0 kilogram of cottonseed cakes a day is based on observations of cattle feeding and calculations of the number of sacks of cottonseed cakes bought, the duration of the dry season, and the number of cattle per herd.

by endemic brucellosis, which is often responsible for sterility.¹⁶⁶ Second, the data was collected in a drought year and the low quantity of forage may have led to a reduction in fecundity rates in both the agro-pastoral and nomadic herds, which rely solely on natural forage.

The use of cottonseed cakes makes peri-urban pastoralists less susceptible to the effects of drought and one would expect the fecundity rates of their animals to remain constant across multiple years. It remains thus unclear whether intensification is more efficient than the agro-pastoral and nomadic systems in years with more than average rainfall because the data were collected in a drought year and fecundity rates may have been lower than 'normal' in the agro-pastoral and nomadic village. However, it is clear that intensification is more efficient in terms of reproductive rate and herd growth in drought years, which is the most important criteria for assessing the long-term sustainability of pastoral intensification.

Adult mortality rates in the peri-urban and nomadic village are similar to those measured by Njoya et al. in northern Cameroon: 0.02 (Njoya, et al., 1997b).¹⁶⁷ Mortality rates do not seem to be affected by the feeding of cottonseed cakes. The mortality rates in the agro-pastoral village, however, were significantly higher (6%). This is not directly due to nutritional deficits but primarily the result of low use of modern veterinary

¹⁶⁶ Brucellosis, which often leads to sterility, is endemic throughout the Far North; about 10% of the animals in the greater north are affected (Njoya, et al., 1996).

¹⁶⁷ De Leeuw and Wilson (de Leeuw and Wilson 1987) recorded higher mortality rates in their comparative study of five African pastoral groups, ranging from 2% to 10%, with an average of 5% in among agro-pastoral FulBe in Nigeria. Coulomb et al., (Coulomb, et al., 1980) found mortality rates that ranged from 2% to 4% in the arid and semi-arid zone of West Africa (cited in Amanor 1995:377).

medicine; animals died of viral, parasitical, and bacterial diseases (e.g., trypanosomiasis, brucellosis).

Overall, the data suggest that intensification leads to greater herd growth through higher fecundity rates and is thus an adaptive strategy in reproductive terms, particularly in drought years when natural forage is a problem throughout the Far North. The question is whether the higher fecundity rates outbalance the greater financial costs and potential greater off-take of cattle to feed the remaining cattle in the family herd.

Table 5.4: Comparison of Fecundity and Mortality Rates, 2000-2001

	Peri-Urban Village Herd	Peri-Urban Bush Herd	Peri-Urban Entrusted	Agro- Pastoralists	Nomadic Pastoralists
Fecundity rate	0.52	0.44	0.42	0.38	0.40
Adult mortality rate	0.02	0.08	0.09	0.06	0.01
Number of animals per herd	28	71	6	18	59
Number of herds	n=6	n=7	n=8	n=16	n=6

The category of peri-urban bush herds includes two entrusted herds that were entrusted via one of the peri-urban pastoralists in the village of Wuro Eggobe.

Milk Production

Experimental research has shown that milk production more than doubles when cattle are fed cottonseed cakes (Njoya, et al., 1997b; Todou and Njoya 1995). FulBe pastoralists confirmed that feeding milk cows cottonseed cakes increases the quantity of milk, though they argue that it decreases the quality of the milk. The flavor of ‘cottonseed milk’ is considered inferior compared to that of ‘grass milk’. I have no systematic data on milk production and can thus not back pastoralists’ observations with data nor compare the milk production in the three villages.¹⁶⁸

The increase in milk production did not lead to an increase in the marketing of dairy products and higher household income in the peri-urban area, even though the increase in milk production easily outweighs the financial costs of cottonseed cakes in the peri-urban areas (Moussa and Njoya 1997; Njoya, et al., 1997c).¹⁶⁹ Due to institutional changes in the organization of the household economy in the peri-urban area, wives were

¹⁶⁸ My limited observations of milk yields suggest that yields are similar to that estimated by de Leeuw and Wilson (1987:381), ranging from 0.7 to 1.1 liter per day in the rainy season and half of that in the dry season as well as to those found by Njoya et al., (1997a:117) for FulBe pastoralists in northern Cameroon, which ranged from 0.85 to 1.25 liters per day. Dahl and Hjort (1976:148) estimated production for human consumption at 1.5 liter per day on average in semi-arid areas, with a range from 0.7 to 2.0 liter.

¹⁶⁹ This is partly due to the proximity to Maroua where dairy prices are higher than in the rural areas. My calculations show that even when the price of cottonseed cakes is as high as 7,500 FCFA (\$10) per 60-kilogram sack, as it was at the end of the 2001 dry season, the net financial returns of feeding 1.7 kilogram of cottonseed cakes were 300 FCFA (\$0.40) per day higher than without cottonseed cakes. Some FulBe women in the Far North buy cottonseed cakes by the kilogram (and sometimes by the sack) from their milk revenues to increase milk production. The calculations above show that this is a profitable strategy. No women in my sample bought cottonseed cakes to increase milk yields. The peri-urban women who bought cottonseed cakes used them to ensure the survival of their animals, not to increase milk yields.

no longer responsible for provisioning the household, and used dairy revenues solely for personal expenses and investments. More importantly, because of this shift in responsibilities, household heads reallocated milk from dairy marketing to nursing calves (discussed in chapter seven and eight). Thus, the higher milk yields in the peri-urban village did not translate into higher revenues from dairy marketing that could be used to cover the financial costs of intensification.

Financial Returns

Intensification is financially very costly and the main question is whether it is sustainable. There are numerous ways to evaluate the economic performance of intensification. One approach is to evaluate whether intensification is self-sustaining. In other words, does the herd still grow if peri-urban pastoralists were to sell only cattle to cover the costs of cottonseed cakes and other production inputs? Another approach is to evaluate the financial returns in relation to the financial investments. In other words, does the value of the calves born compensate for the production costs invested?

To assess the herd growth and financial returns of different pastoral systems, I have modeled the herd growth and financial returns of a hypothetical herd of a hundred females using the averages of each village as parameters for fecundity rate, livestock

prices, and production costs per animal (see table 5.5).¹⁷⁰ To calculate net herd growth I have subtracted the projected off-take that is needed to cover the total production costs of the herd from the number of newborn calves in each village.

The calculation shows that the higher fecundity rate in the peri-urban village due to improved nutrition is partly negated by the higher off-take to cover the costs for cottonseed cakes. Peri-urban pastoralists would have to sell 11.9% of their herd to feed the remainder, compared to agro-pastoralists and nomadic pastoralists who would have to sell respectively 1.9% and 3.3% of their total herd to cover production costs. Peri-urban herds would still grow faster than the herds in the other two villages but not as much as the fecundity rates would suggest (.52 in the peri-urban village, versus .38 and .40 in the agro-pastoral and nomadic village). The predicted net herd growth for peri-urban pastoralists is 40.5 versus 35.6 and 37.1 in respectively the agro-pastoral and nomadic village.

¹⁷⁰ Another way is to calculate the net returns per animal for each individual household in the three villages. This calculation is based on the total costs, number of calves born, average value of animals sold, and total number of animals in the each household. I multiplied the number of calves born with the average value of the animals sold in that household in that year (which serves as an indicator of the revenues per herd). Then I subtracted the total costs and divided the result by the total number of animals in the herd at the beginning of the year. The calculations of financial returns per household paint a different picture from the modeling. The averages net returns per animals are: 13,422 FCFA (\$18) in the peri-urban village, 21,126 FCFA (\$28) in the agro-pastoral village, and 23,560 FCFA (\$31) in the nomadic village. According to these calculations, the peri-urban strategy has lower returns than the other, more extensive strategies. This is even more strongly expressed in terms of financial returns per FCFA invested. The peri-urban pastoralists have, again, the lowest financial return on each FCFA invested in the family herd: 2.3, compared to 27.1 for agro-pastoralists and 11.1 for nomadic pastoralists. The differences between the three villages based on calculations of net return per animal per individual household are significant. However, the problems with these calculations are the variation between households and the small number of cases for each variable within households, which skew the averages per village. The modeling method has a greater validity because it aggregates and averages the data for each variable for the whole village.

However, one should keep in mind that the parameters (fecundity rate, costs, and livestock prices) are averages based on data collected in a drought year. This has two implications. First, fecundity rates are likely higher in the agro-pastoral and nomadic village in non-drought years. Second, costs are likely lower for peri-urban pastoralists in non-drought years when cotton harvests are good, cottonseed cake production is higher, and thus prices lower. The intensification thus does not mean that peri-urban pastoralists are impervious to rainfall variability. They are more independent of natural forage production but more dependent on cotton production, which is rainfed.

To evaluate whether the financial investments in the herd pay off in financial returns, I have translated the number of calves born in each village into their potential value: the average sales prices of calves. I have subtracted the total costs for a herd of hundred females from the total value of the calves born in one year.¹⁷¹ The modeling shows that peri-urban pastoralists had the lowest annual return per FCFA invested: 1.3, compared to 6.0 for agro-pastoralists and 3.3 for nomadic pastoralists (e.g., for every 1 FCFA invested, peri-urban pastoralists earn 1.3 FCFA in return, if they were to sell the calves that were born). The modeling shows that intensification is sustainable but certainly not more efficient in terms of financial returns than the agro-pastoral and nomadic strategies. It is therefore not surprising that peri-urban pastoralists disagreed among themselves whether intensification is a sustainable strategy. Since the pastoral system of peri-urban pastoralists before the intensification in the 1990s was much like

¹⁷¹ Milk yields and dairy revenues were not considered in the modeling of financial returns because the latter were not available to the household head and not used to cover production costs (see chapter seven).

that of the agro-pastoralists, it means that they have taken a significant step back in terms of financial returns.

The modeling of economic performance shows that intensification, despite the potential high off-take, is a strategy that does not lead to the depletion of the family herd. The high costs of cottonseed cakes are compensated by the increase in fecundity rates and the higher prices that livestock fetch at the local livestock market of Maroua. The hypothetical financial returns – pastoralists generally do not sell calves – are high; returns of 30% on invested capital in the peri-urban village make intensification a highly profitable investment. However, the financial returns are extremely low compared to the other two villages (respectively 500% and 230% in the agro-pastoral and nomadic village).

Herd Changes, 2000-2001

An analysis of the actual changes in the family herds in the three villages over the year 2000-2001 shows a different picture. Taking into account births, purchases, gifts, sales, deaths, thefts, and other events that led to changes in herd size over the year, the peri-urban herds grew actually much faster; by 20%, compared to less than 1% and slightly more than 5% for respectively the agro-pastoral and the nomadic herd (see table 5.6). There are a number of reasons for this disparity between model and data. First, the

model does not take into account other off-take (e.g., theft, loans, sales) or intake (e.g., loans, purchases). Peri-urban herds, for example, grew in part because of purchases of animals at local livestock markets. Second, peri-urban pastoralists used additional income from non-pastoral sources and revenues from animal sales to cover production costs. The model's assumption that animals are sold to cover the production costs is only partly true. Peri-urban pastoralists are financing part of the intensification of the pastoral system through economic diversification, specifically through non-pastoral commercial activities

Table 5.5: Modeling Annual Financial Returns and Herd Growth

	Peri-Urban Village Herds	Peri-Urban Bush Herds	Peri-Urban Entrusted	Agro- Pastoral Herds	Nomadic Herds
Fecundity rate	0.52	0.44	0.42	0.38	0.40
Herd size	100	100	100	100	100
Number of calves	52	44	42	38	40
Average cattle sales price	104,278	78,500	75,462	84,737	71,384
Estimated value calves	31,283	23,550	22,638	25,421	21,415
Total value of calves	1,638,161	1,031,144	953,689	953,560	865,522
Costs per animal	12,371	2,984	5,193	1,581	2,344
Total costs herd	1,237,143	298,374	519,308	158,051	234,436
Net return	401,018	732,770	434,381	795,508	631,086
Net return per animal	4,010	7,328	4,344	7,955	6,311
Net return per FCFA invested	1.3	3.5	1.8	6.0	12.3
Projected offtake to cover production costs	11.9	3.8	6.9	1.9	3.3
Net herd growth	40.5	40.0	35.2	35.6	37.1

This model uses a hypothetical herd size of only females to assess the *net financial returns* and *net herd growth* in each pastoral system. The *estimated value of the calves* is 30% of the average cattle sales price in each village. The percentage is based on price comparisons of different types of livestock sold at the Maroua market in 1999 and 2000 (data from MINEPIA). *Net return per animal* is based on the number of animals in the starting herd (100). The *projected offtake* uses the average cattle price in each village to estimate the number of cattle that needs to be sold to cover production costs.

Table 5.6: Herd Changes in three Villages, 2000-2001

	Peri-Urban Village Herds		Peri-Urban Bush Herds		Peri-Urban All Herds		Peri-Urban Entrusted		Agro-Pastoral Herds		Nomadic Herds	
Births	9.3	39%	21.6	32%	30.9	34%	1.8	32%	5.2	29%	16.5	29%
Bought	1.8	8%	0.0	0%	1.8	2%	0.0	0%	0.3	2%	0.7	1%
Loans received	0.3	1%	0.0	0%	0.3	0%	0.0	0%	0.3	2%	1.2	2%
Loans given	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.1	1%	0.5	1%
Sales	4.5	19%	4.0	6%	8.5	9%	1.3	23%	3.3	18%	10.7	19%
Deaths	0.5	2%	5.6	8%	6.1	7%	0.5	9%	1.1	6%	0.8	1%
Theft	0.7	3%	1.6	2%	2.2	2%	0.1	2%	0.1	1%	0.2	0%
Losses	0.0	0%	0.7	1%	0.7	1%	0.0	0%	0.0	0%	0.0	0%
Slaughtered	0.8	4%	0.0	0%	0.8	1%	0.0	0%	0.1	1%	0.5	1%
Other offtake	0.2	1%	3.7	5%	3.9	4%	0.0	0%	1.0	6%	2.7	5%
Overall change	4.8	20%	6.0	9%	10.8	12%	-0.1	-2%	0.1	0%	3.0	5%
Herd size	23.7		67.9		91.5		5.6		18.1		57.5	
	n=6		n=7		n=6		n=8		n=16		n=6	

SUMMARY

The comparative analysis shows that intensification is an economically viable and profitable adaptation to the disappearance of rangelands for peri-urban pastoralists. The modeling shows that intensification leads to higher herd growth and is financially profitable. The higher fecundity rates resulting from using cottonseed cakes and the higher prices at the local livestock market of Maroua outweigh the considerable financial production costs. However, the peri-urban pastoral system is not the most profitable strategy; the agro-pastoral and nomadic systems are much more efficient in financial terms.

Peri-urban pastoralists' primary concern was ensuring the survival of their cattle in an area where rangelands have practically disappeared – that is why they intensified their pastoral system and spent considerable amounts of money on cottonseed cakes. In their own terms, peri-urban pastoralists were successful; mortality rates were low and most of their animals survived the dry season. Moreover, comparison of the model with the actual herd changes in the year 2000-2001 shows that peri-urban herds grew much faster than predicted in the model. One of the reasons is that the model did not take into account other in- and off-take of cattle, and the fact that peri-urban pastoralists used off-farm income to cover the production costs.

Thus far, I have evaluated the sustainability of intensification assuming that the family herd is a collective resource and households act as a corporate economic unit, in

which resources are pooled and costs are shared. The question is whether this is a valid assumption. I will argue in the following chapters that the assumption is, however, problematic because members of peri-urban households no longer pool their resources in a common household fund nor are production costs for the family herds covered by the household head for the collective household. Instead, individual household members paid for their own animals in the family herd. The intensification of the pastoral system and the associated increase in production costs are partly responsible for this individualization of livestock ownership and management and the distribution of production costs (discussed in chapter eight).

However, these changes cannot solely be explained in terms of pastoral intensification or changes in relative prices. Institutional and ideological changes that are part of a process of Islamic renewal play an important role here as well. The following chapters explain how these ideological and institutional changes are responsible for the transformation of the peri-urban pastoral system. I will later return to the question of economic performance and sustainability of intensification in the light of the institutional reorganization of peri-urban households and the individualization of livestock ownership and management (discussed in chapter nine).

CHAPTER 6: ISLAMIC RENEWAL

INTRODUCTION

The spread of Islam has long been associated with the expansion of commerce. In West Africa Islam arrived via the trans-Saharan trade caravans. Scholars have argued that Islam provides an economic blueprint that stimulates the development of commerce (Cohen 1971; Ensminger 1992; Ensminger 1997). I will argue that Islam also provides an institutional blueprint for the organization of the household economy, and that stricter adherence to the codes of Islam by peri-urban pastoralists have led to institutional changes in the household economy and management of the family herds. This reorganization of the household economy is partly responsible for the transformation of the peri-urban pastoral system in the village of Wuro Badaberniwol.

FulBe pastoralists have been Muslims for centuries and Islam is a defining feature of FulBe identity that has impregnated all spheres of their society and culture. The institutional changes in peri-urban households following Islamic principles, however, are a recent phenomenon that is associated with a process of Islamic renewal in the Far North of Cameroon that started in the early 1980s. Islamic renewal is an umbrella term that incorporates many changes that all have in common an increasing commitment to a more

orthodox form of Islamic piety. It is also frequently referred to as Islamic fundamentalism, Islamism, Islamic revivalism, and political Islam (Watts 1999:70).

The phenomenon of Islamic renewal and stricter observance of Islamic codes is strongest in Maroua, the provincial capital and religious center of the Far North. This explains why peri-urban pastoralists were more affected by this process of Islamic renewal, and more observant of new Islamic norms and practices than agro-pastoralists and nomadic pastoralists who live farther away from Maroua.

In the following chapters, I will show how stricter adherence to Islamic codes has changed the household organization and management of family herds in the peri-urban area. This chapter first discusses what the process of Islamic renewal entails in the Far North of Cameroon and how it is manifested in the pursuit of piety of individual pastoralists. The second part compares Islam in the three villages, showing that peri-urban pastoralists were better educated in Koranic studies and stricter in their observance of Islamic codes.

The Study of Islam

The recent Islamic renewal in the Far North Province of Cameroon and the tension between what has been framed as syncretic versus more orthodox forms of Islam is not a new or uniquely Cameroonian phenomenon. Renewal movements, heterodoxy,

and tensions between different interpretations of the Koran are an integral part of the religion of Islam (Eickelman 2002). The enormous variation across places, cultures, and time means that there are multiple forms of Islam, sometimes referred to as 'Islams' (Al-Alzmeh 1993:1). The precise form Islam assumes, varies from society to society as Islamic universalistic principles take different shapes in various social and historical contexts (Eickelman 2002; Geertz 1968; Masquelier 1996). Islamic traditions have always been the historical product of the encounter between the great tradition of Islam, in whatever form it arrives in a particular setting, and the little traditions and political economy of the local community (Eickelman 2002: 243-244). This also applies to the study of Islamic traditions in the Far North of Cameroon, which are the historical products of encounters between great and little traditions as well as the political economy of the greater Chad Basin.

Islam and Trade in West Africa

Islam has frequently been associated with the development of trade. This is also true for the spread of Islam via the trans-Saharan trade to West Africa at the turn of the first millennium (1000 AD). The primary reason why commerce has been associated with the spread of Islam in West Africa is historical; Islam arrived in West Africa via the trans-Saharan trade caravans from the Magreb. Islam followed trade routes rather than

the other way around since the trans-Saharan trade existed before Islam came to West Africa in about 900 to 1000 AD. However, when Islam arrived in West Africa it created commercial networks that facilitated the expansion of trade, which in turn supported the spread of Islam through the conversion of people who traded with Arab merchants.

Islam provided a symbolic blueprint of a politico-economic organization that overcame the many basic problems of trade (Cohen 1971). Islam provided clear rules for commercial and social conduct, as well as commonly shared sanctions for violations or defaults on contracts. The Muslim traders, being members of a religious community, shared a commitment to shared rules and subject to commonly shared sanctions (Ensminger 1992: 60; Mukhtar 2000). Conversion turned outsiders into insiders thereby reducing the transaction costs of trading by providing an institutional structure (Ensminger 1992). Moreover, Islam stressed the tendency for seeking alliances and trading partners among fellow Muslims (Meillassoux 1971:72). As a result, the expansion of trade and the spread of Islam went hand in hand. The *umma*, the community of Muslims, is thus not only a religious but also an economic community in West Africa.

Moreover, the spread of Islam in West Africa has been held responsible for the development of an economic complex that includes the promotion of private property, free enterprise, and the accumulation of wealth (Ensminger 1992; Grégoire 1993; Last 1979; Lovejoy 1971; Masquelier 2001:215; Meillassoux 1971; Spencer 1998; Works 1976). Cohen (1971:277) cautions, however, that the association of trade and Islam has become a cliché and argues that the link is much more complex and needs to be studied in the context of other structural factors. Trade is but one of the reasons for the expansion

of Islam in West Africa, another important factor in the spread of Islam is the role that Islamic states have played in West Africa.¹⁷²

Islam in Pastoral Societies

Islamic pastoralists in West and Northeast Africa, the Middle East, Near East, and Central Asia have a number of characteristics in common that are due to their association with Islam. Most of these commonalities can be traced back to the fact that Islamic pastoralists were part of a larger religious and political community that encompassed both sedentary and nomadic groups. Islam made Islamic pastoralists automatically members of a community that transcended their pastoral society, favoring religious over kin ties. The integration of Islamic pastoralists in the wider society has several consequences. First, Islamic pastoralists are generally more incorporated into the market economy than are non-Islamic pastoralists. They consume more commodities and have a higher standard of living (see, Spencer 1998:260). Second, they have a more diversified economy that often includes non-pastoral commercial activities. Wealthy Islamic pastoralists who engage in

¹⁷² One other explanation for the link between the expansion of trade and the spread of Islam in West Africa was the political stability provided by Islamic empires, which facilitated commerce and common market. However, religious wars (jihad) and wars between different Islamic states (e.g., Sokoto and Borno) also created political insecurity. Thus, the argument that Islamic states provided political stability that stimulated economic development is only true for certain areas and periods of West African history. Others have argued that Islamic education increased literacy and accounting skills among Muslim traders, which facilitated the extension of credit and so promoted commerce (for an example see, Ensminger 1992). There is, however, little evidence to support this claim (Cohen 1971).

commercial activities are more likely to settle in the urban centers, which leads to a more permanent differentiation, and ultimately to a division in separate sedentary and nomadic societies. This has two dialectical effects: partial sedentarization ties the nomadic community to the urban centers through social patronage networks; while urbanization and Islamization simultaneously lead to a devaluation of pastoralism as a respected ideal (Schmitz 1990; Shimada 1993). Because of their integration in a larger religious community that was associated with a market economy, urban centers, and state societies (cf., Barth 1973; Spencer 1998:253), Islamic pastoralists have been classified as marginal tribes (Gellner 1969:1-3) or peasant pastoralists (Salzman 1996).

The similarities between Islamic pastoral societies in West Africa and elsewhere stem partly from their incorporation into the wider society, but are also due to shared cultural traditions of Islam. The shared Islamic traditions have led to similarities such as the preference for parallel cousin marriages and a patriarchic model of the family (Ensminger and Knight 1997; Spooner 1973:33). Moreover, similarities in how Islamic pastoralists practice Islam can also be explained by the conflict between Islam and the pastoral mode of production (Spooner 1973:39; Stenning 1966). Islamic pastoralists have generally been considered lax or secular Muslims (Barth 1961; Bradburd 1998:52; Evans-Pritchard 1949; Salzman 2000; Tavakolian 1976). The daily demands of pastoralism and continuity of the family herd often interfered with religious ideals, and in many cases, pastoral practicalities trumped Islamic piety (Evans-Pritchard 1949:62-3). Seclusion of women in pastoral societies is often impractical and/or undesired. Similarly, many pastoral societies value integrity of the family herds over strictly following Islamic

codes for division of inheritance, which would divide the herd in unviable parts (Hopen 1958; Young 1996).

Islamic nomadic pastoralists in West Africa, the Middle East, and Central Asia are often scolded by their sedentary brethren for laxity and ignorance in religious affairs. There are two reasons for the commonalities in laxity: first, pastoral values frequently conflict with Islamic values, and second, pastoralists are mobile and have limited access to the religious centers of knowledge and education. When pastoralism is no longer the main or daily (pre)occupation, people are settled near urban Islamic centers, and wealthy enough to devote themselves to religious study, the pursuit of piety will frequently take the center stage (Shimada 1993). This shift in values from pastoralism to the pursuit of piety can also be observed in the peri-urban village of Wuro Badaberniwol.

Islam in the Far North of Cameroon

There is, and always has been, considerable variation between and within FulBe groups in the Far North with regard to the degree to which they live by the codes of Islam, the level of Koranic education, and the traditions they follow (i.e., brotherhood affiliation *tijaaniya* or *mahdia*). There have also been diachronic diversity; Islamic traditions have changed from generation to generation (and within generations). The Islamic traditions of the FulBe in the Far North, for example, have gone in the last two

centuries from more orthodox (*quadriya*) to more heterodox (*tijaaniya*) and recently back to more orthodox traditions (*wahhabi*). These changes in Islamic traditions mean a reordering of what are considered correct Islamic practices and interpretations.

The FulBe were not the first Muslims in the Far North of Cameroon, even though they themselves believe that they are the only true Muslims (Boutrais 1984). In the seventeenth century, Islam spread through the Borno Empire, which had long been connected to the Middle East through the trans-Saharan trade, to the Far North. First, it spread to the Kotoko populations in the Logone Flood Plain, later to the Wandala populations north of the Mandara Mountains (Seignobos and Iyébi-Mandjek 2000b). Some centuries earlier and further west, many FulBe had already converted to Islam and adopted its traditions. Parallel to their migration eastwards from Senegal, which started around the 10th century, they gradually adopted Islam (Azarya 1993). The closer the FulBe were to the urban and commercial centers, the deeper their conversion and the farther away from these centers, the more superficial their conversion. This explains why most nomadic FulBe are considered nominal Muslims by sedentary FulBe.

FulBe are generally associated with Islam through *jihad* (holy war) rather than through control or engagement in trade as for example the Somali and the Tuareg (Spencer 1998:253-255). The FulBe in the Far North participated in the jihad that was started in the early nineteenth century in Sokoto (in northern Nigeria) by shaikh ‘Uthmân dan Fodio. The Sokoto jihad was a movement of Islamic renewal against the perceived laxity of the Hausa rulers and simultaneously a war of FulBe pastoralists against non-FulBe rulers (Abubakar 1977; Njeuma 1989b). The FulBe revolt against their animist

neighbors in the Far North and subsequent conquest of the Diamaré took place in the context of this jihad, but it has been argued that the jihad served as legitimization of other pursuits: the search for slaves and pastures (Seignobos 2000e; Smith 1966).

The establishment of FulBe rule and *lesDe* (emirates) in the Diamaré following the jihad took the shape of the medieval caliphates in the Middle East (Njeuma 1989b; Seignobos and Iyébi-Mandjek 2000b). The FulBe jihad brought revolutionary change in the Far North and FulBe society (Azarya 1976; Azarya 1993). FulBe were now rulers instead of subjects and had secured access to pastures and slaves throughout the Diamaré. The jihad and subsequent state formation created a class of ruling aristocrats and led to the division of sedentary agro-pastoralists whose wealth was based on slave labor and nomadic FulBe who pursued a pastoral way of life (Abubakar 1977; Azarya 1976). The FulBe *lesDe* were part of the larger Islamic empire of the Adamawa Emirate, which, in turn, was under the authority of the Sokoto Sultan. The FulBe *lesDe* were considered theocratic societies, in which FulBe rulers (*laamiiBe*) were simultaneously political and religious leaders (*amir al mu'minin*) (Boutrais 1984; Shimada 1993:111). Islam has been the 'imperial cult', the religion of the rulers, court, and elite in the greater Chad Basin for centuries and has been associated with the political supremacy of the FulBe in the Far North for almost two centuries.

The German and French colonial policy of indirect rule in northern Cameroon consolidated the authority of Muslim FulBe rulers and the role of Islam in the political

system.¹⁷³ The French colonial authorities used the FulBe laamiiBe to rule and control other ethnic groups that had previously not been subjugated by the FulBe. FulBe culture became the dominant culture and model for other ethnic groups, who adopted the, religion, customs, and language of the FulBe, which is today the lingua franca in the Diamaré (Azarya 1976:97; Azarya 1993; Schultz 1984).

The first president of the independent Republic of Cameroon, Ahidjo, a *Pullo* (singular of *FulBe*) from northern Cameroon, promoted Islam in the northern provinces in order to mobilize a political block against the southern, pre-dominantly Christian part of Cameroon. All government officials and traditional chiefs in the north were required to convert to Islam from 1960 until 1982. This Islamization and FulBeization affected specifically the political elites and bureaucrats in the northern provinces. Ahidjo created what Seignobos and Iyébi-Mandjek called a super-lamidat of the Cameroonian Republic replacing the old Adamawa Emirate, which had been divided between Nigeria and Cameroon (Seignobos and Iyébi-Mandjek 2000b).

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¹⁷³ Muslims in West Africa were generally incorporated in the colonial structures because of preferential treatment by individual officers or as a matter of policy. Muslims were perceived as more 'civilized' by the officers in comparison to the 'pagan' tribes (cf. Martin 1986).

When Paul Biya, a catholic from the south, succeeded Ahidjo as president of the Republic of Cameroon in 1982, he introduced policies that were aimed at breaking the power of the northern Islamic bloc, such as the division of the northern region in three separate provinces (Adamawa, North, and Far North) (Njeuma 1989c:27). Moreover, president Biya's policy of transferring government employees outside their home region led to an influx of Christians from southern and western Cameroon in the administration of the northern Provinces. High government officials in the north, such as the governor, préfet, and sous-préfet, were now non-Muslims.¹⁷⁴

The recent Islamic renewal in northern Cameroon really started with this change of the presidency in 1982 and was in part a reaction against the modernizing forces of westernization associated with the modern state, "white" culture and institutions (e.g., schools, administration, law), and Christianity that were gaining increasing importance in the Far North. The presidential succession signaled the end of more than 150 years Muslim FulBe dominance in the Far North.

FulBe felt that they had lost significant power in the political arena. FulBe Muslims threatened by the loss of political power and economic influence reinvested in the religion and Islamic renewal as a form of oppositional Islam (cf., Geertz 1968). FulBe compensated the loss of political power and influence with a renewal movement in the religious arena, which Seignobos and Iyébi-Mandjek refer to as the 'birth of an Islamic

¹⁷⁴ From 1982 onwards, government employees (and officials) were transferred from the southern and western (predominantly Christian) to the northern (predominantly Muslim) part of the country and vice versa. This policy had a greater impact on the north than on the south as there were more educated southerners than northerners, as FulBe Muslims had resisted sending their children to missionary and (later) colonial schools.

Renewal” (Seignobos and Iyébi-Mandjek 2000b). This renewal movement, supported by Arab states in the Middle East that extended their religious and political influence by promoting a more orthodox tradition of Islam around the world, led to a significant growth in the number of Muslims and has changed the face of Islam in the Far North in the last twenty years (Seignobos and Iyébi-Mandjek 2000b).¹⁷⁵

In the past, FulBe were reluctant to accept converts from other ethnic groups and they made no effort to convert the ‘pagans’ for two reasons (Lacroix 1966:402). FulBe preferred to use the conquered populations as slaves. Later, after the abolition of slavery, they wanted to maintain their ethnic superiority over people from other ethnic groups referred to as *haaBe* (non-believers or non-FulBe) and their (former) slaves referred to as *riimayBe* or *maccuBe*, most of whom had converted to Islam (Lacroix 1966). FulBe in the Far North had monopolized Islam and used it to justify and legitimize their political domination over other ethnic groups (Boutrais 1984:247). The common faith of the FulBe consolidated ethnic cohesion and demarcated ethnic boundaries between them and the *haaBe*. Today, Islam has become more proselytizing in the Far North. FulBe are actively pressuring others to convert and more willing to accept non-FulBe as Muslim brothers (though not necessarily as equals).

¹⁷⁵ It is unclear to what degree the Islamic renewal is a form of oppositional Islam against the increasing ‘modernization’ and westernization of the Far North. Some Muslims have turned to Islam in frustration because of unemployment, poverty, and the lack of socioeconomic mobility (after finishing high-school)(cf. Watts 1999:95). However, many of the western educated elite are also committed to the Islamic renewal and combine the pursuit of wealth in the market economy with the pursuit of piety in Islam. The oppositional aspect of Islamic renewal seems less important in the rural areas, where the emphasis is on changing un-Islamic (syncretic, sufi) ways of FulBe and become more devout Muslims than on discontent with modernization (but see, Regis 2003).

The Islamic renewal in the Far North of Cameroon manifests itself in different ways. The Islamic renewal has led to a growing number of believers, mosques, Koranic schools, and scholars. There is a greater number of Muslims due to an increasing number of converted non-FulBe. There is more financial investment in mosques, which materializes in a greater number of them and their construction (e.g., increase in size, use of more durable materials, more ornaments, more colors). The construction of new mosques is financed with funds from the Gulf States as well as from local businessmen and politicians who consider these gifts to the community. More Muslims are making the pilgrimage to Mecca. There is a greater number of Koranic schools at both the elementary and the advanced level and Muslims in general have received more Koranic education.¹⁷⁶ At the local markets, more Islamic reading materials are available. Public discourse about Islamic codes and norms has become more prevalent in everyday conversations. Finally, there is a shift from more syncretic forms to more orthodox forms of Islam and Muslims are adhering more strictly to the tenets of Islam in more domains of social life.

Influence of the Gulf States

¹⁷⁶ In the early 1950s, there were about 85 Koranic schools in Maroua (Santerre 1973; Santerre and Mercier-Tremblay 1982); in 1994, there were more than a thousand Koranic schools (Seignobos and Iyébi-Mandjek 2000b).

The influence of the Gulf States, and in particular Saudi Arabia, on Islam in the Far north has increased steadily after Cameroonian independence and the oil boom in the Middle East. The Gulf States have funded the construction of mosques and schools and provided fellowships for advanced study abroad. The education abroad programs have produced a group of scholars who promote a more orthodox version of Islam (Seignobos and Iyébi-Mandjek 2000b). These scholars, locally referred to as *wahhabites*, were actively preaching against more heterodox practices such as the Islamic brotherhoods, the veneration of the prophet Mohammed, and the syncretic practices of maraboutage (*binndi*). The Islamic renewal movement in the Far North is part of a larger trend in West Africa, in which Muslim scholars trained in Saudi Arabia preach a more orthodox or fundamental form of Islam (Brenner 2001; Shipton 1994).

In the Far North of Cameroon, the new and stricter norms were introduced primarily through Islamic scholars who had studied in the Arab Gulf States or by imams who came from the Gulf States to teach and preach in Cameroon. This also meant that the Saudi model of Islam is becoming the point of reference of Islam for Muslims in the Far North as their influence is increasing through missionary activities and media exposure through video, audio, and printed materials. Today, FulBe, again in the city more so than elsewhere, are exposed to new Saudi models of Islam and being Muslim, whereas in the past, FulBe themselves were the reference point. Even though there were other Islamic models in the past, Kanuri and Arabs (called Shuwa), these were not considered as role models but simply as different ways of doing Islam. The new norms are further disseminated through the social network of scholars that extends from the city to the rural

areas. The new norms and stricter adherence to the codes of Islam is also promoted through sermons (*waazu*) in mosques and on the radio. In the Far North, the sermons by Islamic clergy and scholars after Friday prayers have gained importance as a practice and as a way of educating Muslims.

There is and always has been a strong urban-rural divide when it comes to Islamic education and observance of Islamic codes. The problem is determining whether current differences in the degree of piety between the peri-urban, agro-pastoral and nomadic villages are due to the recent process of Islamic renewal or whether it reflects long-standing differences in piety between urban and rural FulBe. This makes it also difficult to determine whether differences in economic institutions, norms, and behaviors in the three villages are due to the recent Islamic renewal or reflect pre-existing differences in piety and economics between peri-urban and rural agro- and nomadic pastoralists.

Ideology and Economic Behavior

It is difficult to draw clear and direct causal links between ideology and everyday economic behavior (see, Ensminger 1992; Ensminger and Knight 1997), particularly when there is significant variation in both ideology and behavior within and between villages and changes in behavior or institutions occurred some time in the near past and thus cannot directly be observed. The advantage of examining the link between Islamic

ideology and codes and economic behavior of FulBe pastoralists is that Islam is a prescriptive religion with clear rules that affect all domains of everyday life. Islam is a religion of law, in which there is no sharp distinction between religious and secular matters. It views all human affairs under God's legislation (Denny 1987: 6,7).

One should make a distinction, however, between the legal codes of Islam consisting of the Koran and the hadiths and local norms or traditions that are based on or derived from Islam traditions. Most FulBe in the Far North are illiterate in Arabic and rely on the clergy to interpret and explain the Islamic codes. The process of Islamic renewal is primarily about a reordering of local norms that reflect a stricter local interpretation and implementation of formal legal codes of Islam (*shari'a*). The legal codes of Islam have existed for centuries but many FulBe pastoralists in the Far North are only starting to observe these codes in the last twenty years (just as other Islamic pastoralists have been selective in their adherence to Islamic codes)(cf., Young 1996).

When FulBe pastoralists violate these norms, there are possible social sanctions such as loss of respect and ostracizing, depending on the seriousness of the offense or violation, but there are no immediate legal sanctions. When social conflicts reach the local courts of the traditional authorities (*lawan* or *laamiiDo*), decisions are informed by Islamic legal codes on the books.¹⁷⁷ Only the courts of the laamiiBe have Islamic judges (*alkaali'en*). The jurisprudence established in traditional courts then in turn informs local

¹⁷⁷ The scope of the jurisdiction of traditional courts is limited to civil cases. Moreover, the traditional courts have to apply (modern) national laws. According to Cameroonian law, the traditional authorities are auxiliaries of the governmental administration and legal system. Many traditional authorities, however, continue to follow traditional, i.e., Islamic legal codes in their courts (see, Dairou 1996).

norms and sets new standards in the community. These norms can become formal institutions over time. However, when parties appeal and civil cases go to the state courts or government authorities, national secular laws take precedence over the Islamic jurisprudence of the traditional courts.

Islam is based primarily on a commonality of practice rather than a commonality of belief and is therefore often referred to as an orthoprax religion rather than orthodox (Denny 1987 ; Smith 1957). It is the activities and the performance of these activities that signify religious behavior and that make someone a Muslim. The shared activities of the five-daily prayers, the fasting during the month of Ramadan, and other ritual and social practices, such as the naming ceremony, define membership in the Muslim community. Muslim communities are about shared practices; they are about what people do together rather than whether they share the same beliefs.

Conformity to norms and practices is easily observable and so are deviations from these norms. Some norms and institutions know little variation (e.g., the five daily prayers, payment of zakka on harvest (Islamic tithe), others are more variable (e.g., seclusion of women, payment of zakka on livestock wealth). With the Islamic renewal, much of the variation is slowly disappearing and there is a standardization of norms and practices. The emergence of new Islamic norms is in many cases easily observed because of the religion's focus on practice. Simultaneous with the emergence of new norms, are changes in which practices define membership in the umma. Whereas in the past, it was sufficient to pray and fast during the Ramadan (Regis 2003:69), today that is no longer

sufficient, and increasingly a Muslim's everyday comportment should follow the codes of Islam.

To avoid social sanctions and maintain membership and respect in the Muslim community, people adopt the new norms and practices as they become more widely accepted in the community. In order to remain pious in the eyes of others and avoid being excluded from the umma, FulBe adopt these new norms and practices when they are adopted by individuals who are respected in the community and considered knowledgeable in Islam: the clergy, scholars, and wealthy.

Local Traditions

In this study and analysis, I have relied on local discourses about changes in Islam and its relation to economic institutions, norms, and behavior as well as observations of religious and economic behavior in each of the three settings and how they relate to local discourses. Some anthropologists refer to these local discourses and traditions as local Islam, in contrast to the elite Islam of the clergy, in which the Islam of the elite (or *ulama* – community of learned) provides the incontestable and formal explications (Abdul Hamid el-Zein 1977:243; Crapanzano 1973; Eickelman 1976). In local discourses about changes in the household economy and management of the family herds, FulBe pastoralists made clear and direct links between Islam and changing economic

institutions, norms, and behavior.¹⁷⁸ The differences in piety and the organization of the household economy in the peri-urban village were discussed and explained by FulBe as part of an Islamic renewal. Moreover, FulBe pastoralists in all three villages argued that they now have more knowledge of Islam than in the past: “before people did not know the Koran [*deftere*, literally ‘book’]”. Ignorance, according to the FulBe, is the primary reason why they were less pious in the past. FulBe pastoralists also recognized and commented on the differences in Islamic piety between urban and rural areas. FulBe discourse suggests that Islamic traditions have become more orthodox in the peri-urban area as part of the renewal movement and that this has led to changes in the economy. The comparative analysis of the literature of similar FulBe communities in the literature (Buhl 1999; de Bruin and Dijk 1995; Regis 2003; Waters-Bayer 1985) suggests that the economic changes in peri-urban households in the Far North of Cameroon associated with Islamic renewal are a relatively new phenomenon.

There are some problems associated with the study of local discourses as indicators of change and causal links since they do not always reflect actual causal links but rather perceived causal links. For example, in discourses about changes in their society and economy, FulBe generally gave more weight to factors that they perceived as external rather than internal to their culture and society. The FulBe consider Islam endogenous to their culture. Changes resulting from the process of Islamic renewal were thus an integral part of FulBe culture and society and not perceived in the same way as

¹⁷⁸ So even if they were not initially due to changes in the ideology or a stricter observance of Islamic norms, FulBe pastoralists make a clear and direct link between the Islam and economic institutions, norms, and behavior after the fact.

changes in society caused by what the FulBe considered external or even alien to their culture (e.g., western schooling, Cameroonian state).

Islamic clergy in the agro-pastoral area, for example, were actively preaching against the FulBe Ngara'en tradition of the *soro*, an initiation of newly-weds, which they considered un-Islamic (for description of the *soro* see, Dalil 1991).¹⁷⁹ Muslim clergy have banned and preached against these FulBe 'forest games' since the Jihad of shaikh 'Uthmân dan Fodio in 1804 (Last 1974:24). FulBe agro-pastoralists in the village of Wuro Hoore Ladde had not yet fully embraced the new Islamic doctrine. The last *soro* in the village was held about twenty-five years ago, but some initiated continued to participate in *soro* of neighboring villages. While these participants agreed that the *soro* was un-Islamic and thus to be avoided, they also felt that the *soro* was a great FulBe tradition. FulBe agro-pastoralists' discourse about clergy's sermons against the *soro* was qualitatively different from their discourse about primary school education, which was considered an external factor affecting FulBe culture and traditions.¹⁸⁰

¹⁷⁹ When the FulBe in the agro-pastoral village of Wuro Hoore Ladde participated in the *soro*, they were considered non-Muslims for a period of forty days after the initiation. Dalil argues that the *soro* in the Far North is a combination of two pre-Islamic rituals (Dalil 1991:215). The initiation is secret and un-initiated are not allowed to see the event, so it is unclear what Islamic rules are violated. One un-Islamic part of the ceremony is that newly wed women are forced to swear on a fake Koran that they will never divorce their husband. The local imam, who was initiated in the *soro* himself thirty years ago, preached against fellow FulBe Muslims participating in the *soro*.

¹⁸⁰ Ndoudi Oumarou, co-author of his own biography and a nomadic Mbororo FulBe, felt differently when he said 'whenever a Koranic school opens, a little *soro* disappears' (Bocquené, et al., 2002:130).

The Pursuit of Piety

FulBe have been Muslims for a long time and Islam is a defining feature of their ethnic identity. Islam has deeply impregnated every aspect of their society, to the extent that *pulaaku*, or FulBe traditions and Islam have merged into a single cultural ideology (Boutrais 1984) (Bovin 1990; Buhl 1999; Burnham 1996; Kirk-Greene 1986; VerEecke 1989). Being a good FulBe means being a good Muslim and vice versa.

The pursuit of piety, which is an integral part of the Islamic renewal, is an internal FulBe struggle to become better Muslims and thus better FulBe and involves a practical, intellectual, and emotional devotion to religious duties and practices. This pursuit of piety is a continuous endeavor of individual FulBe to become better Muslims by actively studying, observing, and applying Islamic codes to everyday life.

FulBe themselves make distinctions between traditions that match more closely Islamic codes than others. The debate about the *soro* in the agro-pastoral village is an example of an ongoing debate among FulBe about what is un-Islamic or what is Islamic (cf., Regis 2003: 79). The FulBe in the three villages recognized that the rules and traditions of Islam (*diina* 'religion') often conflict with previous FulBe traditions (*Dabi'aaji*, traditions) or with everyday practices (*dunya* which can be translated as: life on earth or social life). The conflict between *diina* and *dunya* is basically about human nature; people's desires, emotions sometimes get the most of them and this leads to un-Islamic behavior. This is a universal problem of all times and places. The conflict

between diina and Dabi'aaji (traditions) is about different cultural traditions. It refers to a conflict between specific FulBe traditions or syncretic Islamic practices and recent interpretations of Islam that are currently considered correct. Thus, what is labeled as diina or Dabi'aaji differs across time and place. When Islamic traditions have been incorporated in FulBe social life for long, they are regarded as Dabi'aaji rather than diina because Islam is an integral part of FulBe identity. Only when two values or practices are directly in conflict is the correct Islamic interpretation referred to as diina and the previous Islamic tradition as Dabi'aaji.

New interpretations of the Koran and the hadiths are not automatically accepted by all FulBe. There is debate about the new interpretations or applications of codes. FulBe social and cultural life is constantly changing, and so are FulBe interpretations and characterization of their own practices and norms as either being part of Dabi'aaji or diina. FulBe are actively studying, interpreting, and applying the traditions of Islam to their lives, and they are not uncomfortable with the idea that there can be some conflict between the two traditions of Dabi'aaji and diina. It is not that they do not recognize that there are sometimes discrepancies between diina and Dabi'aaji (see, Evans-Pritchard 1949).

FulBe view the conflict between the two traditions as part of the continuing endeavor to become better Muslims. Each Muslim should abide by the five pillars of Islam, which can be considered as the acting out of the basic beliefs and attitudes of Islam (Denny 1987:47). The five basic devotional-ritual duties of every Muslim are: the profession of faith (*simtirgo* 'I attest that there is no God but Allah and that Mohammed

is his prophet'), the five daily prayers (*juule*), fasting during the month of Ramadan (*suumago*), the pilgrimage to Mecca (*haji*), and the payment of alms (*zakka*). One becomes a Muslim by professing the oath, performing the five-daily prayers, and fasting during the month of Ramadan. If you follow the five pillars – zakka and hajj are conditional on wealth and health – you are a Muslim. However, there are different degrees of piety.

The Islamic codes are quite elaborate and complex. To understand and follow the Islamic codes can be considered a continuous process that can last a lifetime. One of the basic premises of Islam is that people are born as good persons (Denny 1987). The profession of faith, praying, and fasting makes people Muslims. Adhering more strictly to the codes of Islam makes people better Muslims. I refer to this endeavor of becoming better Muslims by actively seeking more knowledge about Islamic codes and adhering more strictly to them as the pursuit of piety.

In a sense, pursuing piety is an intellectual challenge that is intrinsically motivating and which gives moral and religious meaning to everyday life. For example, when a FulBe household head buys sorghum, salt, oil, and vegetables at the local market to provide for his family, he follows and interprets Islamic codes. Moreover, by consciously and actively interpreting and following Islamic codes, simple everyday tasks receive a new moral dimension which is motivating as well. The pursuit of piety is both a commitment to adhere more strictly to codes of Islam as well as a religious (emotional) commitment to Islam. In short, by pursuit of piety I refer to practical, intellectual, and emotional devotion to religious duties and practices. This pursuit of piety is an important

component of the Islamic renewal in the Far North because it directly affects people's everyday (economic) behavior.

COMPARING ISLAM

The Islamic renewal is not taking place everywhere in the Far North Province to the same degree or with the same fervor. Maroua, the provincial capital, is the religious center of the Far North – it has the greatest number of scholars, Koranic schools, and mosques – and it is here that the Islamic renewal is the strongest. The Muslims in Maroua and the peri-urban area are generally better educated, have more knowledge of Islam, and, as a result, are more pious than FulBe elsewhere in the province, particularly in the rural areas.¹⁸¹ This variation in piety and Islamic renewal is reflected in the ethnography of the three villages.

Although the five-daily prayers structure the everyday activities in all three villages, there are clear and observable differences in the observance of Islamic codes as in many other FulBe groups (for similar inter-group variation see, Bovin 1990:50; de Bruin and Dijk 1995:402; Diallo 1986:230). Moreover, there is a direct correlation between Islamic renewal and the organization of the household economy and

¹⁸¹ There are a number of important Islamic centers in the rural areas of the Far North, e.g., the villages of Balda and Mogom). There are also Muslims in the rural areas who are more orthodox than Muslims in Maroua, for example, the Musgum in the Logone Flood Plain who are members of the Mahabu sect.

management of the family herd both between and within the three research villages.

Households that are headed by mallum'en in the agro-pastoral and peri-urban village are more affected by the process of Islamic renewal than those that are headed by non-mallum'en.

Table 6.1: Comparing Islam in Three Villages

		Peri-Urban Pastoralists	Agro- Pastoralists	Nomadic Pastoralists
Village	Mallum'en	28	6	1
	MoodiBBe	1	1	0
	Marabouts	3	3	1
	Mosques	3	2	0
	Koranic School elementary cycle	2	1	0
	Koranic School complementary cycle	1	0	0
	Pilgrims to Mecca (Alhaji'en)	4	0	3
Pastoral Households	Home instruction in Koran	Yes	No	No
	Polygyny rate	1.72	1.17	1.07
	Seclusion of women	Yes	No	No
	Women wearing veils	Always	Outside village	Rarely
	Husband sole provider	Most	Few	None
	Islamic inheritance rules	Always	Generally	Rarely
	Zakat over livestock ^a	100%	50%	12.5%

Zakat over livestock is calculated as a percentage of eligible households (i.e., those households with more than 30 cattle).

Peri-Urban Pastoralists of Wuro Badaberniwol

The peri-urban village Wuro Badaberniwol had the greatest number of educated Muslims (mallum'en) of the three research villages: 13% of the total population (compared to 6% and 1% in respectively the agro-pastoral and nomadic village).¹⁸² The village had also the largest number of mosques and Koranic schools (two elementary cycles and one complementary cycle)(see, Adama and Amadou 1998)(see table 6.1).

Overall, the quality of Islamic education was much better in the peri-urban village. The Koranic schools of the elementary cycle were small and had about eight students (often children, male and female, from the compound in which the school was held). Koranic schools were held frequently and regularly (in contrast to the agro-pastoral village). Moreover, the peri-urban village had a complementary cycle of Koranic school (study of Islamic jurisprudence, hadiths, mathematics, etc.) that was attended by (mostly young) men from the village and neighboring villages. There was also frequent one-on-one instruction within households in which fathers taught and supervised their children's Koranic education. FulBe fathers were very concerned with the religious education of their children. They preferred to hire a herder so that their children could attend Koranic school. Fathers wanted their sons to own cattle but not to herd them.

¹⁸² One becomes a mallum by finishing Koranic school and thus reading all the 60 *surats* (chapters, verses) of the Koran (about 400 to 500 pages).

The Islamic scholars in the peri-urban village were highly educated and well respected in the village and beyond. They frequently taught or worked for clients in Maroua. Islamic knowledge was an important source of income for a number of mallum'en in the village; income from maraboutage ranged from 1,000 to 15,000 FCFA (\$1.35 to \$20) per consult and income from zakka ranged from 10,000 to 50,000 FCFA (\$20 to \$67) per gift. Teaching constituted a minimal source of income for mallum'en. One of the Islamic scholars was a *moodibbo* (plural *moodiBBe*), an advanced Islamic scholar who masters the Koran and several other religious texts (hadiths, jurisprudence, etc.), can write and read Arabic, and is considered a great scholar in the community. The moodibbo in the peri-urban village comes from a family of moodiBBe and is well known and respected in Maroua and surroundings. Moodibbo is an honorary but not a formal title and there are no clear criteria for becoming a moodibbo (*moobaago*). The community decides when somebody is a moodibbo by addressing him as such. One can thus not assume that a moodibbo in the agro-pastoral village is equal in mastery of religious texts as a moodibbo in the peri-urban village.

Wealthy peri-urban pastoralists were all serious students of the Koran and other Islamic texts. They also invested more outwardly in Islam. They have made the pilgrimage to Mecca, contributed in the construction of mosques (with adobe and cement walls and aluminum roofing), or invested in other religious materials such as sheepskins for prayer mats and gold-colored kettle (*sakkan*) for ablutions (versus plastic mats and empty aluminum cans). The use of sheepskins not only indicates wealth, it also indexes greater religious knowledge (it is not appropriate for any FulBe to use a sheepskin for

Koranic study or prayer). The poor in the peri-urban village were also committed to Islam; many were *mallum'en*, others were *liman* (leading the prayer at the mosque) or *muezzin* (calling people to prayer), and one had learned the Koran by heart (*goni*).

There is, however, a direct correlation between wealth, the degree of religiosity, and stricter adherence to the codes of Islam among FulBe in the Far North of Cameroon. Wealthy FulBe men have the means to go on the pilgrimage and build mosques, as well as the leisure to devote time to the study of the Koran and other Islamic texts. They also have the means to keep their women in seclusion because they have walled compounds with separate quarters for their women. Moreover, their women do not have to leave the compound to fetch water at the well, collect firewood in the bush, or sell dairy products at the market because the household heads provision for the family and have servants or (former) slaves to perform the manual tasks that require work outside the compound. Women in wealthy households leave the compound veiled and only with permission of their husband for family visits once (maybe twice) a year. Women in poorer households, on the other hand, were not secluded because either the compound had no walls or their economic contribution outside the compound was needed for survival of the family.

Finally, the pursuit of piety on the part of wealthy peri-urban pastoralists also increased their status in the larger community, and in part was motivated by this search for respect. One could argue that the Islamic renewal in the peri-urban village is a re-orientation to urban values resulting from their incorporation into the larger conglomerate of Maroua, although it is difficult to distinguish the two since urban values were primarily expressed in religious terms.

Agro-pastoralists of Wuro Hoore Ladde

Wuro Hoore Ladde, the village of agro-pastoral FulBe, is located about 55 kilometers east of Maroua. The village had two mosques, which were made of branches that symbolically represented the walls. The FulBe in Wuro Hoore Ladde were committed to Islam and pious Muslims but less educated than the FulBe in the peri-urban village. There were fewer *mallum'en* and overall the educational level was lower. The unofficial head of the village was a moodibbo who had studied with a well-known scholar in Garoua. He was also the *liman*, the one leading the prayer at the Friday mosque, in the neighboring village of Wuro Lawan and member of the lawan's council.

There was only one Koranic school (elementary cycle) in the FulBe quarter of the village, which was infrequently held at night around a large fire. The school was taught by the son of the moodibbo (who was about to finish reading the Koran and become a *mallum*). The moodibbo had little direct involvement in the Koranic school. The teacher-student ratio was much higher than in the peri-urban village, about 1 to 25. I never observed any household heads or others instructing their children at home (as in peri-urban households).

Women in Wuro Hoore Ladde did not live in seclusion and women had much more freedom of movement in and outside the village compared to peri-urban women.

Seclusion was practically impossible because there were no walled compounds or separate quarters for women.¹⁸³ The compounds were marked by gelooDe branches. Everything that went on in the compound was visible and audible from the outside, as a result, domestic discord did not go unnoticed in the village. Agro-pastoral women left the village to get firewood in the bush and gravel in the dry riverbeds or sell milk in the nearby town of Guirvidig. Some men in Wuro Hoore Ladde would prefer their women not to go to local markets, but they realized that the dairy revenues were a vital source of income for the household. However, men make a distinction between the sales of milk in public and the sales of other commodities (e.g., sugar, peanuts, or oil). Women's sales of other commodities are considered inappropriate in public and these could only be conducted from the compound. Selling milk, on the other hand, was considered a FulBe tradition and therefore it was appropriate for women to market dairy in public. More importantly, perhaps was the fact that dairy revenues contribute to a common household fund, while the revenues from sales of other commodities were personal income of the women.

There was some variation within the agro-pastoral village with regard to the observance of Islamic codes. Women in the three households headed by mallum'en were symbolically secluded in that they only left the village for family visits, but not for dairy marketing or other purposes. When they sold dairy (from the compound), the revenues were considered their personal income, which they did not have to contribute to the

¹⁸³ There are a number of reasons for the lack of walls: the clay was not very suitable for building long-lasting walls; agro-pastoralists in Wuro Hoore Ladde were relatively poor and/or unwilling to invest in walls; and they were not particularly concerned with the seclusion of women.

common household fund. In short, the economic organization of the mallum-headed households in the agro-pastoral village resembled that of the peri-urban households. The economic organization of the other households, not headed by mallum'en, more closely resembled that of the nomadic households (discussed in chapter seven).

Nomadic Pastoralists of Wuro EggoBe

Nomadic FulBe are often labeled as nominally Muslim in the literature, though it is seldom qualified why or how they are nominally Muslim (Brackenbury 1924; Schultz 1984; VerEecke 1987). In many cases, the label of nominal Muslims reflects or just reiterates the opinions and sentiments of sedentary FulBe. Sedentary FulBe regard their nomadic brethren nominal Muslims not because they do not believe in Allah or do not identify themselves as Muslims, but because they do not follow the Islamic codes properly or perform the prayers correctly.

Because Islam is an orthoprax religion, proper and correct performance of practices is crucial. Each Muslim should abide by the five pillars of Islam, which can be considered as the acting out of the basic beliefs and attitudes of Islam (Denny 1987:47). There is great emphasis is on correct performance of ritual practices and adherence to the Islamic codes. If one does not perform the prayers correctly – which are highly formalized and minutely regulated in cycles of spoken formulas and bodily postures –

one is not a devout Muslim. When a Muslim makes a mistake in prayer – for instance, does not wet the bottom of the foot during ablution or mispronounces a formula – the prayer does not count and his or her chances of going to paradise are reduced.

It is because of their ignorance of the Islamic codes and their incorrect performance of religious rituals that nomadic FulBe are considered nominal Muslims. For example, I observed one nomadic leader who made several errors in movements, posture, and spoken formulas during his prayers. His prayers were considered invalid by the peri-urban pastoralists who were in his camp visiting their animals (it was as if he never prayed). According to these peri-urban pastoralists, the nomadic leader was destined for the eternal fire (*yiite*) despite his repeated reciting of *Allah Akbar* (Allah is great) after prayers. Another example: in the cool dry season nomadic FulBe camp in the Logone Flood Plain, which is much colder than the rest of the province. During this season, nomadic pastoralists usually do not wash themselves for periods up to a few weeks, while they continue to engage in sexual intercourse and perform their five-daily prayers. According to Islam, those prayers are invalid because after sexual intercourse, one should perform a major ablution and cleanse the entire body in a ritualized full bath. It is because of errors and violations like these that nomadic FulBe are considered to be nominally Muslims by sedentary FulBe.

The absentee herd owners from the peri-urban village of Wuro Badaberniwol who had entrusted herds to nomadic FulBe frequently made disparaging remarks about the nomadic FulBe because of their ignorance: *yimBe ladde juulata boDDum* ‘they do not know how to pray [laughter]’. They argued that it made no sense to give zakka to

nomadic FulBe since they do not know how to pray (and zakka should only be given to Muslims). The absentee owners did not consider nomadic FulBe to be even nominally Muslims; as far as they were concerned, nomads were not even members of the umma.

One of the reasons that many nomadic FulBe do not perform prayers correctly is because they have little access to religious knowledge and education. They live in camps in the bush far away from village and towns where scholars reside. A number of mallum'en travel from camp to camp working for nomadic pastoralists (i.e., performing maraboutage), but they seldom instruct nomads how to pray.¹⁸⁴ In a few Mare'en camps, one finds nomadic pastoralists who have read the Koran. Sometimes, these nomadic mallum'en organize Koranic schools in the camp. In the camp of Wuro EggoBe, there was one mallum, son of the nomadic leader, who was sent as a child to a Koranic boarding school in town. After finishing reading the Koran, he returned to the camp of his father, unlike many of his fellow nomadic graduates who prefer the city life to the herding life in the bush. However the mallum in the nomadic village of Wuro EggoBe was not making much effort to educate his fellow nomads. It is possible that he might have not been very well educated himself since many nomadic children are sent to mediocre Koranic schools (see, Bocquené, et al., 2002).

Another explanation for the fact that nomadic pastoralists are less observant of Islamic codes than sedentary pastoralists is that the interests of nomads are narrowly

¹⁸⁴ More pious FulBe consider these traveling mallum'en charlatans or *faux marabouts* (*budeejo*) people who had not finished the Koran and were serving misguided people. Noye translates buudeejo as a marabout who makes and sells talismans (*layaaru*, *krikri* in French)(Noye 1989:45), which signals a change in how FulBe perceive these syncretic practices.

circumscribed by the constant demands of pastoralism and that this does often conflict with the pursuit of piety (Stenning 1966:387).¹⁸⁵ Pastoral demands require nomads to set up camp in the bush far away from population and religious centers. The constant care for cattle leaves them with little time to devote to religious study or even prayer. Morning (*subaha*) and sunset prayer (*mannagariba*) are right at milking time, while the prayers in the afternoon (*zuura, asiri*) are during herding which does not allow herders to pray. Nomadic pastoralists often pray quickly between tasks in the middle of the corral. There is a saying that expresses well this pastoral predicament of piety: *nge nge haa nge* ‘cow, sun, to fire.’ Herding cattle everyday in the sun means suffering in this and the afterlife because herding interferes with prayer and religious devotion, this means that the herder will go straight to the fires of hell.¹⁸⁶

Nomadic pastoralists are less concerned with the Islamic codes that govern everyday life, especially the ones that conflicted with their pastoral practices (e.g., seclusion of women, inheritance laws). However, nomadic pastoralists, especially the older folks, were very concerned with being devout Muslims (and their reputation as nominal Muslims). Nomadic pastoralists generally pursued the mystical *sufi* path of Islam by making the pilgrimage to Mecca and the use of maraboutage to achieve success in this

¹⁸⁵ Stenning (1966:391) argues that Islamic values are antithetical to those of the pastoral life (of the WoDaaBe). But his article suggest that, despite the fact that their ritual leaders has lost importance, the WoDaaBe have integrated Islamic ceremonies and rituals in their own traditions that center around the cycle of family and herd. The greatest conflict seems to be that former slaves, now Muslims themselves, are supposed to be treated as equals, which the WoDaaBe do reluctantly (or not at all). Finally, they try to divide the inheritance (i.e., family herd) in absence of clergy and traditional authorities to avoid death duties (Stenning 1966:398).

¹⁸⁶ The *nge* in *nge nge haa nge* is a marker for a noun class that contains only three basic nouns: cow, sun, and fire (*nagge, naange, e yiite*). However, there are many different words for cows so that there are hundreds of nouns in the *nge* noun class.

life and the afterlife.¹⁸⁷ Almost as many nomadic as peri-urban pastoralists had made the pilgrimage to Mecca. Three nomadic pastoralists in Wuro EggoBe had made the hajj to Mecca and one of them had sent two of his female relatives (mother and half-sister) who did not live in the camp on the hajj.¹⁸⁸ One of the *alaji'en* (singular *alaji*, someone who has made the pilgrimage to Mecca) had 'drunk the Koran' nine times during my fieldwork (*yarande*), which involves writing each *surat* (Koranic chapter or verse) on a wooden plank (*alluha*) with ink and then washing the verse off and drinking it. He also had a mullah read the entire Koran and at completion, sacrificed a bullock. This gives an indication of the financial investment of older nomads in their mystical pursuit of Islam, which is different from the more orthodox Islam of peri-urban pastoralists. Bradburd (1998:52-3) makes a distinction between observance and devotion, arguing that the Komachi shepherds in Iran are very devout, even though few pray or fast. I believe that this also aptly describes the relationship that nomadic FulBe in the Far North have with Islam. They were devout in a mystical sense but less observant of the Islamic codes that govern everyday life.

¹⁸⁷ One finds that maraboutage takes an important place in the life of FulBe in all three villages. There are, however, differences in the practices and norms. Wearing talismans as nomadic FulBe do is regarded as more un-Islamic by peri-urban pastoralists than citing a certain prayer in every corner of your compound at three a clock in the morning for ten days. The fact is that the first practice is associated and being used primarily by FulBe who are nominally Muslim (the rural poor), while the other practices are primarily used by the wealthy, urban and higher educated FulBe.

¹⁸⁸ The hajj was financed through the sales of animals (ranging from 4 animals in 1980 to 12 animals in 1990). The hajj depends on financial means and nomadic pastoralists generally have more animals (and can spare more animals), which explains why there are relatively many *alaji'en* (men who have made the pilgrimage to Mecca) in the nomadic community of Wuro EggoBe.

SUMMARY

Maroua has been the religious center of the Far North since the FulBe jihads in the early nineteenth century. It has the greatest number of scholars, Koranic schools, and mosques in the province. Koranic education and Arabic literacy provide greater access to religious knowledge, which in turn affords greater piety. The FulBe in Maroua and the peri-urban area were better educated, had greater knowledge of Islam, and were in general more observant of Islamic codes than FulBe elsewhere in the province. There is thus a correlation between greater access to religious knowledge and stricter adherence to the codes of Islam.

The process of Islamic renewal, which is the strongest in Maroua, represents a movement to a more orthodox version of Islam, away from the more heterodox practices, and to a stricter implementation of the codes of Islam. This stricter observance of Islamic codes has led to a number of institutional changes in peri-urban households and management of family herds that are partly responsible for the transformation of the peri-urban pastoral system.

CHAPTER 7: THE HOUSEHOLD ECONOMY

INTRODUCTION

The stricter adherence to the codes of Islam on the part of peri-urban pastoralists has led to institutional changes and a reorganization of their household economy. The institutional changes do not constitute an Islamic blueprint or a coherent ideology about how the household economy should be organized, nor are they aimed at improving economic performance. The institutions exist to channel behavior according to religious norms, however, they also directly affect economic behavior.

The Islamic institutions that have affected the economic organization of peri-urban households are: polygyny, separation of personal income and property, and provisioning responsibilities. Polygyny is not an Islamic institution per se, or limited to Muslim societies, or even the preferred form of marriage in all Muslim societies, but I will argue that the recent increase in polygynous marriages in the peri-urban village is associated with the movement of Islamic renewal in the Far North of Cameroon. Polygyny under Islamic law is subject to a number of codes, most importantly the husband's equal treatment of co-wives as well as the separation of wives' personal income and property. These codes have implications for intra-household allocation of resources and responsibilities.

Traditionally, husband and wife were jointly responsible for provisioning the pastoral FulBe households in the Far North of Cameroon. Every other day, women bartered or sold sour milk and butter at local markets in exchange for sorghum, vegetable oil, dried fish, vegetables, and condiments. While men occasionally sold animals to cover larger expenses such as taxes, clothes for the Ramadan feast, and housing construction. In the (almost mythic) past when pastures were green and abundant, and milk production was prolific, women's revenues from dairy sales reportedly fed the household throughout the year.¹⁸⁹

Today, this has changed in the peri-urban village, and in some agro-pastoral households. Women in peri-urban pastoral households no longer contribute dairy revenues to the common household fund or share the responsibility for provisioning the household. This means that the household head is now solely responsible for provisioning the household and dairy revenues are no longer the main source of income for the peri-urban household.

Examining these changes in the economic organization of peri-urban households is important because it provides the institutional context that shapes the process and outcome of intensification of the peri-urban pastoral system, and has therefore direct implications for its sustainability.

In this chapter, I will examine the institutional changes in rights, responsibilities, and tasks in peri-urban pastoral households in response to Islamic renewal. First, I will

¹⁸⁹ In the past, the revenues from dairy sales could feed the household throughout the year, according to my informants, and thus women were de facto fully responsible for provisioning the household (see also, Dupire 1962a; Hopen 1958; Stenning 1959; Waters-Bayer 1988).

first sketch the general structure, activities, and cultural models of FulBe households. Then I describe the economic organization of the ‘traditional’ FulBe household, as illustrated by nomadic and agro-pastoral households, before going into more detail about the reorganization of the peri-urban households with Islamic renewal. It will become clear that there is some overlap across villages; the organization of agro-pastoral households that are headed by mallum’en is more similar to that of peri-urban households, which suggests that the pursuit of piety is responsible for institutional changes in pastoral households.

Studying Households

Despite their near universality, households are notoriously difficult to conceptualize due to the enormous range and variation in form and functions within and across societies. Households encompass a wide range of different functions or activities (e.g., production, reproduction, distribution, co-residence, transmission) that do not necessarily overlap with its structure. Moreover, the morphology of households changes over time (Goody 1971). Theoretical definitions of the household have failed to accommodate the cross-cultural variation (Netting, et al., 1984a; Wilk 1991). Households are generally more easily defined on the ground as the most common social unit in a society (Wilk 1991:35) and often practically defined as “the smallest grouping with the

maximum corporate function” (Hammel 1980:251). Although, even defining households on the ground can be challenging.

There are a number of analytical approaches to the study of households. Most scholars make a distinction between morphology and activities. The morphology of household includes its kin structure, which often constitutes the core of the household, size, and development cycle. The activities of households include production, distribution, consumption, reproduction, and co-residence. An approach that combines the two considers households as an activity group in which the various domestic activities are mapped onto a social group consisting of the members of the household and members of other households (Wilk 1991:36; following Wrigley 1977). In this approach, the household is the minimal social grouping with the maximum of overlapping activities, which can be visualized in a Venn diagram. This approach also takes into account the functional links with other households and individuals outside the household, and emphasizes that households are not static, closed, or coherent systems (Wilk 1991:36, 37). However, the result is not always analytical clarity though it underscores the complexity of studying households (see figures 7.1, 7.2, and 7.3).

In addition to morphology and activities, households are cultural constructs, in the sense that their members have cultural models that provide meaning and inform both the morphology and the activities of the household (Carter 1984; Netting, et al., 1984b; Wilk 1991; Yanagisako 1984).¹⁹⁰ Cultural models are cognitive and normative models that

¹⁹⁰ I use cultural models here in a broader sense than ‘rules and strategies’ (Carter 1984) and ‘ideal types’ (Wilk 1991).

inform the motives, goals, strategies, notions, and perceptions of its members. That is not to say that its members share the same motives, strategies, etc. (Yanagisako 1984:332).

Studies of African households have demonstrated that households are not always corporate units characterized by generalized reciprocity with cooperating individuals who all contribute to a common household fund (Berry 1985; Carney 1988; Donham 1990; Guyer 1981). Thus, households cannot be taken *a priori* as a single decision-making unit in which all resources are pooled. This approach, often referred to as the ‘common preference’ or ‘unitary’ model (Becker 1981), ignores power relations, the allocation of resources, and conflicting interests within the household and treats the household as a ‘black box’. The common preference approach is often used in pastoral studies because collecting economic data within households and family herds is notoriously difficult (Fratkin and Roth 1990; Roth 1990). It is, however, imperative to enter the ‘black box’ of the household and examine the activities and cultural models of its participants to come to an understanding of the role of the institutional organization of the household in the transformation of the pastoral peri-urban system.

FULBE HOUSEHOLDS

When FulBe pastoralists refer to what anthropologists would describe as a household, they use the word *saare* (plural *caalaaje* or *ci’e*), which also means

compound, home, household members, nuclear and extended family, and sometimes patrilineage, all depending on context and development cycle of the domestic group. This implies that FulBe households incorporate a multitude of units and functions: kinship, descent, co-residence, physical space, production, consumption, and overall economic cooperation. It also affirms the problem that anthropologists have in defining ‘households’; FulBe households incorporate multiple and overlapping units and functions.

Structure

The core of a FulBe household is always a nuclear family: husband, wife, and his children.¹⁹¹ The nuclear family is referred to as *saare* or as *suudu* (plural *cuudi*), which can be translated as house, family, and patrilineage, again, depending on context. The household is headed by the husband called *baaba saare* (literally father of the *saare*). Compounds always have at least one house – or tent in the case of nomadic FulBe, both are called *suudu* – which is the house of the *daada saare* ‘mother of the *saare*’, first wife of the *baaba saare*. In complex households, those with multiple nuclear families, each married woman (including co-wives in polygynous households) has her own *suudu*

¹⁹¹ Children are born into the patrilineage of their father. In case of divorce, children stay with their father. Nursing infants will stay with their mother until they are weaned, and are then returned to their father.

though they may share a common kitchen. Married women within the household, e.g., mother and daughter-in-law or co-wives, take turns preparing food for the household. A suudu can thus also be regarded as a cooking unit or hearth (*fayannde*) (de Bruin 1997).¹⁹² One could argue that the suudu, a uterine family that consists of a woman and her children, is the true nucleus of the household because without a wife cooking, there is no household, and FulBe men cannot achieve the independence that they value so highly (as is illustrated by the example below) (Regis 2003:53-4; Riesman 1977):

In the peri-urban village, one compound was inhabited by a RiimayBe trader and his teenage son. The trader's wife had run away a few months before I started my research. Since the wife's departure, father and son had not eaten together. The trader ate at the local market or in restaurants, while his son ate at friends' compounds in the village. This placed them in a position of dependency, which FulBe experience as shameful. The compound was only used for sleeping and storage. It was utterly without life, and no longer a household.

Despite the fact and sentiment that without a wife there is no household, FulBe households are patriarchal and the household head, baaba saare, has ultimate authority over all members of the household until his death. The baaba saare is always the oldest male member of the nuclear or extended family that constitutes the core of the household.

¹⁹² While De Bruin (1997) emphasizes the economic aspects of the *fayannde*, I would argue that the *fayannde* is more like the uterine family described elsewhere (Wolf 1972) in which the emphasis is on women creating their own family and social support within a patrilocal and patrilineal household system in which women become more invested as their sons grow older. FulBe women ideally will stay with their oldest son when they age.

The daada saare, the first wife of the baaba saare, is the head of the female side of the household, which includes co-wives, daughters, daughters-in-law, and granddaughters.

The authority of the daada saare is limited but she is to be respected.

The FulBe have a patrilineal descent and a patrilocal post-marital residence system, which means that the position of women in FulBe households is always ambiguous. Daughters are considered temporary guests in their father's household since they move to their husband's household upon marriage. In her husband's household, she is also considered a guest since she always remains a member of her father's saare, even though her children are members of their father's, her husband's, saare.¹⁹³ However, as a woman gets older, has one or more sons, loses her father and brothers, she increasingly becomes part of her son's, but not necessarily her husband's, household as her son gradually becomes the next baaba saare. One woman in the peri-urban village expressed it as follows: 'I came here as a stranger, but now after 13 years and four children, I no longer consider myself a stranger in my husband's household and village.'

FulBe household often consist of one or more nuclear families. These complex households generally consist of a father and one or more married sons or married

¹⁹³ This is reflected in everyday language. Some examples of expressions that are used by women to refer to their husband's or father's household are: *mi dilli* 'I go [to my husband's compound]', *mi huccan* 'I go home [to my father's compound]', *haa maBBa* 'at their place [i.e., her husband's household]', *haa Bikkon am* 'at the place of my children [i.e., her husband's household]', *haa amin* 'at our place [i.e., her father's household]'. 'Home' or 'my place' always refers to a woman's parents' household, while 'their place' refers always to a woman's husband's household.

brothers.¹⁹⁴ Other configurations are also possible. The second nuclear family can be headed by patrilineal kin such as a brother's son or an adopted son of the baaba saare.¹⁹⁵

Households may also temporarily include other patrilineal kin; widowed or divorced aunts, sisters, daughters, and granddaughters of the baaba saare. When women run away, divorce, or are divorced, they will always return to their saare, i.e., that of their father, brothers, or their son when he is a household head. Other temporary members of the household can be migrant agricultural laborers (e.g., Masa from Chad or Mafa from the Mandara Mountains who come to work the fields in the Diamaré), hired herders (often impoverished FulBe nomads), or young boys who have converted to Islam and help in the household. In all three villages, temporary workers received wages, food, and lodging.

Most pastoral households in the peri-urban village are complex households (66%), and because all but one household head had polygynous marriages (83%), peri-urban pastoral households were relatively large. Agro-pastoral households were the smallest, only three of them, all headed by mallum'en, were polygynous (19%), and six consisted of multiple nuclear families (38%). Nomadic pastoralists were least polygynous, only one household (12.5%), but most households were complex (75%), and

¹⁹⁴ The FulBe have no terms that distinguish between simple, those with one nuclear family, and complex households. In complex households, the different nuclear families are sometimes referred to as *cuudi* (singular *suudu*).

¹⁹⁵ When a couple cannot have children, they are given (or they adopt, depending on who initiates the adoption) children from their brothers or sisters. Without children, a man can never become a baaba saare. He will just be a *jawmu saare* 'owner of a saare,' meaning an 'owner' of a wife, i.e., a husband but not a father.

their households were slightly larger than the agro-pastoral ones. There was thus considerable variation in household structure across the three villages (see table 7.1).

Activities

The different activities in FulBe households – production, consumption, ownership, and co-residence – do not necessarily map easily on its structure; activities were organized in different units within (and outside) the household. Some activities were organized at village level (e.g., herding), others were organized by household (e.g., eating), by nuclear family (e.g., farming), uterine family (e.g., cooking), or by individual (e.g., cultivation of cotton, commerce). The organization varies across villages and households and this makes comparative economic analyses of FulBe households difficult (cf., Buhl 1999:86, 211; Buhl and Homewood 2000). It is easier to examine one activity, say herding, and compare the appropriate organization unit in each household, than to consider all the economic activities in households at once. The case of Abdullahi, a peri-urban pastoralist in Wuro Badaberniwol, illustrates the complexity of studying household economic organization.

Abdullahi (30 years old) lived in the compound of his father's brother.

They ate together (*Be nyaamdán*), their wives took turns cooking (*Be defdan*), their village animals went to pastures together (*Be durdan*) but

not in the bush (*Be kalfinata*), they did not cultivate together (*Be remdata*), they did not stock their sorghum together (*Be kawtata*), and each was providing for his own wife (*Be seefnan hoore mum*). Abdullahi was considered an independent household head (*baaba saare*) even though he was living with his father's brother. Abdullahi's parallel cousins (FBS, 25, 30, and 40 years old), on the other hand, still depended on their father who provisioned their wives when it was their turn to prepare food (see figure 7.3).

Admittedly, the complexity or the incongruity of structure and activities is the greatest in the peri-urban households, which is partly due to their size and structure. Peri-urban pastoral households are much larger in comparison to households in the other two villages, and consist of multiple nuclear families. Consequently, in the nomadic village, and to a lesser extent in the agro-pastoral village, there is more overlap in the activities and the structure of the household (see figure 7.1, 7.2, and 7.3 for Venn diagrams of typical households in each village).

The complexity of FulBe households and the variation within and across villages made it challenging to come up with a list of defining criteria, let alone a definition of a FulBe household. It did not help that *saare* potentially could refer to a number of different social units. My informants, however, knew exactly who constituted a household. From their listings of households, I deduced that when nuclear families stocked sorghum together they constituted a household. Nuclear families that shared a compound and kept

their animals in one corral, but did not stock sorghum together, were considered separate households.¹⁹⁶ Thus, pooling sorghum, the main staple, defined a FulBe household.

The cultural and economic ideal of FulBe men is to have an independent and self-sufficient household – *saare hee'nde*, literally 'a full house' – that can perform all the functions and accomplish all the needs of the household without requiring any assistance from outsiders, for example lifting exhausted cattle out of the mud or burying the dead. Ideally, in each *saare* one would find an agriculturalist, a pastoralist, a trader, and an Islamic scholar. A saying that expresses the ideal of autonomous agro-pastoral households is *saare hee'nde: mara na'i sappo, mara booro sappo, mara dimle sappo, mara bikkon sappo* 'an independent household owns ten head of cattle, ten-thousand FCFA, ten leather sacks of sorghum [1,000 kilogram], and has ten children.'¹⁹⁷ Few pastoral households achieved this degree of independence and the institutional changes underway in the peri-urban households make this even more difficult.

¹⁹⁶ In the agro-pastoral village, for example, not all household members lived in the same compound. Two households were spread over two separate compounds. In both cases, the sons lived in a compound directly opposite their father's on the other side of the only dirt road that went through the village. Similarly, nuclear families that shared one compound did not necessarily constitute one household. Two compounds were occupied by more than one household; one by two brothers and one by a man and his sister's son. The compound boundaries were clearly marked with *gelooDe* bushes; but there was no clear boundary separating the two households within the compound. The households that shared a compound also shared corrals and its men folk ate together, but they did not cultivate or stock sorghum together nor did their women prepare together (i.e., take turns preparing food).

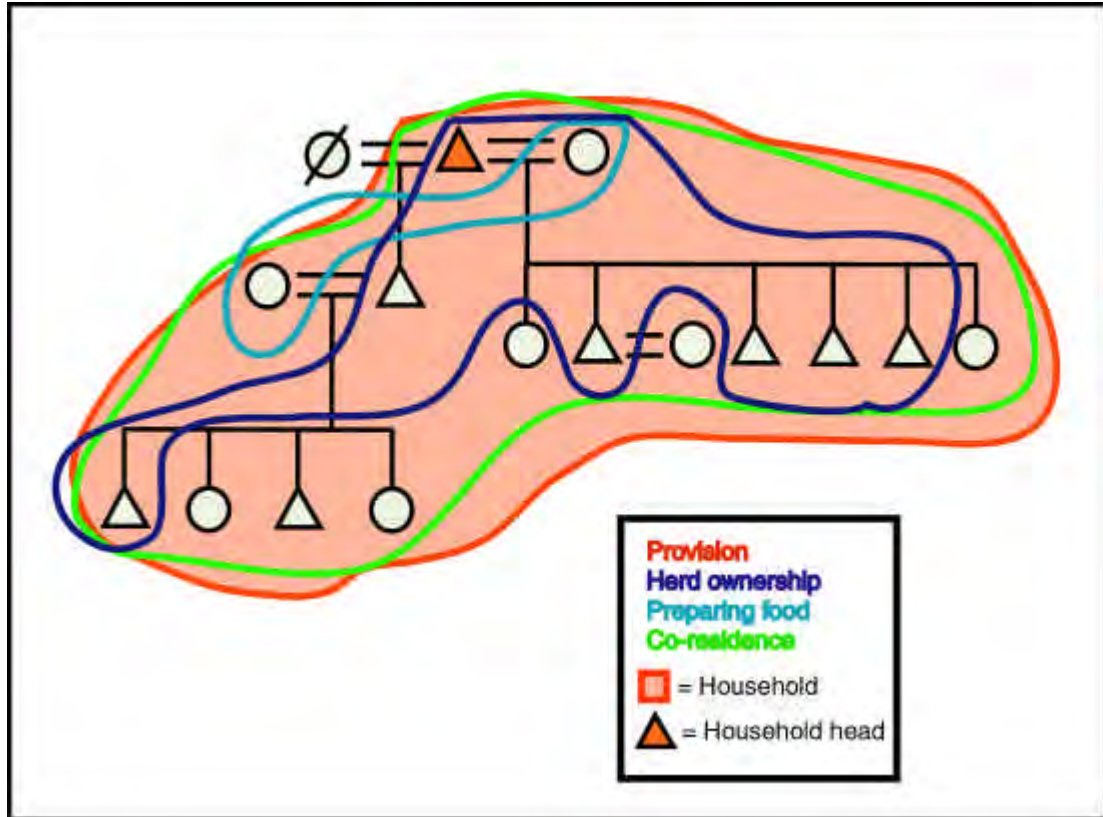
¹⁹⁷ The cultural ideal of the *saare hee'nde* is about independence from other households, not from the market. In fact, the saying above incorporates the idea that independence is achieved through a diversification of economic activities, which includes non-pastoral commercial activities.

Table 7.1: Household Structure in Three Villages

	Age Household Head	Number of People	Number of Consumers (ACE)	Number of Nuclear Families	Percentage Polygynous Marriages	Polygyny rate	Percentage Complex Households
Peri-Urban Pastoralists	53 (\pm 13.0)	17.0 (\pm 8.1)	12.7 (\pm 6.4)	2.0 (\pm 1.1)	76.9%	2.00	66%
Peri-Urban Village	56 (\pm 13.5)	8.7 (\pm 8.8)	6.6 (\pm 7.1)	1.1 (\pm 0.9)	48.3%	1.72	30%
Agro-Pastoralists	55 (\pm 9.6)	6.8 (\pm 3.0)	5.1 (\pm 2.3)	1.4 (\pm 0.6)	17.4%	1.17	38%
Nomadic Pastoralists	53 (\pm 18.5)	8.9 (\pm 4.0)	6.6 (\pm 3.1)	1.9 (\pm 0.8)	6.7%	1.07	62%

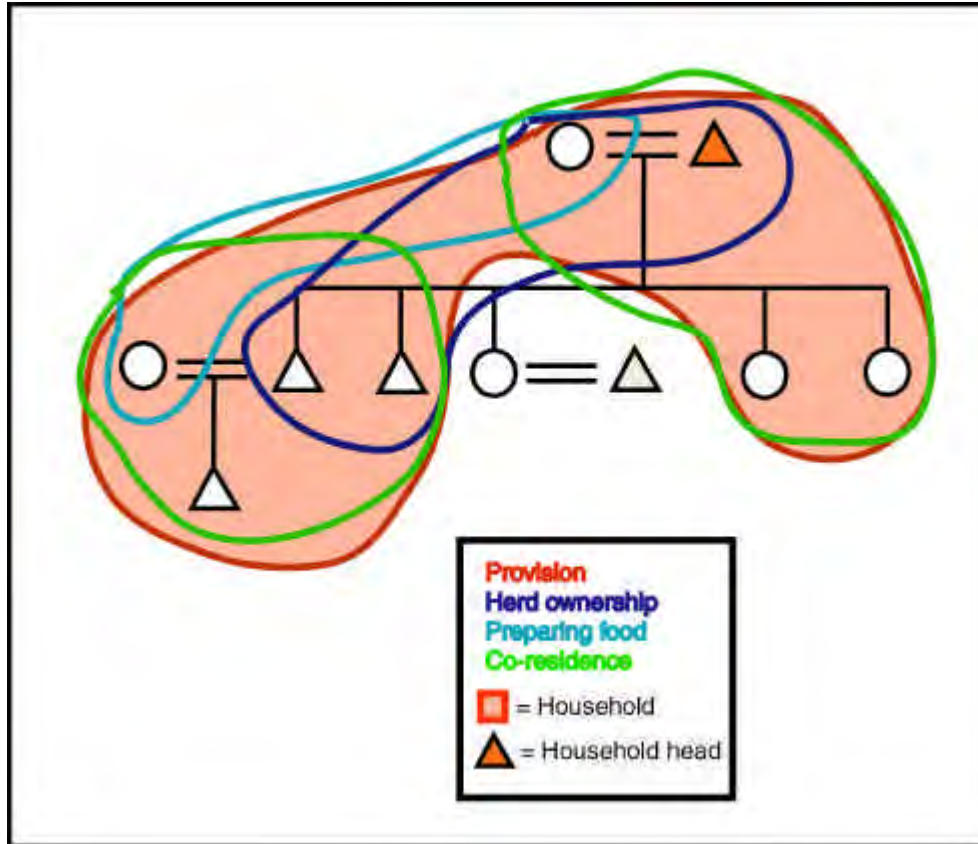
The category *percentage of polygynous marriages* includes all married men and is not limited to household heads. Standard deviations are given parentheses. *Complex households* are those households with multiple nuclear families (in contrast to simple households, which consist of one nuclear family). Polygynous families are considered here one nuclear family.

Figure 7.1: Venn Diagram Nomadic Household



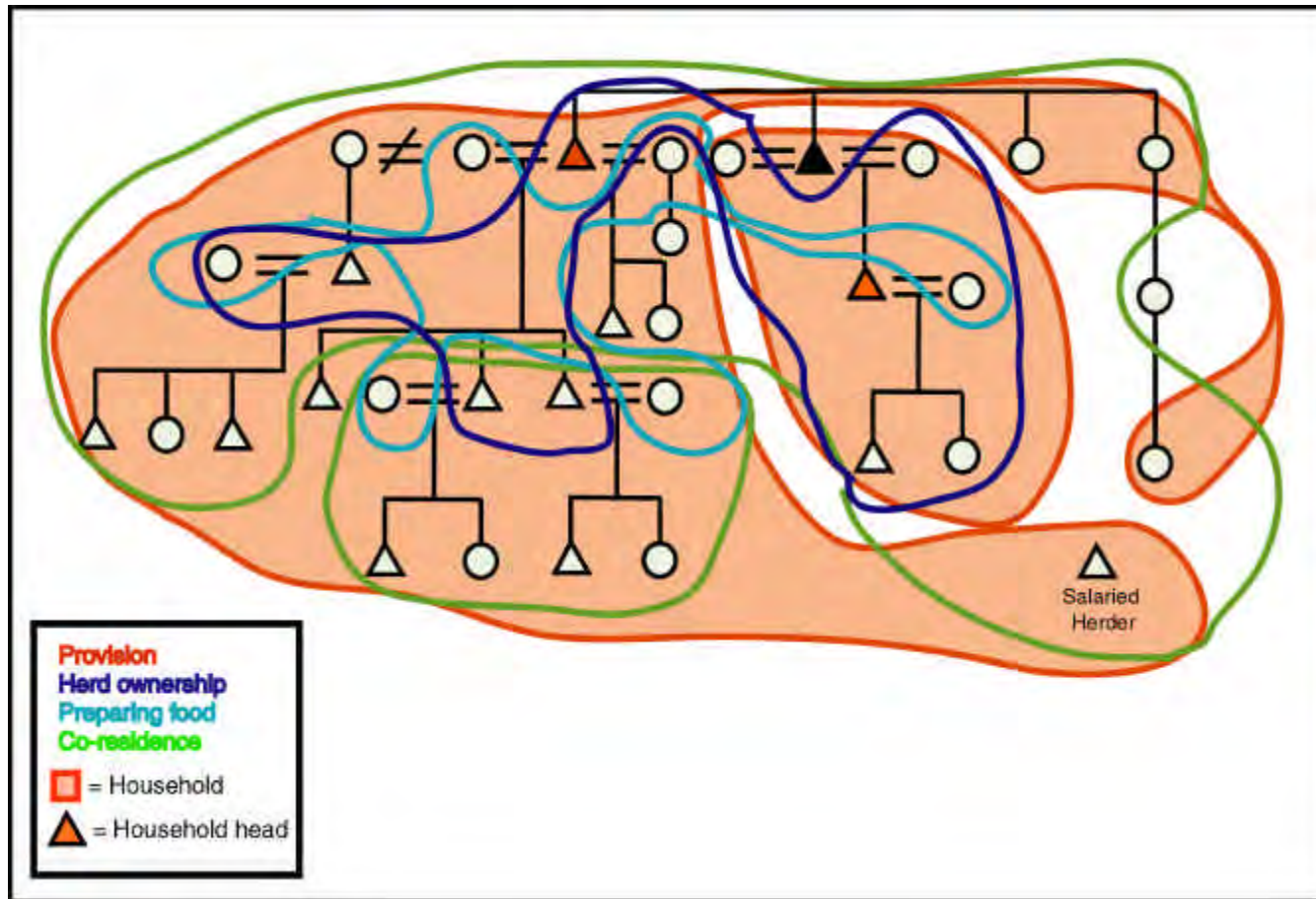
The Venn Diagrams represent actual households in each of the villages. The household head and his wife shared responsibility for provisioning the household. The two married women in the household prepared food together meaning that they took turns every other day. The members of the household that own animals in the family herd are encircled by a dark blue line.

Figure 7.2: Venn Diagram Agro-Pastoral Household



The two sons were living in a separate compound at the opposite end of the road that went through the village.

Figure 7.3: Venn Diagram Peri-Urban Household



This Venn diagram pictures two households. The two household heads live in the same compound. However, two sons of the oldest household head live in a separate compound. Each household head provisioned his own household, but their women took turns preparing food for all (two women would prepare every day).

‘TRADITIONAL’ HOUSEHOLD ORGANIZATION

The household organization of nomadic pastoralists in Wuro EggoBe and most agro-pastoral households in Wuro Hoore Ladde are used here as models of ‘traditional’ FulBe households in which husband and wife share responsibility for household provisioning.¹⁹⁸ Here I will briefly discuss the economic organization of these traditional FulBe households for comparison later with peri-urban households.

There is a clear and distinct sexual division of labor in traditional FulBe households in which men and women had separate tasks, funds, and control over different domains, but share responsibility for provisioning the household. In general, managing the family herd was considered the male domain (although both men and women own animals in the herd), and house keeping the female domain. The division of labor was such that women were responsible for preparing food, assembly and disassembly of the tents, childcare, and processing and marketing of milk; older children were responsible for herding cattle during the day; smaller children were responsible for tethering calves and herding sheep; while men herded cattle at night, milked the animals, gathered information about rangeland conditions, and supervised the herd.

Traditionally, both spouses contributed to a common household fund in pastoral FulBe households, which were predominantly monogamous. Women provisioned the

¹⁹⁸ One has to keep in mind that there is also variation within and across agro-pastoral and nomadic villages. Nomadic FulBe Alijam’en in the Far North have a very different household organization from the nomadic FulBe Mare’en of Wuro EggoBe.

household through the sale of dairy products (sour milk and butter) in the rainy season and the cool dry season when milk yields are highest.¹⁹⁹ They barter or sell dairy products in nearby villages or at local markets, which often requires them to walk, with other women from the village, up to two hours to and from the markets, as FulBe villages are often located far from the population centers and potential consumers. When milk production reaches its low in the hot dry season, the household head sells animals (usually young bulls or old cows) to buy sorghum and other foods and goods (Boutrais 2002:8). Men also sell animals to cover larger expenses such as taxes, dowry, clothes, and housing materials. In addition to feeding the household, each spouse had additional responsibilities. Men were responsible for expenses related to the herd (e.g., vaccinations, herder salaries) and expenses related to the outside world (e.g., taxes, tributes, medical expenses). Women were responsible for expenses related to the house (e.g., kitchen ware).

During the rainy and cool dry season, women were regarded by the FulBe as the main providers in the sense that they were the ones that brought home the sorghum and ingredients for the sauce that fed the household on a daily basis. FulBe did not see women as the sole providers; provisioning the household was considered a collective endeavor to which each member contributed through his or her own tasks. When milk yields were sufficient, women fed the household; when milk yields were insufficient, men sold animals. The fact that women provisioned the household was highly valued by

¹⁹⁹ Milk yields are higher in the rainy and cool dry season because of the greater availability of fresh forage.

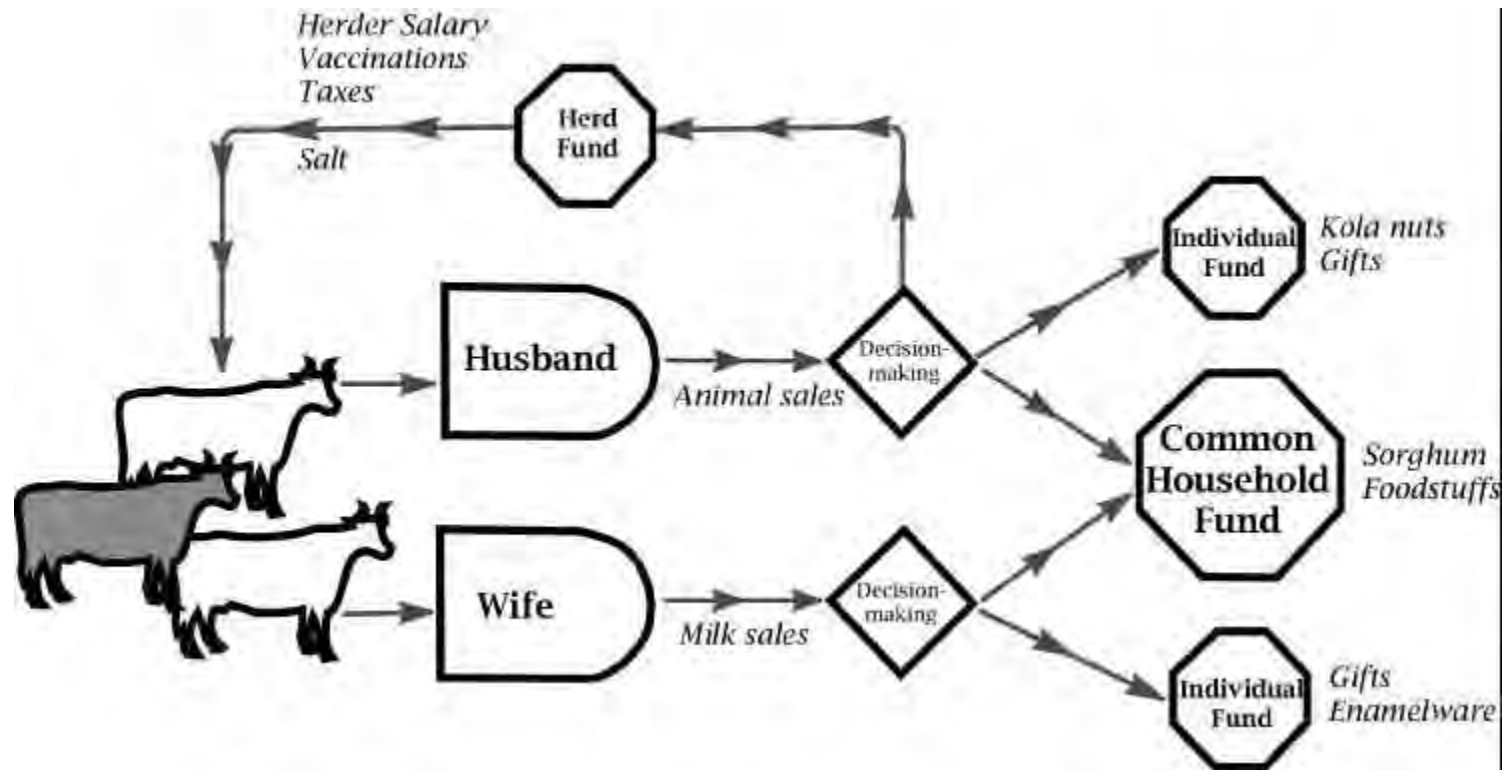
FulBe, because as long as dairy revenues covered the provisions, no animals had to be sold. Dairy revenues protected the family herd.

In agro-pastoral households, with few lactating cows, in which dairy revenues were insufficient to provision the household, provisioning responsibilities were such that men covered the dough (*dottal*) and women the sauce (*haako*). This meant that men were responsible for sorghum purchases, while women were responsible for smaller purchases of vegetables and condiments (see also, Buhl and Homewood 2000). Many agro-pastoral households, however, had milk yields too low for both auto-consumption and marketing, and this meant that men were forced to sell animals or use off-farm income to feed the household.

Spouses in traditional FulBe households contributed to what anthropologists call a common household fund, which is used to cover costs of or provide subsistence for the collective household. In addition, husband and wife have individual funds that they used for personal expenses and investments (see figure 7.4). One has to keep in mind that among FulBe pastoralists these funds only exist as an abstraction. No money is shared between spouses, only responsibility. Spouses keep separate accounts and they themselves decide how to allocate their resources, i.e., whether it will go to the common or individual fund and how it is used in those funds. FulBe women have the right of disposal over dairy revenues; they decide whether to contribute them to the common fund or use them for personal expenditures. Spouses are discreet and do not know about each other's financial situation. It is considered shameful for spouses to ask about or meddle in

each other's finances (see also, Hopen 1958). Even though spouses kept separate funds, they shared responsibility for provisioning the household.

Figure 7.4: Traditional Fulbe Household Organization



In nomadic (and most agro-pastoral) households, husband and wife share responsibility for provisioning the household. Men sell animals and women sell dairy products and contribute the revenues to a common household fund. They make these contributions in kind. The common household fund is an abstraction. In fact, no money is pooled, only sorghum and other foodstuffs. Spouses also each have their own individual funds that they use for personal expenditures and investments. The household head is responsible for all the expenses related to the family herd. Traditional FulBe households were generally monogamous.

REORGANIZATION OF THE PERI-URBAN HOUSEHOLD ECONOMY

The changes in the economic organization of peri-urban pastoral households are not due to sedentarization or the adoption of agriculture – the majority of agro-pastoral households follow the traditional FulBe household model – but to a stricter adherence to Islamic codes and adoption of Islamic norms. The increase in the number of polygynous marriages, which I argue is associated with Islamic renewal, plays an important role in the economic reorganization of peri-urban households, and has led to a system in which the household head has become the sole provider of the household (Boutrais 2002:10; Holtedahl 1993:282; Pelican 2003).

The reorganization of the peri-urban household economy does not represent a radical change. Institutional changes in the peri-urban household are path dependent in that they build on patterns in the organization of traditional FulBe households (North 1990). New Islamic institutions map relatively easy onto existing cultural patterns of separation of personal funds, and individual livestock ownership. Traditionally, FulBe spouses kept separate funds, over which the other spouse had no say whatsoever, and used these funds for provisioning the household, personal expenditures and investments (Dupire 1962b:343; Hopen 1958; for other African pastoralists see also, Michael 1987). This separation of personal income and property also extended to livestock. Since FulBe women always remained a member of their father's *saare* and never really became members of their husband's *saare*, they generally kept livestock in their father's (or their

son's) rather than in their husband's herd. Thus, individual property rights over livestock and separation of livestock property by FulBe spouses are not new phenomena. Today, however, these practices have become formalized in religious institutions.

The increasing seclusion of women is probably the most 'visible' Islamic institution in the peri-urban village, but I will argue that it had the least impact on the economic organization of the household. More important is the practice of polygyny, which has become more prevalent among peri-urban pastoralists. Polygyny, following Islamic codes, has led to changes in provisioning responsibilities and a more formal and stricter separation of spouses' personal funds in peri-urban households. This institutional reorganization of peri-urban households, in combination with the commoditization of production inputs, has a far-reaching impact on the management of the family herd (discussed in chapter eight) and the sustainability of pastoral intensification in the Far North of Cameroon (discussed in chapter nine).

Seclusion

The seclusion of women (*purdah*) is the most visible Islamic institution that has affected the economic organization of the household. Seclusion, one of the institutions aimed at ensuring the modesty of women, similar to veiling, means that women stay within the compound sheltered from the public view and are only allowed to leave the

compound veiled and with permission of their husband. FulBe women have the right to visit their family for a period of a few weeks, once or twice a year, depending on family circumstances (VerEecke 1987).²⁰⁰

There was some variation in the peri-urban village with regard to the practice of seclusion, mainly along class lines. Seclusion of women was much stricter in the wealthier pastoral household that could afford to restrict the mobility of their women. Only the wealthier households had the financial means to build and maintain high enough adobe walls to shelter their women from the public view. No women from pastoral households in the peri-urban village marketed dairy in public, neither did they leave the compound without an escort or the permission of their husbands.

Not all women in poorer, non-pastoral households in the peri-urban village were secluded. Many household heads were too poor to build or maintain walls to keep their women from public view, and neither could they forego the economic contributions that their wives made to the household. Poorer women had thus much more freedom of movement, but they also worked harder than their wealthier, secluded counter-parts.

Women in the agro-pastoral and nomadic village were not secluded and had considerable freedom of movement to market dairy products, but also to visit family. Nomadic women traveled to other provinces in Cameroon as well as to Chad and Nigeria to visit family. Seclusion was simply not practical in the agro-pastoral and nomadic

²⁰⁰ Buhl and Homewood (Buhl and Homewood 2000) argue that restrictions in the mobility and freedom of pastoral FulBe women are due to FulBe cultural norms of pulaaku rather than Islam. However, since Islamic codes and values have been integrated in pulaaku, it is difficult to disentangle the two, and Islam may thus also play a role in women's seclusion in Burkina Faso, and similarly, seclusion is sometimes expressed as a cultural norm of pulaaku in the Far North of Cameroon.

village; compounds in neither village had walls and women could not be sheltered from the public view. Moreover, women's dairy revenues were sorely needed in the agro-pastoral and nomadic village, because men had little or no off-farm income, and any reduction in dairy revenues had to be compensated through animal sales.²⁰¹

The seclusion of women was propagated early by sheikh 'Uthmân dan Fodio, the leader of the Sokoto jihad, who argued that women should not go to public places to sell sour milk and butter, as nomadic FulBe women did (Last 1974:24; Shimada 1993:108). This restriction of women's mobility seems incompatible with one of the foundations of the traditional FulBe household economy: women's provisioning of the household through dairy sales (Boutrais 1988; Boutrais 2002; Burnham 1996; see also, Pastner 1978; Schneider 1997). A number of scholars have shown that seclusion does not make women's economic activities impossible (Hill 1972; Høltedahl 1993; Schildkrout 1983; VerEecke 1989). In the urban and peri-urban area of Maroua, FulBe women were living in seclusion, but they were also more involved in commerce of non-pastoral products than women in the other villages where women were not secluded; 21% of the peri-urban FulBe women had an independent income from petty trade, versus 7% of the agro-pastoral and 0% of the nomadic women. Peri-urban FulBe women operated a variety of

²⁰¹ Some men in the agro-pastoral village would prefer their women not to go to local markets but they did not restrict their freedom of movement. Others made a distinction between the public selling of dairy products, which was considered a FulBe tradition and which revenues will support the household, and petty trade, which revenues were women's personal income.

small businesses from their homes with help from their husbands, children, family, friends, or servants.²⁰²

Peri-urban women also marketed dairy products from their compound using the services of other, non-secluded women. In the last decade, there has been shift in dairy marketing patterns in which secluded pastoral FulBe women in the peri-urban area sell sour milk and butter to dairymaids who resell it at the urban markets of Maroua. The dairymaids are generally older women (*FulBerewBe*), mainly widows, from non-pastoral, non-FulBe households. They do not live secluded because of their age, marital status, or because they are not as strict in their observance of Islamic codes. On their way to Maroua, the dairymaids buy milk on credit from secluded pastoral FulBe women in the peri-urban area, going from compound to compound. When their gourd is full, they continue to the central market of Maroua where they sell milk to urban customers. When they sell out, they return home, often more than an hour, sometimes even two-hour, walk. They pay the pastoral women, the next time that they go to the market and buy milk from them. Most of them go to Maroua every other day. The presence of less observant women allowed secluded peri-urban women to pursue piety while simultaneously continuing to market dairy and engage in other commercial activities.²⁰³

²⁰² The higher population densities in the peri-urban area allowed women to sell dairy products and operate small businesses from their compounds. Agro-pastoral and nomadic women because of their relative isolation, on the other hand, had to take their dairy products to consumers.

²⁰³ A similar situation existed in the agro-pastoral village of Wuro Hoor Ladde. Nine years ago, a group of impoverished nomadic pastoralists of the BiBBé Woyla group settled in the nearby bush, and since then women from that village have come through Wuro Hoor Ladde to buy milk door-to-door and resell it in the town of Guirvidig. The presence of impoverished and 'nominally Muslim' BiBBé Woyla women allowed some agro-pastoral women to sell milk and simultaneously pursue the ideal of seclusion (i.e., avoid the public space of the market) as well as to avoid the hour-long walk to Guirvidig. Poorer agro-pastoral

The seclusion of peri-urban women did not greatly affect the economic organization of the household. They had never assisted in the cultivation of sorghum because of FulBe traditions (*pulaaku*) and continued to engage in petty trade and the marketing of dairy from their compounds with the help of others. Other changes, associated with polygyny, such as a shift in provisioning responsibilities and the more formal separation of property and income between spouses, played a far more important role in the reorganization of peri-urban households.

Polygyny

Polygyny was much more prevalent in the peri-urban village than in the other two villages; almost half of all marriages were polygynous (and more than three quarters of those of peri-urban pastoralists) (see figure 7.7).²⁰⁴ Dupire (1970:80) mentions

women continued to sell dairy products at local markets themselves because sales directly to the customers instead of to dairymaids generated higher revenues.

²⁰⁴ In general, nomadic FulBe pastoralists have relatively low polygyny rates compared to neighboring groups in West Africa as well as East African pastoralists (Dupire 1970:80; Spencer 1998). Sedentary FulBe, on the other hand, have higher polygyny rates than nomadic FulBe. Dupire (1970:79-82) argued, based on a comparative study of FulBe societies across West Africa, that polygyny rate is influenced in part by the cultural traditions of neighboring groups, sedentarization and the adoption of agriculture, and Islamization. During their eastward migration, FulBe pastoralists have adopted many cultural traits from their non-FulBe neighbors, such that linguistic analyses of FulBe dialects reflect the recent (and not so recent) migration history (for examples of botanical and culinary terms see, Tourneux and Seignobos 1997; Tourneux 2002). The cultural model of polygyny is another cultural trait that the FulBe have adopted from their neighbors, such that there is direct correlation between the polygyny rate of local FulBe groups and their neighbors (Dupire 1970).

Islamization as a factor that might be correlated to higher polygyny rates among sedentary FulBe, although, she adds, it is difficult to distinguish it from other confounding factors associated with sedentarization (e.g., transition to agriculture, greater stratification). I will argue that higher polygyny rates are an expression of the pursuit of piety among pastoral FulBe in the Far North of Cameroon.²⁰⁵ Polygyny is regarded by peri-urban FulBe men as something that any pious Muslim should attain. In FulBe men's minds, polygyny is directly linked with Islamic piety and Muslim identity. Peri-urban FulBe considered it a Muslim's responsibility to marry additional wives to ensure that all women are supported (regardless of the fact whether this is the primary motivation for FulBe men to marry additional wives). Living as a good Muslim FulBe man means having multiple wives.²⁰⁶ FulBe men prefer polygynous marriages also for other reasons, for example, to affirm their authority over their first wife or as a sign of status and wealth.

Polygyny rates in the peri-urban village, where FulBe were more observant of Islamic codes, were significantly higher than in the agro-pastoral and the nomadic

²⁰⁵ I do not make any claims about the correlation between Islamic piety and polygyny in other FulBe groups in West Africa or in other ethnic groups in the Far North of Cameroon. Kanuri Muslims in the peri-urban village, for example, have a much lower polygyny rate; for them polygyny is not associated with Islam. Kanuri have a different Islamic traditions compared to FulBe in the Far North of Cameroon, for example, among the Kanuri one frequently finds people who have memorized the entire Koran by heart (*goni*), which is something less sought after and appreciated among FulBe (Seignobos and Tourneux 2002:121).

²⁰⁶ In general, FulBe women do not aspire to be in polygynous marriages because of competition between co-wives for their husband's resources, although they might associate polygyny with wealth, which can be a sign of Allah's blessing.

villages.²⁰⁷ Moreover, in the agro-pastoral village, all three mallum-headed households were polygynous, while all other household heads were monogamous (and one other mallum was divorced). The variation in polygynous marriages between and within villages suggests that there is a correlation between piety and polygyny among FulBe pastoralists in the Far North of Cameroon.²⁰⁸ Finally, the prevalence of polygynous marriages among peri-urban pastoralists is a recent phenomenon (of the last twenty to fifteen years).²⁰⁹ The shift from monogamy to polygyny as cultural ideal and practice took place in one generation. Only one of the peri-urban household heads came from a polygynous household, headed by his father, a *moodibbo* or advanced Islamic scholar. All other household heads came from monogamous households. Today, however, all peri-urban household heads are in polygynous marriages.

Polygyny has been associated with social stratification in wealth and status and the intensification of agricultural production through extra labor input (Dupire 1970:80; Netting 1993:89). Labor is negligible factor in explaining the prevalence of polygynous marriages among peri-urban pastoralists. Peri-urban FulBe women did not perform any agricultural or herding tasks; theirs were limited to the domestic sphere (e.g., child care,

²⁰⁷ David and Voas (1981) in their review of FulBe populations in northern Cameroon did not find great differences in the mean number of wives per husband (ranging from 1.27 to 1.56) and percentage of polygynous marriages (ranging from 22% to 31%). The polygyny rates for nomadic pastoralists were higher than for sedentary FulBe in their study but the nomadic group consisted of Mbororo, which are a separate group from the nomadic Mare'en FulBe in this study.

²⁰⁸ Buhl (1999:122) found the opposite among pastoral FulBe in Burkina Faso. The most Islamized and sedentary communities had the lowest percentage of polygynous marriages, but she is unclear why that is the case. It is also unclear whether there was an association between piety and polygyny within the communities.

²⁰⁹ The polygyny rate among FulBe in the Far North in the 1950s was 1.27, which was low compared to other ethnic groups in the area (Podlewski 1966) but also low compared to the polygyny rate of peri-urban pastoralists, which is 2.0.

cooking). Children's labor was also relatively unimportant in peri-urban pastoral households. Daughters were temporary 'guests' in their father's household, assisting their mothers until they married at age 14 to 16. Sons helped in the fields and with herding, but only when they were in their (middle) teens. Many peri-urban pastoralists preferred their children to study the Koran rather than work in the field or take the animals to pasture. Thus, polygyny did not directly (or indirectly) increase the labor pool for peri-urban household heads, and unlikely explains the high polygyny rates in the peri-urban village and the much lower rates in the agro-pastoral village, which also relies heavily on agriculture.

There is a strong correlation between wealth and polygyny rates in the peri-urban village, but not in the other two villages.²¹⁰ The percentage of polygynous households in each wealth category in the peri-urban village was: wealthy 100%, middle 66%, and poor 38%.²¹¹ Polygyny was certainly not limited to the wealthy households, and poverty did not seem to prevent men from marrying additional wives; one polygynous household with three wives was without food for a number of days in the 2001 rainy season. The data suggests that the recent increase in polygynous households in the peri-urban village over the fifteen years is associated with the movement of Islamic renewal in the Far North of Cameroon, which happened around the same time.

²¹⁰ There was no correlation between wealth and polygyny in the agro-pastoral village. Of the polygynous households headed by *mallum'en*, one was poor, one 'middle class', and one was relatively wealthy (reflecting the general distribution of wealth in the village). There was only one polygynous household in the nomadic village.

²¹¹ The classification is based on a local wealth-ranking exercise (Grandin 1988).

The Islamic codes concerning polygynous households have a direct impact on the economic organization of the household. Islamic law allows men to have a maximum of four wives, if they can provide for them well and treat them equally. The equal treatment applies to all domains, including housing, clothing, gifts, and sexual attention. Co-wives share responsibility for feeding the household and take turns preparing food. Each wife is responsible for her own children and in polygynous households, uterine families, consisting of a woman and her children, become more prominent social units.

Polygyny dramatically changes the dynamics of FulBe pastoral households and turns cooperative households into a competitive arena between co-wives (and sometimes between husband and wives) for the limited resources of FulBe households (see also, Buhl 1999:122; Eguchi 1973; Regis 2003:42-3).²¹² FulBe women in polygynous households know that when they assist their husband and contribute to the common household fund, it will potentially benefit co-wives and their children. One of the reasons for the shift in provisioning responsibilities and the individualization of personal income and property is the fact that women are not expected to share any of their income or property with their co-wives (whom they regard as direct competitors).

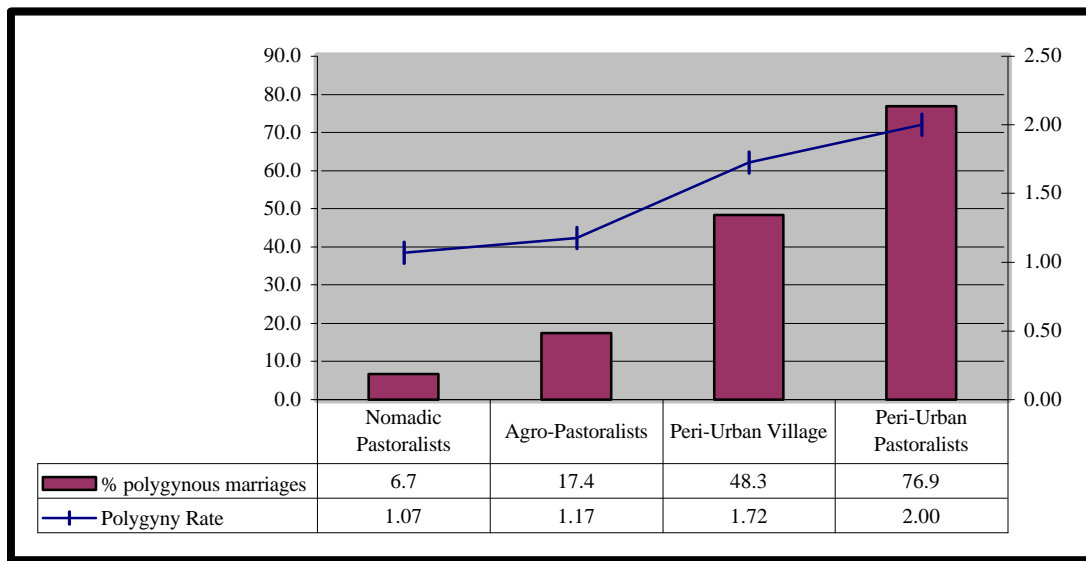
In one polygynous peri-urban household, there was considerable differentiation between the two co-wives. The first wife (daada saare), Zakyatu, was childless and that was the reason that her husband had taken a 15-year old second wife, Hawwa, about fifteen years ago who has given

²¹² Not all polygynous households are characterized by competition, e.g., the Moose (an ethnic group that is also known as the Mossi) in Burkina Faso (Mason 1988).

him seven children since. Zakyatu had told her husband not to take a second wife. When he did anyway, she was very unhappy with the situation. Zakyatu had her own beignet business, the revenues of which had allowed her to invest in cattle, goats, enamelware and other household goods, and pay for wage laborers to cultivate cotton on her fields. She was much wealthier than her husband, who only had a few goats. Zakyatu was also much wealthier than her co-wife Hawwa, who was selling enamelware from her dowry in order to feed her children. The husband was so poor that Hawwa and her children regularly went to bed without food, even though Zakyatu continued to earn a steady income by selling beignets from the compound. Occasionally, she would give a few to the children of her co-wife, but never to the co-wife herself. The husband could not force Zakyatu to contribute any of the revenues to the common household fund. It was his responsibility to feed the household. People in the village thought that the behavior of Zakyatu was not particularly nice but they understood her situation and feelings, and affirmed that she was totally in her right not to assist her husband or her co-wife.

The example illustrates well how the practice of polygyny is associated with other changes in peri-urban households, for example the shift to a system in which household heads are solely responsible for provisioning the household and the individualization of income and property within the household.

Figure 7.5: Polygyny Rates and Polygynous Marriages in Three Villages



Polygyny rate is the total number of married to the total number of married men (not only household heads). The percentage of polygynous marriages is the percentage of married men that have more than one wife (again, not limited to household heads). The percentage of polygynous marriages does not reflect the number of wives but the polygyny rate does. The percentage of polygynous marriages of peri-urban household heads is 83% and the polygyny rate for this group is 3.0 (i.e., an average of 3 married women per one married man).

Provisioning Responsibilities

One of the reasons for this shift in provisioning responsibility is the structure of peri-urban households. In complex and polygynous households, revenues were no longer contributed to the common household fund because this could potentially benefit co-wives and their children.

In traditional households, milk is the domain of women (although milking is done by men). Women decide whether to allocate to household consumption or marketing, and whether to use the dairy revenues for household provision or personal needs. FulBe men have no say in any of these decisions. This is still true in peri-urban households, where women received equal amounts of milk from the family herd (not from specific animals), which they used for consumption within her uterine family or for marketing. The only difference is that women no longer contribute dairy revenues to the common household fund (and are also not expected to do so). All dairy revenues are used for women's personal expenses and investments.

Dairy revenues have now the same status as revenues from commercial activities that involve capital or labor investments. In general, all revenues from market-oriented production activities (e.g., fattening animals bought on the market, cotton cultivation) that involve cash or labor investments (e.g., the purchase of cottonseeds, fertilizer, and herbicide) were considered as personal income (cf., Fanchette 1999:79). Junior men and women were under no obligation to contribute this to the common household fund, save

for household heads who were responsible for provisioning the households. The revenues of a woman's commercial activities had always been her personal property and were seldom used for provisioning the household (Eguchi 1973; van Santen 1993). Although, some peri-urban and agro-pastoral women used part of these and dairy revenues for kitchen ware (e.g., gourds, spoons), which is an in-kind contribution to the household, the larger share of the revenues were invested in durable goods, livestock, social networks (via the njaayo gift exchange system), or used for assistance of her (father's) family.²¹³

FulBe women have always had the right of disposal over the dairy revenues – they decided how to allocate the dairy revenues – but they also shared the provisioning responsibility with their husbands (Buhl 1999:254; Dupire 1963). Today, women in peri-urban pastoral households no longer have that responsibility and dairy revenues were now solely their personal income for personal expenses (e.g., soap, cloth) and investments (e.g., enamelware, livestock)(van Santen 1993:309) (see figure 7.6).²¹⁴

Peri-urban household heads carry now solely the burden of provisioning the household.²¹⁵ However, in some cases when FulBe women had an independent income,

²¹³ Njaayo are small gifts in kind or of cash to family, friends, and neighbors at the occasion of birth of a child, name giving, and marriage. Both men and women give njaayo, but women are more invested in the reciprocal exchange system (cf., van Santen 1993).

²¹⁴ There is some variation among FulBe communities across West Africa with regard to provisioning responsibilities. In some communities, FulBe women do not use dairy revenues for the purchase of sorghum but buy condiments and use the remainder for personal expenses (Buhl 1999; Kuhn 1997). Other studies show that FulBe women are contributing less to the household and instead spend more on personal expenses (Demirag 2002; Waters-Bayer 1985), as well as a reverse trend among impoverished FulBe, in which women are contributing a greater percentage of dairy revenues to the household (de Bruin and Dijk 1995).

²¹⁵ A similar process of shifting provisioning responsibilities was found in the three agro-pastoral households that were headed by mallum'en. In these three polygynous households, women were no longer

their poor husbands would no longer cover expenses for soap, body lotion, and other items that women used. These poor household heads were only provisioning in the narrow sense of feeding the household. Wealthier household heads, on the other hand, continued to cover the costs for soap, lotion, and other items for their wives, even when they had a significant income of their own.

Women who engaged in income-generating activities did not necessarily become wealthier (if their husband limited his provisioning responsibilities), but they did have more autonomy in that they could decide when and what to consume or whom to support. They could satisfy their own needs and desires. Women with independent incomes no longer had to ask their husbands all the time for money or items (e.g., kola nuts, soap, lotion, kitchen utensils) and they said that this saves many marriages. In the past, women were more independent because they covered their personal needs with dairy revenues and never had to ask their husbands for anything. Today, revenues from dairy marketing have decreased in the peri-urban village and women (without independent income from non-pastoral products) are dependent on their husbands for items of personal use. According to the women, men would get irritated with their wives 'always' asking for money because they had difficulty enough to make ends meet provisioning the household.

The shift from shared responsibility to a system in which the household head is solely responsible for provisioning the household also led to changes in the management

required to contribute dairy revenues to a common household fund, and used them instead for personal expenses and investments.

of the sorghum stock. Household heads were controlling the sorghum stock more closely than ever before, rationing allotted amounts for daily preparation to the married women in the household. They argued that women had become careless and more wasteful with what were once common household resources. The changes in the management of sorghum stock signals that women feel less responsible for the household and that men and women have no longer a shared interest in the household.²¹⁶

To illustrate the extent to which women's economic activities were separate from the household economy, here is one example. A mallum in the peri-urban village of Wuro Badaberniwol had four wives. His second wife made beignets and sold these to people in the village, including her husband. Everyday, the mallum bought beignets, which constituted the breakfast of the entire household including the co-wives and their children, and the second wife's own children.²¹⁷ The arrangement of these spouses was not considered out of the ordinary; it followed new Islamic norms.

²¹⁶ I compensated my informants in the two sedentary villages for participation in my research with communal gifts of six horses and ploughs to groups consisting of four to five households. By giving the horses and ploughs to households, I had given the compensation *de facto* to the male household heads. My, and their, rationale was that the gifts were used to cultivate sorghum and thus provided food security for the entire household. The agro-pastoral women in Wuro Hoore Ladde agreed and regarded the horses and ploughs as a gift to all members of the household for which they were extremely thankful. However, in the peri-urban village, several women in the wealthier pastoral compounds regarded the horses and ploughs as a gift solely to the household heads. They acknowledged that the horses and ploughs would serve the household and their children, but demanded their own gift by asking me 'what is in it for us?' Their question illustrates a major difference between the peri-urban and the traditional household with regard to intra-household allocation of resources and institutional arrangements.

²¹⁷ Market exchanges within the household are not unique among FulBe pastoralists. Jon Holtzman (2001), for example describes how Samburu women sell beer to their husbands. The peri-urban case is different in one important respect; Samburu women were responsible for feeding the family and the peri-urban women were not.

In the past, men and women's domains were strictly separated. They still are, but some of the domains have shifted. In the past, FulBe men had no knowledge of what went on in the domestic domain of the kitchen.

While a man is the master of the household he does not interfere, nor should he, with his wife's management of her domestic affairs provided she does her work efficiently. It is almost a positive masculine virtue to know little or nothing about the 'work of women'. For example, it would be a rare breach of etiquette for a man to inquire of his wife as to the cash return from the sale of dairy products (Hopen 1958:107).

Today, the situation has drastically changed, as household heads are responsible for provisioning the household, not only in terms of financial support, but also in terms of buying the provisions. To provide for the family is referred to as *seefnugo* 'to buy food for women to prepare', which is the responsibility of the household head who provisions all the married women in the household, including the wives of his sons.²¹⁸ Peri-urban pastoralists purchased all the foods at the market. They bought sorghum but also the ingredients for the sauces: leaf vegetables, dried fish, and condiments. Peri-urban

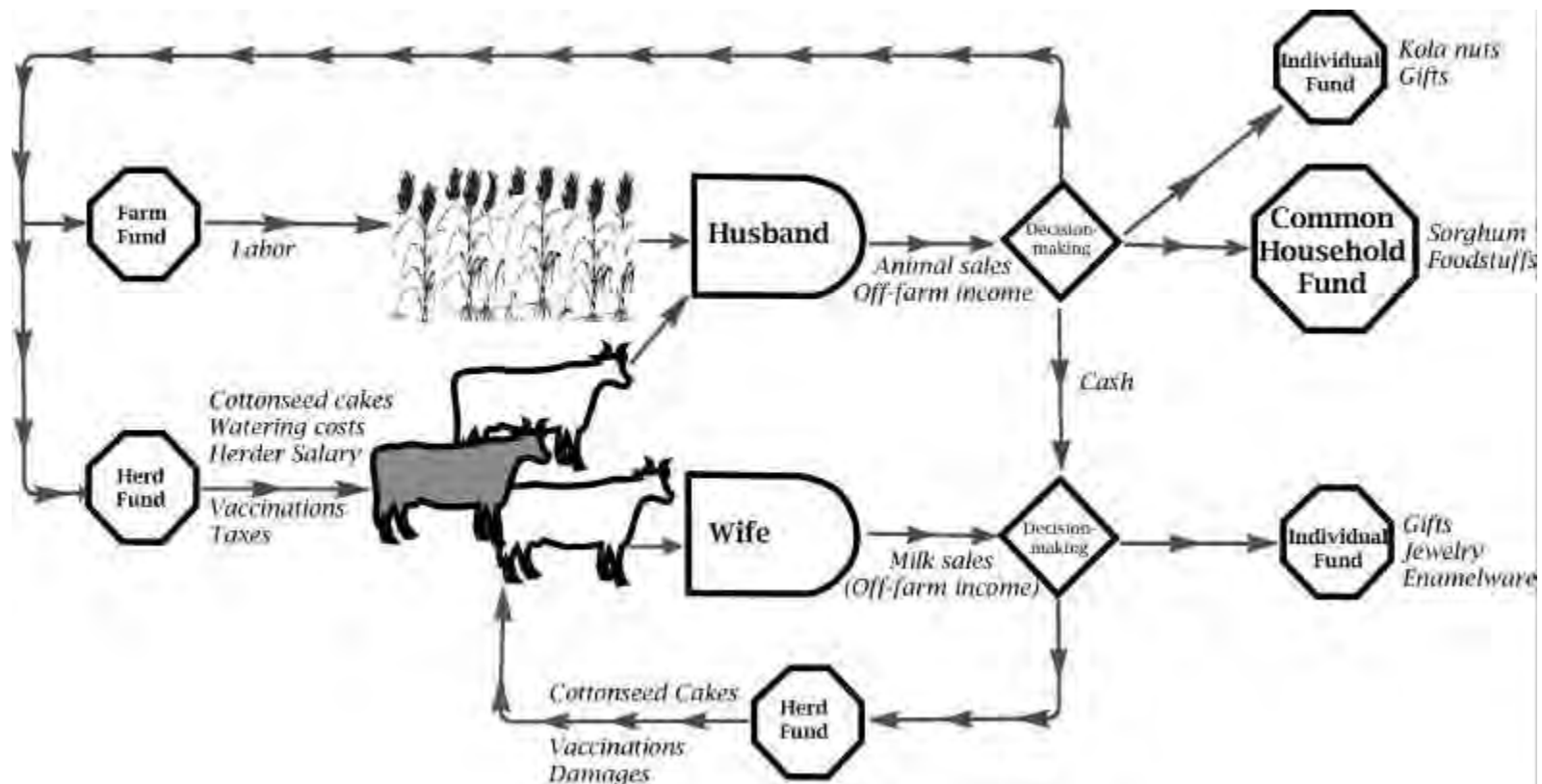
²¹⁸ *Seefnugo* is one of the markers of attaining independence and autonomy. When a man is no longer dependent on his father and provides for his own wife and nuclear family, he is one step closer to independence, though a man never truly independent as long as his father or older brother(s) are alive. *Mo baaba baabaataa ko* 'someone cannot be a father, even when he has children, when his father is still alive' (literally: someone with a father cannot father himself). Independence or the status of *baaba saare* is only achieved when men are providing for their own family (which must include children otherwise one is not a *baaba saare* but only a *jawmu saare*, i.e., a childless married man). Most FulBe men become independent when they are already quite old. Many forty to fifty year-old FulBe men have not achieved the status of *baaba saare* (and some never will). References in my research proposal about young FulBe setting up independent family herds and households now seem a little naive in the light of the age at which FulBe men become independent household heads.

pastoralists not only knew what was cooking in the kitchen, they also de facto decided what was cooked. This contrasts strongly with the cultural practices that Hoppen (1958) described for agro-pastoral FulBe in Gwandu, Nigeria 45 years ago.²¹⁹

The shift in gendered domains illustrates a radical shift in values. Ignorance of the female domain of the kitchen was highly valued by FulBe pastoralists in the past. Today, provisioning is more highly valued, even though it means that they have entered the domestic domain by making the weekly food purchases at the market. It represents a shift from *pulaaku* (traditions) to *diina* (Islam). The peri-urban households had adopted the Islamic and urban values of the household head as the sole provider (Eguchi 1973:65). Provisioning the household is not only a religious norm, however, it is also associated with ideals of male independence and autonomy. A man's ability to provide for and take care of the needs of the family is an important source of respect, and, vice versa, a man's inability to provision his family automatically means loss of respect and authority (cf., Regis 2003:35).

²¹⁹ Provisioning the household is not limited to feeding its people. Ideally, the responsibilities of a household head including: *nyaamgo*, *nyaamingo*, *holtugo*, *holtingo*, *e ba gan* 'feeding oneself, feeding others [the rest of the household], clothing himself and others, and marrying off [children]'. The responsibilities of the household head also include social reproduction (e.g., marrying off children, participating in gift giving networks of kin group and local community).

Figure 7.6: Household Organization in the Peri-Urban Village



In peri-urban households, husbands are solely responsible for provisioning the household. Wives are no longer required to contribute dairy revenues to the common household fund. All dairy revenues are considered her personal income and no longer serve the household. Household heads have reallocated milk to nursing calves rather than to married women in the household and this means that some of them no longer have enough milk to market. In some cases, their husbands will give them cash for personal expenses. Today, women are also responsible for covering some of the production costs for their own animals in the family herd (see chapter eight).

Reallocation of Milk

Institutional changes in peri-urban households mean that the household head is now solely responsible for provisioning and that dairy revenues were no longer contributing to a common household fund. This shift in responsibilities and funds had its effects in the management of the family herd, in particular the allocation of milk.

Traditionally, household heads assigned usufruct rights over milk cows (*Biriteenge*, plural *Biriteeji*) to the married women in the household.²²⁰ These animals were not necessarily owned by the women themselves, and could potentially be owned by anybody, even outsiders.²²¹ Men did the milking and handed all the milk to the women who would then use it for household consumption or marketing. Today the system of usufruct rights over specific cows has disappeared in the peri-urban village. Instead, married women in peri-urban households have a general entitlement to an equal share of milk from the family herd, but not milk from specific animals.

²²⁰ In the nomadic herds, each member of the household had a personal milk cow, which meant that they had usufruct rights over the milk of that particular cow for personal consumption only. The remainder of the milk cows and milk was for the married women of the household (i.e., the *daada saare* and her daughters-in-law) who would process the milk and allocate it for household consumption (in the form of porridge or yogurt) or marketing (in the form of sour milk and butter). In the agro-pastoral village, usufruct rights were only assigned to married women who then redistributed the milk to other members of their *suudu* or marketed it. In some FulBe societies, the offspring of these milk cows are the future property of her sons and considered a form of pre-inheritance. Generally, the household head retains the right of disposal over the milk animals. While allocation of usufruct rights within the household is widespread among sedentary and nomadic FulBe, the system of pre-inheritance is generally only found in nomadic FulBe societies (Bonfiglioli 1988; Dupire 1962a).

²²¹ Women did not have necessarily usufruct rights over their own animals. However, in polygynous households, usufruct rights over a cow owned by the first wife would not be given to the second wife.

Although milk remains the female domain, a woman's supply of milk is under direct control of the household head who milks and makes decisions about the allocation of milk to nursing calves or women in the household (cf., Hodgson 2000a: 10). In the past, when revenues from dairy marketing still contributed to the common household fund, it was in the interest of household head to allocate sufficient milk to women for dairy marketing to avoid the sale of animals. Now, household heads make decisions in favor of overall herd growth by allocating more milk to nursing calves. They have no interest in extracting more milk than needed for household consumption since the revenues no longer contribute to the common fund.²²² By allocating less milk to women, household heads indirectly decided how milk was allocated because it was sufficient for household consumption, but not enough for marketing. Peri-urban women used the milk primarily to prepare porridge for their children. If there was milk left over, women could sell it. In interviews, peri-urban women told me that they would occasionally sell milk but this was reported more as a hypothetical, something that they could do, rather than as a regular practice. Thus, despite higher milk yields per cow due to the feeding of cottonseed cakes, there was little surplus milk for marketing and dairy sales were relatively low in the peri-urban village. Milk remained an important pastoral product but

²²² It is important to keep in mind is that there always a tension between herd and household over the allocation of milk. This tension is not only an issue in peri-urban pastoral households. Traditional pastoralists face similar dilemmas and have to make similar decisions about the allocation of scarce milk supplies between herd and household.

today its use value has taken precedence over its market value in the peri-urban pastoral households.²²³

Today, peri-urban pastoral households no longer rely on dairy revenues as a source of income. However, the reallocation of milk from dairy marketing to nursing calves has not led to a reorientation from subsistence to market-oriented production (or a shift from milk- to meat-oriented production). There are no indications that peri-urban pastoralists sell more animals than in the past or than pastoralists in the other two villages (see chapter four). Peri-urban pastoralists' foremost goal in reallocating milk to nursing calves is to increase their growth and maximize herd size, and thereby secure subsistence for the household.

Financial Burden

The reorganization of the peri-urban households, in particular the disappearance of the common fund, has financial implications for peri-urban household heads. To illustrate the extent of the financial burden of provisioning the household, I have used the

²²³ The loss of dairy revenues also affected decisions that household heads made regarding the management of the family herd. Household heads, for example, send cattle back and forth between the village herd (*wurooji*) and the bush herd (*laddeji* entrusted to nomadic FulBe) depending on the health of the animals, the size of the village herd, labor availability in the village, and the milk needs of the household. Now the milk needs of the household were less of a consideration since dairy revenues were no longer an important source of income for the household, household heads sent milking cow from the village herd to the bush herd without much consideration for the women who were allocated usufruct rights over these cows.

basic maintenance costs (BMC) concept of Bradburd (Bradburd 1990:61) (discussed in chapter four). The market purchases per person were highest in the nomadic village, followed by the peri-urban and the agro-pastoral villages, respectively 94,020 FCFA (\$125), 64,075 FCFA (\$85), and 44,220 FCFA (\$59). The market purchases per household were highest for the peri-urban pastoralists, followed by the nomadic and agro-pastoral villages, respectively 852,198 FCFA (\$1,136), 620,532 FCFA (\$827), and 225,522 FCFA (\$300). The BMC market purchases were calculated per household based on the assumption that the costs were collectively shared by members of the household. This is a valid assumption for the agro-pastoral and the nomadic village where both spouses share responsibility for provisioning (save for the three mallum-headed agro-pastoral households) but not for the peri-urban village. To give an idea of what financial burden is for peri-urban household heads, I have classified market purchases in two categories: a common fund to which both spouses contribute and a fund for which the household head is solely responsible. The market purchases of sorghum, vegetables and condiments, and expenditures for milling sorghum are customarily considered costs that are covered by both spouses (i.e., the common household fund), although it is unclear how much each spouse contributed to this fund. All the other costs – taxes, firewood, gifts, healthcare, clothing, and durable goods – are covered by the household head. In the peri-urban village, of course, there is no longer a common fund and everything is now covered by the household head. The financial burden for peri-urban household heads are considerable: 852,198 FCFA (\$1,136) compared to only 24,807 FCFA (\$33) and 148,928 FCFA (\$199) for household heads in the agro-pastoral and nomadic village (see table

7.2). This raises the question how peri-urban household make ends meet since they also must cover the production costs for the family herd.

Table 7.2 Distribution Household Expenditures

	Peri-Urban Pastoral Households	Agro- Pastoral Households	Nomadic Pastoral Households
Market purchases (per ACE)	64,075	44,220	94,020
Average household size (in ACE)	12.7	5.1	6.6
Market purchases (per household)	852,198	225,522	620,532
Percentage common fund	0.00	0.89	0.76
Percentage household head	1.00	0.11	0.24
Total common fund	0	200,715	471,604
Total household head	852,198	24,807	148,928

Data come from calculation of Basic Maintenance Costs (BMC) that are presented in table 4.4. The expenses for the common household fund only concern market purchases (i.e., financial expenditures) and not subsistence production of sorghum and milk. *Total common fund* represents the expenditures that are covered by both spouses. *Total household head* represents the expenditures for which the household head is solely responsible (e.g., health expenditures, clothing). The agro-pastoral category does not include those households headed by mallum'en. One can easily recalculate the financial responsibilities, as they would have to cover the total market purchases of the BMC, which is 225,522 FCFA (\$300).

SUMMARY

The increase in polygynous marriages is a recent change that coincided with the Islamic renewal movement in the Far North of Cameroon. I have argued that there is a correlation between piety and polygyny (within and between villages) and that the pursuit of piety on the part of peri-urban pastoralists is responsible for the increase in polygynous marriages in the peri-urban village and the increasing responsibility of peri-urban household heads to provision dependent household members.

The structural change in polygynous peri-urban households has implications for its economic organization. Most importantly, women no longer share responsibility for provisioning the household and no longer contribute dairy revenues to a common household fund. This means that women's income and property are separate from the household and this represents individualization within the household. This also means that peri-urban household heads are solely responsible for provisioning the household, which is a considerable financial burden, now that dairy revenues are no longer a source of income for pastoral households.

The economic organization of the household – one provider, separation of income and property, changes in sources of income – constitutes the institutional context that shaped the intensification of the peri-urban pastoral system. The discussion of FulBe households helps to explain the transformation of this pastoral system from one in which

the family herd was a collective resource of the household to one in which we can hardly speak of a 'family' herd.

CHAPTER 8: THE FAMILY HERD

INTRODUCTION

The intensification of the peri-urban pastoral system, in particular the extensive use of cottonseed cakes and the enormous increase in production costs, represents a major change with implications for other aspects of the management of the family herd. The changes in the management of peri-urban family herds – distribution of production costs, individualization of livestock ownership, a reallocation of milk from marketing to calves, and the disappearance of livestock exchanges – cannot be explained in terms of intensification alone nor do they follow automatically out of the use of cottonseed cakes or the increase in production costs. These changes can only be explained when taking into account the institutional context in which the intensification took place, in particular, the economic organization of peri-urban households.

This chapter discusses how the changes in the management of the family herd – distribution of production costs, the individualization of livestock ownership and management, and the disappearance of livestock exchanges within and between pastoral households – happened, emphasizing both the role of changes in relative prices and institutions.

First are discussed the general structure of FulBe family herds and the complexity of property relations within ‘traditional’ family herds, using the agro-pastoral and nomadic family herds as models of traditional FulBe family herds. Changes in the management of peri-urban family herds are discussed next, starting with how production costs were distributed among individual owners within peri-urban households. This distribution of production costs is simultaneously a result of greater individualization within the household as well as a factor that leads to further individualization of livestock ownership. A similar phenomenon of monetary investment in cattle furthers individualization of livestock ownership in the family herd is the purchase of animals through market exchanges.

In addition to institutional changes in peri-urban households that indirectly affect the management of the family herd, there are also two Islamic institutions that directly contribute to a further individualization of livestock ownership within peri-urban family herds: inheritance rules and tithe (zakka). These institutions promote individual ownership of livestock by men and women, thereby challenging traditional FulBe notions of collective ownership that view the family herd as a common resource for the entire household.

The disappearance of livestock exchanges within and between households in the peri-urban village, which is partly due to higher production costs and partly due to greater individualization of livestock ownership, will be discussed next. Three types of livestock exchanges receive focus: inter-household livestock loans and entrustment of cattle

(*nanngaaye*, *diilaaye*, and *goofalye*), inter-generational gifts of cattle from parents to children (*sukkilaaye*), and the indirect dowry (*sadaaki*).

The chapter ends with a comparison of livestock ownership in the three villages to examine the effects of the individualization of livestock ownership and the disappearance of livestock exchanges on property relations within the family herd. A key research question is how all these changes have affected the peri-urban household head's right of disposal over animals in the family herd, since he now has the sole responsibility for provisioning the household. Assessing the economic status (i.e., livestock ownership) of pastoral households is thus important in evaluating economic performance and sustainability of intensification of the peri-urban pastoral system (discussed in chapter nine).

Family Herds

The FulBe do not have a direct translation for 'family herd'. *Na'i saare* 'cattle from the saare [household, family, lineage]' comes closest but is not frequently used, while the word for 'herd', *tokkere*, refers to a herd narrowly defined as those animals that are pastured together. The Fulfulde word that best covers my etic definition of 'family herd', as those animals managed but not necessarily owned by a household, is *waalde* (plural *baalDe*). *Waalde* is best translated as corral, the place where animals are

regrouped and rest at night.²²⁴ However, in everyday use *waalde* also refers to the animals of the corral, which makes it a good equivalent of family herd.²²⁵ FulBe also use the term *saareeji* to refer to the ‘family herd’, but this term is ambiguous since it can refer to all the animals in the corral regardless of who owns them, but also to only those animals that are owned by members of the *saare* as opposed to *yaasiiji* ‘animals owned by outsiders’. Outsiders include non-residents (*YimBe yaasi*), who are not necessarily strangers, and non-resident kin depending on context and how the household head evaluates these kin ties (cf., Thébaud 2002).

FulBe family herds are always amalgamations of animals over which the members of the household and outsiders have a variety of property rights and obligations. Some animals are owned by outsiders, others are owned by individuals within the household, non-resident consanguineal kin (*bandiraaBe*), or affinal kin (*essiraaBe*). The fact that a family herd consists of animals that are owned by multiple people with different, often overlapping rights over the animals is reflected in a number of sayings. *Waalde Pullo reedu waynaare* ‘the corral of a Pullo [singular of FulBe] is like a cow’s third stomach [which has many folds]’ says that a herd is never owned by only one person and that there are always animals from other people hidden in the folds of FulBe

²²⁴ In the agro-pastoral village, for example, cattle from sixteen different households were pooled together in two village herds (*tokke*, plural of *tokkere*) for daily pasturing only. When the village herds return from the bush at the end of the day, the animals go to their sixteen respective corrals.

²²⁵ I use ‘family herd’ because it refers to the animals; rather than ‘corral’, which in English refers to the physical space where cattle are enclosed. Also, I use ‘family herd’ instead of ‘herd’ to signal that it is unit managed by a household/family, rather than a herd, which also can refer to village herds that are only herded together during the day. The only problem with ‘family herd’ is that it implies ownership of the animals in the herd, and that is not always the case.

family herds. *Waalde Pullo boo bana tummude kilaajo* ‘the corral of a Pullo is like a blacksmith’s gourd’. Blacksmith gourds contain many items; some are useful and others are useless. Meaning that not all animals in the family herd can be used to meet household needs because the household has only usufruct rights over the milk of outsiders’ animals but not the right of its disposal, which is the right to sell the animal (or dispose of the animal in other ways). *Dam balo non Dum luggay* ‘the water is dark but not deep’ meaning the size of the herd does not indicate the wealth of the household (head). Someone might seem wealthy because he has a sizeable herd, while in reality he is very poor since he is not the owner of the animals. The household head generally presents himself as the owner of the family herd even when the majority of the animals are owned by other household members or outsiders.²²⁶

The household head is also the herd manager, i.e., the person who has the ultimate responsibility over the family herd. FulBe do not have a separate term for ‘herd manager’ since managing the family herd is considered one of the responsibilities of the household

²²⁶ The household head not only presents himself as the owner of the herd, often he also acts as the owner of the herd because he is in charge of the everyday management decisions. When outside owners visit their entrusted animals, they will avoid referring to the fact that they are the owner (*jawmu na’i*) and the household head only the manager of the animals (*kaliifa*). In fact, in some cases, as long as the animals are in the herd of the *kaliifa*, the outsider is no longer regarded the owner. Instead, he is addressed as *jaagorDo* ‘patron’, which also allows the herd manager to make additional claims on the owner of the animals. One of the household heads in the agro-pastoral village had about 10 cattle, which according to all the other villagers belonged to an outsider. However, he always told me that he was the owner, even after a year in the village and multiple interviews. At one point, he made a remark that expressed the same sentiment, something like “even if I am not the owner, I am still the owner”(see also, Turner 1999). The goal of each household head is to have an independent household (*saare hee’nde*, literally ‘a full house’) and family herd, without any animals from outsiders (non-kin). Having outsiders’ animals in one’s herd can be an indication of poverty and suggests economic dependency, which is shameful in FulBe society, but this is not always the case.

head (*baaba saare*).²²⁷ The herd manager is not necessarily herding himself. The household head supervises the everyday management of the herd, is responsible for arranging vaccinations, and the payment of cattle tax. The household head answers to outsiders who have entrusted animals in the family herd and farmers with claims of crop damage. The herder, either his son or a salaried herder, has limited responsibilities and is only accountable to the household head (but not to livestock owners or farmers).²²⁸ The household head traditionally covered all costs associated with the management of the family herd. This is no longer the case in the peri-urban village, where some production costs, in particular those of cottonseed cakes, are distributed among individual livestock owners.

Multiple and Overlapping Property Rights

Livestock ownership in African pastoral societies is an excellent illustration of the complexity of property described aptly by anthropologists, drawing from Sir Henry

²²⁷ There is, however, a specific term for herd manager who is responsible for outsiders' animals: *kaliifa*, which comes from Arabic and is related to the verb *halfingo* 'to entrust someone with something (e.g., cattle)'.

²²⁸ A herder never has to pay damages to farmers or reimburse owners for lost animals. When cattle cause crop damage under the watch of a herder, the cattle's owners are held liable and have to reimburse the farmer. The owners profited from the damages since their animals ate sorghum. When a herder causes many problems, he is fired. Good herders are difficult to come by and herd managers are never sure what the next herder will be like and therefore only fire herders when there is gross or continual misconduct or incompetence. Cattle damaging fields due to negligence of the herder is no reason to fire the herder if it happened only once. Salaried herders are always male.

Maine, as a bundle of rights that can be ranked (Hann 1996). Property rights over livestock can be held by individuals, families, households, lineages, and tribes, and all these different corporate units can have simultaneous and overlapping rights over the animals (Goldschmidt 1969; Schlee and Khazanov 2003; Tadesse 2000). Owners never have absolute rights over an animal and rights are never perfectly specified and enforced (cf., North 1990:33). This means that there are exceptions to the rules as well as rules for the exceptions (Edgerton 1985). When studying property relations, it is thus important to attend to ideals as well as practical outcomes of institutional arrangements of property relations (Hann, 1998 #2069).

The same is true for cattle in FulBe family herds. Different people can have different property rights over the same animal. Members of a patrilineage may have moral claims over a cow called *helooye* because she is a descendant of a cattle lineage (*jabbere*) that has been in the human lineage for generations.²²⁹ The household head with such a cow in his family herd cannot simply take the animal to the market and sell it; other lineage members have the right to buy it first. Similarly in the same situation, the wife of the household head retains use rights over the milk of the cow (*Biriteenge*), which was assigned to her by her husband's father at the birth of her first child. Her son was given ownership rights over this animal, which his father gave him as *sukkilaaye* (plural *sukkilaaji*, gift of a heifer from parent to child). However, the son's ownership rights in turn only become effective with the death of his father, who until then has the ultimate

²²⁹ These animals were called *tawtawDi* 'the animals found' in the sense of *mi fini mi tawi* 'I got up [and] I found [them in our corral]' meaning when I was born (or was a young boy) I found these animals in our corral.

right of disposal over the animal. These property rights can also be regarded as property relations in that they govern the conduct of people within the household with respect to the use and disposition of cattle (Hoebel, 1966 #2302; cited in \Hann, 1998 #2069:4).

In the following section, the ideals and practical outcomes of property relations in ‘traditional’ FulBe family herds are sketched, these are best represented by the nomadic family herds and to a certain extent by the agro-pastoral family herds. This is followed by a discussion of the individualization of livestock ownership in the peri-urban village.

‘TRADITIONAL’ FULBE FAMILY HERDS

Traditionally, the FulBe family herd was regarded as a collective resource that served the entire household, even though the cattle in family herds were owned by different members of the family; *gootel gootel Dum bandiraaBe* ‘one [here], one [there], it is [all owned by] family’. The household head had the right of disposal over all the animals in the family herd including those that were owned by other members of the saare (family, household, lineage); *Pat haa nder saare* ‘It is all in the saare’. In principle, the household head had to consult with or ask permission from the owner when he planned to sell an animal.²³⁰ If the household head sold an animal that belonged to other

²³⁰ The household head bases his decision of what animal to sell on the financial need and qualities of the animal; property rights are not a major criterion (as long as the animals are not owned by outsiders). A

members of the household, he had to replace it with another animal. The rules were very clear and readily articulated by the FulBe. In reality, however, permission was rarely asked and animals sold were not always replaced. At best, the household head informed the livestock ‘owners’ about impending or pending sales of ‘their’ animals. Whether the household head consulted with the owner or replaced the animal was a matter of disposition of the household head towards the owner.

Thus, members of the household owned animals in name only. Ownership was only nominal because the household head held the most important property right of disposal. Women, in principle, had the right of disposal over their animals but as property rights are ranked, this right was not always granted by the household head. But the household head did not ‘own’ the animals either; he just managed them temporarily before they were turned over to the next generation (see also, Goldschmidt 1976). FulBe pastoralists in the nomadic and agro-pastoral villages argue that children already ‘owned’ the animals because they were fed and clothed by the family herd. More importantly, children were the future heirs of the family herd.

Children learned at a young age that animals in the family herd served the household and were not their personal property. One of the ideas behind the *sukkilaaye*, the gift of a heifer from parents to children, was to see whether they had *risku* (divine favor or predestination, wealth, fortune). If the *sukkilaaye* reproduced well and became one of many animals owned by the child, it was clear that a child had *risku* and was

household will not sell, for example, a 150,000 FCFA animal to solve an 80,000 FCFA problem. In general, they will sell animals that are old, sick, barren, or male. Who owns the animal is generally the least important criterion in deciding what animal to sell.

predestined to become wealthy. If the sukkilaaye never reproduced or the child lost all its animals, it clearly had no risku. The animals might die of natural causes, be stolen or sold by its father; this was all considered part of the normal development of the herd. Whether household heads sold sukkilaaye or its offspring was never considered tampering with the test of determining whether children have risku. Young children did not challenge or resent their father for selling 'their' animals although some did as they became older and gained their independence, gradually taking over the role of baaba saare from their father.

In the nomadic village of Wuro EggoBe, where all people were either consanguineal or affinal kin, animals belonging to one household could be found in family herds of other households within the village. Many of these animals were offspring of *nanngaaye* exchanges (plural *nanngaaji*, loan of a heifer for an indeterminate period), which at times took place two generations ago. For example, two households belonging to the same lineage, one whose grandfather originally loaned the heifer and the other that had its offspring in its herd, shared the right of disposal over the animals. Cattle were not only considered a collective resource for the household, but also a collective resource for the lineage.

In nomadic households, the family herd is a collective resource and ownership of animals is generally nominal and never absolute. This often changes when members of a nomadic family settle and take up other occupations such as agriculture or commerce. These men, often brothers or sons of the household head, sell 'their' animals in the nomadic family herd to invest in agricultural or commercial activities. In this context, property rights over some animals in the nomadic herd have become more individualistic.

Often the nomadic family herd is subsidizing the sedentary life of these men who drain ‘their share’ of the family herd. Nomadic household heads are not opposed to subsidizing the sedentarization of one of their bothers or sons since they expect one day to retire in his village.

Nomadic and agro-pastoral FulBe generally only sell animals to meet collective needs of the household and then only those animals with about the same market value as the ‘problem’ that needs to be solved. Consumption of luxury goods such as nice clothing, leather shoes, tea, sugar, and meat is considered frivolous and unnecessary. There is a strong ethos among nomadic pastoralists that it is shameful to over-consume or be materialistic. *O yiidi huunde* ‘she/he loves things’ (*huunde*, plural *kuuje*, also refers to cattle) is a very disapproving observation. One of the explicit reasons for the ethos of anti-materialism is that the consumption of luxury goods potentially could lead to the demise of the family herd (if one cannot control one’s desires). Many stories go around about FulBe men who squandered their inheritance on the consumption of prestige goods by selling their cattle one by one until nothing was left. The ethos of anti-materialism is also manifested in the fact that among the nomadic FulBe of Wuro EggoBe, wealthy and poor live in the same type of tents, wear the same clothes, sit on the same mats, have the same herder sticks, and eat the same food. The ethos ensures that nomadic pastoralists manage their family herds responsible, as a collective resource, not only for this generation but also for future generations.

Because the family herd was a collective resource, the household head, as the manager of the family herd, would cover all the production costs, often also those for

animals that were owned by outsiders. In the nomadic village, there were relatively few outsiders' animals in the family herds (not including the three entrusted herds); only 16 head of cattle at the start of my research, representing 5% of the total number of animals, and none at the end of my research. The remaining animals owned by 'outsiders' were *nanngaaji* loan animals from livestock exchanges with other Mare'en nomads. Neither the non-FulBe outsiders nor the Mare'en made financial contributions to the nomadic pastoralists who had only usufruct rights over the milk. Nanngaaye exchanges per definition do not involve any financial transaction or compensation. In short, the nomadic household heads covered all the financial production costs of the family herd, including the animals owned by outsiders, and did so through the sale of livestock since none of them had any other source of income.

Three nomadic households had, in addition to the family herd, an entrusted herd from peri-urban pastoralists of Wuro Badaberniwol. The arrangements over production costs were different for these three entrusted herds in the nomadic village (*kaliifaaaji*). These entrusted herds were the *laddeejji* (bush cattle) of the peri-urban pastoralists and were managed separately from the nomadic family herds. The *laddeejji* represented 39% of the total number of cattle in Wuro EggoBe. The nomadic pastoralists did not cover the costs for these entrusted herds. The peri-urban owners were responsible for all the financial costs. They tried to anticipate the costs by sending money in advance because often there were conflicts over reimbursement when nomadic pastoralists had advanced the costs for, say, vaccinations or transhumance taxes. The leader of the nomadic camp was the *kaliifa* (guardian) for the three entrusted herds, which meant that he was

ultimately responsible for the herds.²³¹ The nomadic leader, in turn had entrusted the herds to others in his camp, including one of his sons, who received a salary from the peri-urban pastoralists. The herders were accountable to the kaliifa who in turn was accountable to the peri-urban pastoralists.

The arrangements over production costs in the agro-pastoral village were similar to that in the nomadic village, the household head covered all the costs for the family herds including the animals entrusted by outsiders. In the agro-pastoral village, which had a relatively small percentage of outsiders' animals in the family herds (5% non-kin) but a relatively large percentage of animals owned by non-resident kin (27%), household heads could be financially compensated but not reimbursed by outsiders and non-resident kin. Some outside owners compensated household heads for their efforts and expenses by giving them once a year a few thousand FCFA of compensation (*walhalla*). However, not all household heads were compensated; many had only usufruct rights over the milk from outsiders' animals. Household heads kept track of the expenses for outsiders' animals – they readily provided this information during interviews – but the entrustment of animals in the agro-pastoral village was not a formal market transaction as the entrustment of herds in the nomadic village. It would have been inappropriate for the household head to

²³¹ The term *kaliifa* comes from Arabic and entails certain legal aspects of the exchange. The animals are called *kaliifaaji* (singular *halfiinge*, 'the animals entrusted to a kaliifa') (cf., Diallo 2003; Turner 1999). In this system, the owner entrusts the animals to the kaliifa who may or may not become the herd manager or herder. When the owner entrusts his animals (*halfingo*), the kaliifa becomes the person that is ultimately responsible for the animals. The kaliifa can in turn entrust the animals to another herd manager or keep the animals under his direct control by having one of his sons be the herder or hiring a salaried herder. The guardianship entrustment of the kaliifa always involves three people: the owner (*jawmu*), the guardian (kaliifa), and the herder (*gaynaako*). Some people argued that the kaliifa guardianship is about watching over the herder instead of watching over the animals. Livestock owners would ask someone to be their kaliifa if they did not entirely trust the herder and were afraid he would sell cattle without permission.

present outside owners with a tab of the costs for their animals, just as it would have been inappropriate for the outside owner not to pay walhalla or pay the exact costs (i.e., reimburse the household head). Members of the household with animals in the family herd did not make financial contributions to the household head for expenses he made. Aside from the possible compensation from outsiders, the household heads covered all the financial costs of the family herd, which were relatively small compared with the costs in the peri-urban village.

DISTRIBUTION OF PRODUCTION COSTS

Traditionally, the family herd was regarded as a collective resource for which the household head covered the total costs for all animals, including those owned by residents, non-resident kin, and outsiders (Frechou 1966: 21). This is still how family herds are managed in the nomadic village and to some extent in the agro-pastoral village, but no longer in the peri-urban village. Household heads in the peri-urban village of Wuro Badaberniwol no longer covered all the financial costs for the family herd. They kept accounts of the expenses made for animals that were not their personal property, including animals owned by outsiders, non-resident kin, and even members of households, in particular wives and (young) adult sons.

Individual cattle owners, whether they were outsiders, kin, or members of the household, had to cover some of the production costs for their own animals, either by purchasing the production inputs themselves or by reimbursing the household head for expenditures he had made.²³² Younger children and adult daughters were exempt from covering the costs of their animals, mainly because they were owners of the animals in name only and the household head could dispose of their animals as he pleased. Similarly, wives who kept animals in their father's (or brother's) herd did not cover any of the costs. They also did not have the right of disposal over their animals. They owned the animals in name only and the animals were managed as a collective resource for the household by their father (or oldest brother).

Collective and Individual Costs

Peri-urban household heads continued to cover some of the financial costs of the family herd but not all. The costs that were covered by the household head were what I have called 'collective costs', which concerned the entire herd and were independent of the number of animals in the herd, such as herder salaries, salt or natron, and watering

²³² Buhl (1999: 165-7) notes that some FulBe women and sons contributed to the production costs although this was not obligatory. FulBe women in the study of Waters-Bayer (1985: 18) did not contribute to the costs of supplementary feed. In both cases, the use of cottonseed cakes and associated costs were much lower than in the peri-urban village of Wuro Badaberniwol.

costs.²³³ The costs that were distributed over individual livestock owners in the peri-urban village were those directly related to individual animals such as cottonseed cakes and hulls, veterinary care, and damages. I have called these ‘individual costs’.

Some household heads in the peri-urban village covered costs, primarily taxes and vaccinations, which could be categorized as ‘individual costs.’ There are a number of reasons for this. First, these costs represented only minor expenses: 375 FCFA (\$0.50) per animal for vaccinations and approximately 250 FCFA (\$0.33) for taxes. Second, while taxes are in principle based on the number of animals per household, in practice, there was no correlation between the number of animals and the amount of taxes paid.

Most importantly, none of the household heads covered the costs of cottonseed cakes and hulls for others; each individual owner had to buy his or her own. In fact, the high costs of cottonseed cakes and hulls were the primary reason why production costs were now distributed over individual owners in the peri-urban village. The average costs for cottonseed cakes and hulls per family herd were 215,000 FCFA (\$287) in the peri-urban village. The average costs per animal in the peri-urban village were 12,371 FCFA (\$16.50) of which more than 60% was for cottonseed cakes and hulls, which was considerably higher than in the agro-pastoral and nomadic village. Individual owners covered on average only 8% of the total production costs, but they covered 20% of the

²³³ Salt and natron are supplements that can be considered collective costs, i.e., the responsibility of the household head because cattle only eat it on a need-basis, which is difficult to predict for individual animals. Its use is thus difficult to link to individual animals and their owners. Some of the salt and natron costs are distributed over individual owners. Monthly salaries for watering labor are variable and correlate with the number of animals in the herd, but not strongly and are therefore neither collective nor individual costs.

cottonseed costs, which is similar to the percentage of animals over which the household head does not have the right of disposal (19%).

Peri-urban pastoralists themselves did not use the categories of collective or individual costs. I use these terms to make a distinction between two different ways of organizing the financial management of the family herd. The terms collective and individual costs should be considered as two ends of a continuum, with cottonseed cakes clearly falling at the individual end of that continuum and watering costs at the other, collective end (see figure 8.1). Costs that constituted a larger percentage of the total annual costs were more often considered individual costs than those that constituted a lower percentage. Other production costs were more ambiguous and could fall on either end of the continuum.

Some of the ambiguity derives from the fact that the distribution of production costs over individual owners is a recent phenomenon. Some of the variation might be due to different styles of household management. There was not much public discourse or clear norms or rules about who should pay for what. The financial organization of the family herd was very much in flux. The exception was cottonseed cakes, for which the norms were relatively clear, but were not publicly discussed as such.

The distribution of the other costs was still being negotiated. To give an indication how the distribution of production costs was negotiated without public discourse, here are some examples. A household head may ask his adult son who is on his way to the Maroua market for other purposes to buy an 18-kilogram sack of salt for the family herd, without giving him the money to buy the salt. The household head thereby *de facto*

distributes the costs for salt to his son, who owns some cattle in the family herd. Or, when it is time to pay the herder's wages, the household head can say that he is out of cash at that particular moment, and ask another household member who owns animals in the family herd to pay the herder's wages (without reimbursing him later). Similarly, a household head who pays the veterinarian for vaccinating cattle in the family herd will ask individual owners for reimbursement. When individual owners do not repay, the vaccinations are de facto a collective cost.

In general, the costs that were easily transferred to individual owners by the household head have become individual costs, primarily by simply not buying them (e.g., cottonseed cakes, sorghum stalks, medicines). Expenses that had to be advanced by the household head in his role as representative of the household have become collective costs because it was more difficult to manipulate owners to make advance payments or to collect reimbursements from them (e.g., for vaccinations, taxes, wages). I did not observe or record any open conflicts over the distribution of production costs within the household. The practices of distributing production costs described above shows that there was no explicit distribution of costs, which fits with FulBe cultural patterns of anti-materialism, certain reserve, and avoidance of direct confrontations.

In the peri-urban village, each individual owner was responsible for buying and stocking cottonseed cakes for his or her own animals. Herders used enamelware bowls to feed each animal individually using cottonseed cakes and hulls (mixed in a bowl) from each individual owner's private stock.

FulBe men and women had different strategies to finance the costs for their cattle. Men cultivate cotton to have cheap and reliable access to cottonseed cakes through Sodecoton, the producer of the cottonseed cakes, which sold two-thirds of its total cake production directly to cotton planters at a fixed and reduced factory price: 2,750 FCFA (\$3.65) versus 4,500 to 7,500 FCFA (\$6 to \$10) at local markets. Peri-urban pastoralists obtained 60% of their cottonseed cakes directly from sodecoton. However, payment in kind from sodecoton did not meet the demands of peri-urban pastoralists, who turned to the Maroua markets to buy the additional 40% of total cottonseed cakes used. Purchasing cakes on the market was problematic because supply was unreliable and often insufficient and as a result, prices were very high. Men used income from commerce or sales of cattle to buy additional sacks of cottonseed cakes at the market. Wives did not buy cottonseed cakes themselves because of their seclusion, and relied on their husbands or male kin to purchase cakes. Wives used income from petty trade, sales of small stock, dowry, or other investments (e.g., enamelware, jewelry) to pay for cottonseed cakes. One Kanuri woman with entrusted cattle cultivated cotton using migrant wage laborers from Chad to have access to cheaper cottonseed cakes directly from Sodecoton. Both men and women sold animals to feed their animals. The FulBe saying *baali sirila na'i* (sheep the trousers of cattle) has now a new meaning. Whereas in the past, it expressed the idea that sheep can be used for smaller household expenses (*haaje baali* 'sheep problems') and thereby protected the cattle from unnecessary sales. Today, it means that sheep are indirectly feeding the cattle.

The distribution of production costs is still in flux and continues to change, as there is an increasing reluctance on the part of household heads to cover the collective costs for animals from other owners including wives, adult sons, resident and non-resident kin. This distribution of production costs to individual owners is partly the result as well as the cause of an individualization of livestock ownership within the family herd. In the past, the household head could sell any animal in the family herd to cover the needs of the household, except those entrusted and owned by non-kin outsiders. Today, that is no longer the case in the peri-urban village as wives and adult sons have gained the right of disposal (with the exception of daughters and younger children). When these 'inside' livestock owners sold their animals and used the revenues for personal expenses, they did not compensate or reimburse the household head for any of the expenses he made. There is a strong norm that when outsiders sell their animals, they compensate the herd manager for his care and responsibility by giving him a couple of thousand FCFA or a percentage of the sale price as *walhalla*. Inside owners did not compensate the household head when they sold their animals. Household heads felt that the collective expenses they made for the animals of other household members were taken for granted. Consequently, household heads were reluctant to relinquish control over animals in the family herd by transferring property rights to other members of the family and this has led to a reduction in livestock transfers between family members within households.

The distribution of production costs over individual owners has to be seen in the context of institutional changes in peri-urban households, where household heads had gained the sole responsibility for provisioning the household. This was a considerable

financial burden of 852,198 FCFA (\$1,136), in addition to the production costs for the family herd of 536,411 FCFA (\$715) (this includes the costs for the village and bush herds). Because of these financial burdens, it is no surprise that peri-urban household heads wanted to distribute production costs for animals, over which they did not have the right of disposal, to their owners.

Individual owners, on the other hand, no longer regarded their animals as that part of the family herd that served collective household needs. Since they covered the cottonseed cake costs of their own animals in the family herd, on average 7,687 FCFA (\$10.25) per animal, they were reluctant to let the household head sell their animals for the benefit of the collective household. When a woman sells items from her dowry, which is her life-time security blanket, to buy cottonseed cakes to feed her other investments (i.e., cattle in her husband's herd), she is unlikely to let the household head sell the animal for household needs, particularly in a polygynous household.

Though it is unclear whether individualization of livestock ownership led initially to the distribution of the cottonseed cake costs within the household or vice versa, the fact is that the two phenomena reinforce each other today. The process of Islamic renewal has led to greater individualization of personal property within households and family herds in the peri-urban areas of Maroua and this is partly responsible for distributing costs over individual livestock owners. Simultaneously, the intensification and the subsequent distribution of costs over individual owners of animals further strengthened the individualization of livestock ownership within the family herd.

Property Rights over Purchased Cattle

The individualization of livestock ownership was also strengthened by the investment of personal income in livestock by household members. Income or property from economic activities that involved capital or labor investments were considered personal income and property and were not considered a collective resource for the household. The monetary investment in livestock by individual household members took two forms: distribution of production costs and the purchase of animals.

The purchase of animals through market exchanges, which were then added to the family herd, was an important factor in the individualization of livestock ownership. All FulBe strongly believe that an animal bought through his or her own (sweat and) earnings, is personal property and not a collective resource for the household. This means that the household head did not have the right of disposal over animals that are bought by members of the *saare* (household, family, lineage).²³⁴

Thus, within the family herd there is a clear distinction in two types of property: animals bought with personal income (*coodaaDi*, singular *soodaaye*) and those animals that are part of the ancestral family herd (*tawtawDi*) (for similar distinction between purchased and ancestral cattle see, Hutchinson 1992:305). The household head can only

²³⁴ FulBe can protect their inheritance by selling the animals and buying others to replace them. Similarly, FulBe herders, who are paid in kind, do better to sell the animal and buy another to avoid future problems over ownership rights.

sell those animals that are part of the ancestral family herd (regardless of who inherited those animals). Basically, the household head has the right of disposal over all the animals he can ‘take by force’, i.e., the animals that can be sold against the wishes of the ‘owner’ (*hon taa ron* ‘take by force not inherit’).²³⁵ Animals that are bought, however, can not be sold by the household head, not even with force. The collective household has only usufruct rights over these animals, which have a similar status in the family herd as animals owned by outsiders.

All the purchased animals in the nomadic village were owned by the household heads and since they were also responsible for provisioning the household, the monetary investment in cattle did not lead to an individualization of livestock ownership. Most of the purchased animals in the agro-pastoral village were entrusted by male patrilineal kin of the household heads who had moved to the big cities in the north (e.g., Maroua, Garoua, and Ngaoundéré) and had invested part of their ‘urban’ income in cattle. In the peri-urban village, most of the purchased animals were mainly owned by household heads and their sons who had invested revenues from cotton sales or commerce.

The individualization of livestock ownership through the investment of personal income in purchased animals was a phenomenon in all three villages, but the effect was stronger in the peri-urban village, which had a much larger number of animals in the family herds that were originally purchased. Overall, the monetary investments of

²³⁵ FulBe referred to this right of disposal as ‘taking by force’, *hongo*, which is translated as ‘waging war’ (Noye 1989:293) or ‘to plunder, to pillage, to loot’ (Seydou 1998:293). ‘Taking by force’ does not mean that actual force is used. It refers to the fact that a household head’s right of disposal overrules the property rights of others. It means that the household head has the ultimate right of disposal and can sell animals against the explicit objections of the owners.

individual owners in their animals was much greater in the peri-urban village because of higher production costs and the larger number of purchased animals, and consequently, the individualization of livestock ownership and management was also much stronger in the peri-urban village.

COLLECTIVE COSTS	INDIVIDUAL COSTS
	← Cottonseed cakes & hulls (62%)
	← Damages (10%)
Herder salaries (9%) →	
	← Vaccinations & medicines (5%)
	← Watering costs (5%) →
	← Sorghum stalks & hay (3%) →
Salt & natron (3%) →	
	← Cattle tax (2%) →

Percentages indicate what percentage each category represents of total costs in the peri-urban village. Costs are listed in order of the percentage that they represent of the total costs (e.g., *cottonseed cakes and hulls* are listed first because they represent 62% of the costs, while *cattle tax* is listed last because it represents only 2% of the cost). The horizontal position indicates at what end of the continuum of collective or individual costs the categories fall. Arrows indicate direction of variation.

ISLAMIC INSTITUTIONS AND PROPERTY RIGHTS

The individualization of livestock ownership in the peri-urban family herds is much stronger than in the other two villages, and partly the result of the distribution of production costs and institutional changes in peri-urban households. Two Islamic institutions, which have not yet been discussed, have also strengthened the individualization of livestock ownership in peri-urban family herds: inheritance and tithe (*zakka*).

Inheritance Rules

Islamic inheritance rules favor individual ownership, including that of women, over collective ownership and the integrity of the family herds. Under Islamic law each individual inherits: children, spouses, and/or parents, depending whether the deceased was married and had children. If there are no children, spouses, or parents, more distant kin will inherit. In the Islamic system of inheritance, there is no system of primogeniture nor are inheritance rights equal. All sons inherit equally, but twice as much as daughters. Spouses generally inherit a fourth or an eighth depending on the number and type of

heirs. Islamic inheritance rules may seem straightforward, but depending on the survivors, the rules can potentially be very complicated (Pastner 1978:436).

Most Islamic pastoral societies do not strictly follow the Islamic inheritance rules when it comes to the division of livestock (Lewis 1988; Young 1996: 90). Women generally either do not inherit livestock or they receive only one token animal. This is also the case in most pastoral FulBe societies (Buhl 1999:158; Hopen 1958; Issa and Labatut 1973:22).²³⁶ The problem of the Islamic inheritance codes in pastoral societies is that they divide family herds in ways that do not necessarily match the social structure of pastoral production units, i.e., the herd is divided over multiple households so that potentially the household experiencing death of the household head does not have enough animals to subsist on. This is particularly true when heirs do not constitute one production unit, and married daughters and widows take their animals to other households. Pastoralists in many societies therefore value integrity of the family herds over strictly following Islamic inheritance codes (Hopen 1958; Young 1996).

The ‘traditional’ FulBe system of cattle transfers from one generation to the next prioritizes the continuity and integrity of viable family herds (cf., Stenning 1971; Wilson-Haffenden 1927:288). Traditionally, men would pre-inherit cattle when they married and only if herd size allowed a division (*senndugo*). Women did not inherit cattle. They received one heifer as indirect dowry (*sadaaki*) from their husband’s family and had usufruct rights over milk cows that were assigned to them by the household head (either

²³⁶ Buhl (1999:158) argues that whether a widow gets her share of the inheritance is due to the goodwill of her husband’s relatives. In the Far North of Cameroon, I would argue that the degree of piety is another important factor in determining whether women get a share of the estate.

their husband or his father). After the death of a household head, the senior son would succeed him and continue to manage the family herd as a collective resource for the household (Hopen 1958:137).²³⁷ He would apportion parts of the herd to his younger brothers as they married. The FulBe ideal was that brothers continued to live together after the death of their father and that the family herd would not be divided among heirs. The herd would only be divided when its size allowed division in viable parts among married brothers (Stenning 1959:48). The nomadic village of Wuro EggoBe followed this FulBe system of pre-inheritance at marriage and thereby maintained the integrity of the family herd as the first priority (rather than the observance of Islamic inheritance rules).

In the agro-pastoral village of Wuro Hoore Ladde, on the other hand, there was no system of pre-inheritance. In principle, agro-pastoralists followed the Islamic codes of inheritance, but in practice, they did not follow them very closely (cf., Hopen 1958:137). Animals were equally divided among sons, but daughters and other female kin were seldom given their legal share (Buhl 1999). There was some tension in the agro-pastoral village between the ‘more traditional’ agro-pastoralists and the Muslim clergy about the observance of the Islamic codes of inheritance. The clergy did not interfere with internal affairs of the household, unless they were consulted by the *lawan* (traditional FulBe authority) when members of a household complained at his court. During my fieldwork, one widow complained about her brother with whom she was living. She wanted to take her animal of the three that were left in the family herd and entrust it elsewhere because

²³⁷ If the senior son was still a minor at the time of the death of his father, the brothers of the deceased would advise the senior son and arrange his (early) marriage.

she believed that her brother mismanaged the herd and would sell her animal to solve his 'problems'. Her brother refused to let her take the animal and in response, the widow took her complaint to the *lawan* in neighboring Wuro Garre, who decided in her favor. Other women, however, were less successful in preventing their male kin from squandering their inheritance.²³⁸

In the peri-urban village of Wuro Badaberniwol, pastoralists followed the Islamic codes much more strictly than in the other two villages.²³⁹ The pursuit of piety by peri-urban pastoralists included following the Islamic inheritance rules; not doing so would be a flagrant violation of the religious norms in the village, and mark them as more interested in pastoral wealth than in religious piety.²⁴⁰

Stricter adherence to the Islamic codes of inheritance meant that the death of a household head in the peri-urban village could lead potentially to the break-up of the family herd since the number of heirs was generally large because most men were polygynous and had many children.²⁴¹ The greater problem was not the number of heirs

²³⁸ Women's property rights over cattle were generally not well protected in the agro-pastoral village. In the few cases that women formally received their inheritance or part of it, they were often cheated out of it later, for example, when the animals went on transhumance, and women could not directly survey their animals. *Di dilli ladde, wartay, bana ni debbo anda* 'the animals went to the bush and did not come back, this way a woman has no knowledge [of what happened to the animal]'. The herders, her brothers or other male kin, would say that her cattle were stolen or eaten by lions, while in fact they had sold it at the local livestock market (and pocketed the money or spent it all on praise singers, prostitutes, and alcohol).

²³⁹ Fortunately, nobody died in the peri-urban village during my research, but the herd inventories revealed how inheritances had been divided in the last five to ten years.

²⁴⁰ It could also be interpreted as violating *pulaaku*, i.e., FulBe norms of anti-materialism, which illustrates how Islamic and *pulaaku* values are intertwined.

²⁴¹ There were relatively more children in peri-urban households because of the higher polygyny and divorce rates. After divorce, children stay with their father. Many FulBe households include a child whose mother divorced its father and is now married elsewhere.

but the fact that some of them had long ago left the pastoral life, settled in Maroua or other cities further to the south, and taken up other occupations. When these heirs return to the village to claim part of the inheritance, they immediately sell the animals and take the money back home. In addition, female kin who would be leaving the household in the near future (e.g., widows and daughters of marriageable age) would take their animals elsewhere or sell them at the local market to avoid having the new household head sell their animals without permission. In short, today the death of a household head in the peri-urban village can be a serious blow to the integrity of the family herd as Islamic inheritance rules divide the family herds in non-viable parts (for similar impact of Islamic inheritance rules in agricultural households see, Raynaut 1997:336-337).²⁴²

Individual heirs, particularly the ones who had left the village, did not consider their part of the inheritance as a collective resource for the surviving household (and future households) but as individual property. That is why some preferred either to sell the animal or take it elsewhere, thereby also denying members of the household usufruct rights over these animals.

²⁴² The death of a household head delivers a blow to the family herds for additional reasons. First, the traditional chief or Muslim clergy is paid a death duty of 10% of the estate (*usura*) for assisting with the division of the inheritance (Hopen 1958:138; Stenning 1966:398). Nomadic pastoralists tried to avoid these death duties by dividing the inheritance among themselves in the bush and thereby circumventing the application of Islamic inheritance rules. Sedentary FulBe cannot escape these death duties, as traditional authorities know exactly what goes on in the village, whereas nomadic FulBe are generally far from the population centers in the bush and can more easily avoid these demands of the traditional authorities. Second, the family has to host the mourners who come to pay their respect to the deceased and survivors. Third, the family has to pay travel costs for daughters to return to their husbands. Thus, the death of a household head automatically involves the sale of several animals.

Zakka

The individualization of livestock ownership was further promoted through the payment of the Muslim tithe (*zakka*) on livestock wealth, in which pastoralists took into account individual ownership of cattle in the family herd, as well as through public and private discourse about the payment of zakka on livestock. Zakka is an Islamic annual tithe that is paid as a share of monetary wealth, agricultural harvest, and livestock property to authorities, clergy, and/or poor. Zakka is not a form of charity (*sadaaka*). It is a religious obligation and act of service that symbolizes the commitment to the community of Muslims who support each other with their wealth and thereby increase the cohesiveness and purity of the *umma* (Denny 1987:52).²⁴³

The tithe is a religious obligation of individual Muslims; no institutions force Muslims to pay zakka, except for the agricultural zakka, which is institutionalized in the Far North of Cameroon as a ‘tax’ to the traditional authorities.²⁴⁴ The people who pay

²⁴³ De Bruin and van Dijk (1995) evaluate zakka as a form of aid for the poor among FulBe and RiimayBe in Mali. The zakka does not represent a substantial or reliable form of aid to the poor in the Far North of Cameroon. First, agricultural zakka is paid directly to the traditional authorities, who in principle should use that sorghum to feed the poor, but in practice seldom do. The zakka over livestock and monetary wealth, which is important in the urban and peri-urban area where there are more wealthy people, is left to the discretion of the individual and in most cases is given to Muslim clergy and chiefs, rather than to the poor. The chiefs use it to support their court, while the clergy use it to support their household. When it is given to the poor, the cash from the sale of the animal is generally given to multiple people and the amount is negligible compared to the annual costs of feeding a small household. Moreover, zakka as a form of aid is unreliable and unpredictable, the poor never know whether, when, and from whom they will receive zakka in any given year since there are many poor households and few wealthy who pay zakka.

²⁴⁴ The payment of zakka on agricultural harvest is institutionalized as a tax to the traditional authorities who are considered the owners of the land. The idea is that the traditional authorities know who the needy are in the community and will redistribute the zakka according to need. The agricultural zakka forms a

zakka on livestock and monetary wealth can decide for themselves who they want to support (provided they are Muslims). According to Islamic scholars in the peri-urban village one can give zakka to the following categories of people: slaves that want to buy themselves free (*maccuDo ngiDo rimdugo*), the poor (*laafuBe*), the destitute (*miskin'en*), pilgrims (*hijjooBe*), Islamic teachers (*jannginooBe*), and rulers (*laamiiBe*) (see also, Dognin 1981).²⁴⁵ All pastoral households in the peri-urban village that were obliged to pay zakka over livestock wealth did so (100%). In the agro-pastoral village, two households were required to pay zakka but only one did (50%), whereas in the nomadic village all but one household were obliged to pay zakka but only one did (12.5%).²⁴⁶

The basic principles of calculating zakka over livestock are simple but the details are more complex. When a Muslim has more than 30 animals (cattle, sheep, goats), he or she is obliged to tithe annually. With 30 cattle, a Muslim has to tithe a two-year old bullock. With 40 animals, he or she has to tithe a four-year old heifer (Dognin 1981).²⁴⁷

substantial income for the traditional authorities. During harvest time, they will not leave their palaces for travel to make sure that all farmers can tithe.

²⁴⁵ Although slavery was abolished at the beginning of the twentieth century by the colonial powers, many FulBe have never accepted this and continue to treat 'slaves' that have not bought themselves free as slaves. I came across one recent case in which the child of a 'slave' was bought free by friends of the family when the FulBe 'owner' insisted on naming the child because it was his property.

²⁴⁶ Boutrais (1996) has argued that the yearly zakka is an extra 'tax' on the family herds. The pastoralists who did not tithe might have regarded zakka as an extra tax, and were therefore less motivated to tithe. The pastoralists in the three communities that paid zakka did not experience or discuss the zakka as a tax; they saw it as their religious duty and a way to be pious Muslims. For most peri-urban pastoralists one two-year old bullock or a four-year old heifer out of 30 to 40 animals was a negligible off-take, especially since most of them had additional sources of income. Zakka was also not regarded as a form of mutual aid that replaced traditional forms of mutual aid such as the *nanngaaye*, as is suggested by Boutrais (1996:41). There is no evidence to suggest that zakka has replaced *nanngaaye* in the Far North as a form of mutual aid. In the minds of the FulBe, they are two different things: a religious obligation versus an expression of friendship.

²⁴⁷ The rates (or percentages) of zakka are different for money (2.5%), sorghum harvest (10%), and livestock (2.5 to 3.5%).

Muslims start paying the zakka a year after their herd size reaches 30 animals. The general rule is that the household head is responsible for paying zakka on all the animals in the family herd, including those owned by other household members, but not those that are elsewhere (e.g., a wife's cattle that are in the corral of her father).

Payment of zakka on animals from outsiders, non-resident kin or non-kin, can be more complicated. The household head can pay zakka on all the animals in the corral, then calculate the percentage of animals owned by outsiders, and ask these outsiders to reimburse him for that same percentage of the zakka.²⁴⁸ The household head can also ignore the animals of outsiders in his calculations of zakka and assume that the owners will pay zakka over their animals. The household head also has to decide whether he will pay zakka over loan animals (*nanngaaji*) that he received or lent to others. In short, zakka rules make distinctions between ownership of animals by household members and outsiders, but also within the household: wives, and children when they reach puberty, have the option of paying zakka on their personal property and thereby asserting their independence as well as property rights over their animals.

When FulBe pay zakka over livestock wealth, they have the option of giving the animal or selling the animal and giving the revenues to one or more people. Peri-urban pastoralists prefer to discretely sell animals for the purpose of zakka payment and

²⁴⁸ When a household head is responsible for a family herd with more than thirty animals of which some are from different owners and the herd has never been divided, he has to pay zakka over the family herd. There are a number of ways to calculate who should pay what when a family herd contains animals from multiple owners. One method is that each owner pays proportionally to the number of animals owned in the herd. Suppose there are thirty animals of which five are entrusted. The person with the largest number of animals has to sell the bullock, which has a market value of 60,000 FCFA. This means that the zakka per animal is 2,000 FCFA. The owner of the entrusted animals pays 10,000 FCFA zakka (five times 2,000 FCFA); the household head pays 50,000 FCFA (25 times 2,000 FCFA).

distribute the cash later among multiple people so that nobody can calculate how wealthy they are.²⁴⁹ On the other hand, FulBe enjoy talking publicly about hypothetical problems concerning the payment and calculation of zakka on livestock, for example whether they should pay zakka on cattle owned by outsiders or nanngaaji animals that they loaned to others, and if so, how much. Following the rules of the payment of zakka correctly and thereby, living by the rules of the book is part of the continuing effort of wealthy pastoralists to become better Muslims. Pastoralists' private consultations of Islamic scholars about their specific cases and publicly discussing hypothetical cases made notions of individual ownership within family herds more explicit. Instead of considering all the animals in the corral to be collective property of the household, household heads, in the discussions and calculations of the payment of zakka, made distinctions based on individual ownership. The large number of Muslim scholars and wealthy pastoralists who aspire to be pious Muslims in the peri-urban village prove to be a fertile ground for public and private discourse about payment of zakka over livestock.

Both Islamic institutions, inheritance codes and payment of zakka, emphasize individual ownership of livestock in contrast to traditional notions of collective ownership of livestock, and thereby further the individualization of livestock ownership and management in peri-urban herds.

²⁴⁹ If somebody would give two four-year old heifers as zakka, people know immediately that the person had more than 80 and less than 90 animals. If the person had more than 90 animals, he would have to tithe 3 two-year old bullocks.

DISAPPEARANCE OF LIVESTOCK EXCHANGES

Early in the study, it became apparent that market incorporation per se was likely not responsible for the disappearance of livestock exchanges since FulBe pastoralists have participated in the market economy for centuries. The commoditization of the pastoral production systems, in particular the use of costly cottonseed cakes as supplementary feed, play an important role in the disappearance of livestock exchanges. However, the disappearance cannot be explained in terms of changes in relative prices alone. The changes in property relations within the family herd, specifically the increasing individualization of livestock ownership and the household head's loss of the right of disposal over livestock owned by others, play a role as well.

The comparative data on family herds in the three villages suggests that livestock exchanges have all but disappeared in the peri-urban village in the last twenty-five years; the percentage of outsiders' animals in the peri-urban family herds was minimal and most of the animals in the herd were owned by only one person: the household head. People's livestock ownership histories indicated, however, that there had been more exchanges in the 1970s, when part of the village herds went on a seasonal transhumance to the Logone Flood Plain. This suggests that livestock exchanges between and within households have

disappeared in the peri-urban village in the last twenty-five years after intensification of the pastoral system and the birth of Islamic renewal.²⁵⁰

²⁵⁰ It was difficult to assess changes over time in the number and types of livestock exchanges. Pastoralists in the nomadic village argued that there had been a renewal in livestock loans due to the diffusion of the WoDaaBe type of nannganaaye. In the agro-pastoral village, people gave me contradictory information on whether or not there was a reduction in the number of livestock exchanges. In the peri-urban village, pastoralists were adamant that livestock exchanges had all but disappeared.

Table 8.1: Livestock Exchanges in the Peri-Urban Village

		Animals exchanged		Households involved in exchanges	
		No.	%	No.	%
RECEIVED	Loan (<i>nanngaaye</i>)	0	0%	0	0%
	Gift offspring (<i>sukkaaye</i>)	0	0%	0	0%
	Intergenerational gift (<i>sukkilaaye</i>)	0	0%	0	0%
	Gift (<i>hokkaange</i>)	0	0%	0	0%
	Loan milk cow (<i>diilaaye</i>)	0	0%	0	0%
	Loan carrying bull (<i>garwaari</i>)	0	0%	0	0%
	Loan breeding bull (<i>kalhaldi</i>)	0	0%	0	0%
	Entrustment (<i>goofalye</i>)	8	2%	3	50%
	Guardianship (<i>halfiinge</i>)	0	0%	0	0%
	All exchanges	8	2%	3	50%
	Total animals	519			
GIVEN	Loan (<i>nanngaaye</i>)	6	1%	1	17%
	Gift offspring (<i>sukkaaye</i>)	0	0%	0	0%
	Intergenerational gift (<i>sukkilaaye</i>)	3	1%	1	17%
	Gift (<i>hokkaange</i>)	2	0%	2	33%
	Loan milk cow (<i>diilaaye</i>)	0	0%	0	0%
	Loan carrying bull (<i>garwaari</i>)	0	0%	0	0%
	Loan breeding bull (<i>kalhaldi</i>)	0	0%	0	0%
	Entrustment (<i>goofalye</i>)	5	1%	2	33%
	Guardianship (<i>halfiinge</i>)	396	76%	5	83%
	All exchanges	412	79%	5	83%
	Total animals	519			

Percentages of total number of animals in the village during the year 2000-2001 that came into the herd through an exchange (but not necessarily in the year 2000-2001). This includes both the village and the bush herd. Guardianship is the largest category in the peri-urban village because it includes all the bush herds. Aside from the guardianship exchange, there were very few animals in the peri-urban herds that were exchanged.

Table 8.2: Livestock Exchanges in the Agro-Pastoral Village

		Animals exchanged		Households involved in exchanges	
		No.	%	No.	%
RECEIVED	Loan (<i>nanngaaye</i>)	23	6%	6	38%
	Gift offspring (<i>sukkaaye</i>)	0	0%	0	0%
	Intergenerational gift (<i>sukkilaaye</i>)	1	0%	1	6%
	Gift (<i>hokkaange</i>)	7	2%	3	19%
	Loan milk cow (<i>diilaaye</i>)	0	0%	0	0%
	Loan carrying bull (<i>garwaari</i>)	0	0%	0	0%
	Loan breeding bull (<i>kalhaldi</i>)	0	0%	0	0%
	Entrustment (<i>goofalye</i>)	92	24%	10	63%
	Guardianship (<i>halfiinge</i>)	13	3%	1	6%
	All exchanges	136	36%	13	81%
	Total animals	377			
GIVEN	Loan (<i>nanngaaye</i>)	21	6%	3	19%
	Gift offspring (<i>sukkaaye</i>)	0	0%	0	0%
	Intergenerational gift (<i>sukkilaaye</i>)	11	3%	5	31%
	Gift (<i>hokkaange</i>)	1	0%	1	6%
	Loan milk cow (<i>diilaaye</i>)	0	0%	0	0%
	Loan carrying bull (<i>garwaari</i>)	0	0%	0	0%
	Loan breeding bull (<i>kalhaldi</i>)	0	0%	0	0%
	Entrustment (<i>goofalye</i>)	63	17%	5	31%
	Guardianship (<i>halfiinge</i>)	43	11%	1	6%
	All exchanges	139	37%	8	50%
	Total animals	377			

Table 8.3: Livestock Exchanges in the Nomadic Village

			Animals exchanged		Households involved in exchanges	
			No.	%	No.	%
RECEIVED	Loan	(<i>nanngaaye</i>)	59	11%	6	100%
	Gift offspring	(<i>sukkaaye</i>)	10	2%	4	67%
	Intergenerational gift	(<i>sukkilaaye</i>)	2	0%	2	33%
	Gift	(<i>hokkaange</i>)	2	0%	1	17%
	Loan milk cow	(<i>diilaaye</i>)	1	0%	1	17%
	Loan carrying bull	(<i>garwaari</i>)	7	1%	2	33%
	Loan breeding bull	(<i>kalhaldi</i>)	5	1%	3	50%
	Entrustment	(<i>goofalye</i>)	16	3%	1	17%
	Guardianship	(<i>halfiinge</i>)	141	26%	3	50%
	All exchanges		243	45%	6	100%
	Total animals		546			
GIVEN	Loan	(<i>nanngaaye</i>)	No Data Available			
	Gift offspring	(<i>sukkaaye</i>)				
	Intergenerational gift	(<i>sukkilaaye</i>)				
	Gift	(<i>hokkaange</i>)				
	Loan milk cow	(<i>diilaaye</i>)				
	Loan carrying bull	(<i>garwaari</i>)				
	Loan breeding bull	(<i>kalhaldi</i>)				
	Entrustment	(<i>goofalye</i>)				
	Guardianship	(<i>halfiinge</i>)				
	All exchanges					
	Total animals					

Nomadic pastoralists were reluctant to tell me about cattle they had loaned or given to others for a number of reasons (e.g., avoid boasting).

Table 8.4: Percentage of Households involved in Livestock Exchange

	Peri-Urban Pastoralists	Agro- Pastoralists	Nomadic Pastoralists
Exchanges between Households	50% (n=6)	93% (n=16)	100% (n=8)

This includes households that have given and/or received in livestock exchanges, but excludes the guardianship of peri-urban herds.

Inter-Household Exchanges

Inter-household exchanges – loans of a milk cow (*diilaaye*) or heifer (*nanngaaye*), and the entrustment of cattle (*goofalji*) – in the peri-urban village have practically disappeared mainly because of the increase in production costs. However, the effect of the change in relative prices is different for loans and the entrustments of cattle.

Traditionally, the loan of a milk cow (*diilaaye*, plural *diilaaji*) and the loan of a heifer (*nanngaaye*, plural *nanngaaji*) provide support for poorer pastoral households that do not have sufficient animals to support the household. *Diilaaye* is the loan of a cow for the duration of lactation, but which can also last indefinitely, and serves as a form of food aid (*waalinde nyaamdu*). The *nanngaaye* is a loan of one or more cattle. The best-known model is that of the WoDaaBe, in which a heifer is loaned, the recipient keeps three offspring, and then returns the original animal with a reciprocal loan of a heifer. In the Far North of Cameroon, the loan involves one or more cattle over which the recipient has generally only usufruct rights, but sometimes keeps one or more offspring. Friendship featured prominently in the discourse about *nanngaaye* exchanges. Some of these loans were for an indefinite period and there was some overlap with the loan of a milk cow and entrustment (*goofalye*) (Moritz 2002b). *Goofalye* (plural *goofalji*) is the temporary entrustment of one or more animals and is in many ways very similar to the *nanngaaye* loan. The recipient of the animal(s) has usufruct rights over the milk but cannot keep any

of the offspring. There were exceptions; in some cases the herder was given an animal, compensated financially, or received a salary for the herding.²⁵¹

Diilaaye and nanngaaye were exchanges between pastoral households (primarily from wealthy loan to poor). The goofalye is the entrustment from an owner (not always a pastoralist) to pastoralists. Diilaaye and nanngaaye are primarily about helping the recipient (by giving milk aid). The goofalye, on the other hand, is primarily about helping the owner (by taking care of his or her animal). But again, there is considerable overlap; goofalye entrustment is often also about helping the recipient.

The percentage of animals owned by non-resident kin and non-kin outsiders was very small in the peri-urban village (2% each) compared to the other two villages. These are the animals that were exchanged as nanngaaye or goofalye (in 2000-2001, no milk cows were loaned). The main reason for the absence of these inter-household livestock exchanges in the peri-urban area is the high costs of production. Livestock loans as a form of mutual aid have all but disappeared because if people were too poor to own animals, they were also too poor to feed them (Mortimore 1993:373). Wealthy pastoralists joked that it was cheaper to buy milk on the market than to have a loan milk cow at home. Aside from the logistical issues of keeping cattle, poorer households in the peri-urban area were simply unable to take good care of the animals because it entailed so many expenditures. The problem was not necessarily the total costs of feeding a loan

²⁵¹ In the literature, this form of exchange is often associated with non-FulBe farmers or absentee herd owners entrusting animals to impoverished herders (Thébaud 2002; van Dijk 1994; White 1990). Among FulBe pastoralists in the Far North, there is not always a clear distinction between entrustment and traditional loans of cattle (Moritz 2002b).

animal because in principle revenues from dairy sales could cover these costs (see also, Moussa and Njoya 1997). The problem was the lack of cash flow in poor households to purchase the cottonseed cakes or pay the veterinarian when needed. The financial expenditures made inter-household livestock exchanges more a burden than benefit for the recipient of an animal in the peri-urban area.

Similarly, there were few entrusted animals (*goofalye*) in the herds of peri-urban pastoralists. It was simply very expensive for non-pastoralists to entrust animals in the peri-urban area, even though comparatively the costs were lower for them than for the peri-urban pastoralists, respectively 5,193 FCFA (\$7) and 12,371 FCFA (\$16.50) per animal per year. Owners of entrusted animals did not cover all the expenses for their animals; they generally only paid the ‘individual’ costs, while the herd managers covered most if not all the ‘collective’ costs. Owners were much better off entrusting animals away from the peri-urban area where cottonseed cakes were not necessary for the survival of cattle. The problem was to find a reliable herd manager there who would take good care of the animals and would not sell them without permission. This was only possible for owners who had kin in the rural areas or enough animals (preferably a whole herd) to entrust to a *kaliifa* thereby invoking religious norms to ensure trust and reduce the likelihood of theft.²⁵²

²⁵² A *halfiinge* entrustment is more formal and institutionalized than the *goofalye* entrustment. The distinguishing feature of this exchange is that it involves a guardian, the *kaliifa*, who is responsible for the animals and supervises the herder. Pastoralists often referred to the book (i.e., the Koran) when they referred to this form of exchange. Some people argued that under the *kaliifa* arrangement, the owner always remains the owner, and that the *kaliifa* would guard the animals entrusted to him even against claims of the owner’s children. Others elaborated that the *kaliifa* arrangement is one that people make before they travel and it is unclear when they return. The *kaliifa* is then the guardian over the cattle for the duration of the trip,

When the owner entrust animals in the peri-urban area he or she has to reimburse the herd manager for almost all the costs. Moreover, in many cases, the owner has to purchase cottonseed cakes, hulls, and sorghum stalks him or herself and supply these to the herd manager since purchasing these supplementary feeds is very time-consuming and stressful. For owners it is simply cheaper to entrust animals farther away from the peri-urban areas where there is natural forage and they do not have to buy or pay for cottonseed cakes. Herd managers, on the other hand, are loath to take on responsibilities for other people's animals over which they do not have the right of disposal. More importantly, they end up covering most, if not all, collective costs thereby, de facto subsidizing the livestock ownership of outsiders. Household heads had only usufruct rights over entrusted animals, which was less important now that dairy revenues were no longer a source of income for the household.

The relationship of entrustment is inherently fraught with tension (this is also the case in the agro-pastoral and nomadic villages). Owners are preoccupied with the question of whether the herd manager or herder takes good care of the animals and is not selling them without permission. Herd managers, on the other hand, are concerned with the effort and costs they expend for outsiders' animals. This tension is much higher in the

whether it is two months or twenty years. The kaliifa is an entrustment arrangement that is used when the owner is absent. In those cases, the kaliifa replaces the owner and oversees the herder and the everyday management of the herd. By invoking the Koran in entrustment of cattle in which trust is essential, herd owners attempted to reduce the risk of livestock losses due to theft and sales by the herder. It is the common belief in Islam and the observance of the rules of Islam, in this case the rules of guardianship that herd owners appeal to, reduce the transaction costs of entrustment (cf., Ensminger 1992).

peri-urban area where the pastoral system is more capital-intensive, which has only increased the reluctance of herd managers to take in outsider's animals.

Mutual trust is the basis for the relationship of entrustment. When the owner has entrusted his animals, he should trust the herd manager to take care of the animals as if they were his own (cf. Soga 1997). One way to conserve this trust on the part of the owner is to have minimal contact with the herd manager and generally avoid direct inquiries about the animals. When an owner has to make regular contributions or reimburse the herd manager for costs made, it entails frequent contact, which is ultimately detrimental to the relation of trust between owner and herd manager. Moreover, the monetarization of the entrustment relation was damaging to the relationship as both owners and herd managers, who felt that they paid too much and were exploited by the other party. The two peri-urban pastoralists that had entrusted animals from village neighbors in their herds wished the owners took their animals elsewhere, as they regarded the entrusted animals as a financial drain and potential source of conflict.

A recurring theme in discussions about the demise of inter-household livestock exchanges was the problem of dishonesty (*faasikaare*). There was great concern that a dishonest recipient of a nanngaaye, for example, might sell the animal and tell the owner that the animal died of natural causes. In the past, FulBe gave nanngaaji to good herders with love for cattle (*enDaange*) who would take excellent care of the animals. Giving nanngaaye was a strategy to increase one's wealth, by entrusting animals to a capable herder (or one with *risku*). *Nannga bee boggol yara foBBo warta* 'going you take [one

animal] on a rope, on return you clap your hands [to direct multiple animals]'. Today, the perceived risks of losing nanngaaye are considerable. *Ndokka mo nanngaaye, nge salo nge haa luumo* 'you give him a nanngaaye, the animal passes [the corral, and goes directly] to the market'. Pastoralists in all three communities complained about this change in mentality and dishonesty on the part of fellow pastoralists. Their concerns were not limited to nanngaaye loans but also concerned entrusted animals. Whether this was an imagined change in people's mentality remains unclear.

Intra-Household Exchanges

Higher production costs also have led to a reduction in the number of livestock transfers within the household. I have explained above how the distribution of production costs over individual owners is partly responsible for the individualization of livestock ownership in the family herd as sons and wives no longer wanted the household head to sell their animal for which they had covered the costs of cottonseed cakes. On their part, household heads were reluctant to transfer property rights, i.e., give sukkilaaye animals to their children if they lost the right of disposal over these animals to provide for the household. There is an additional reason why young men treated their animals as personal property and challenged the right of disposal of the household head over their *sukkilaaji* animals; they used them as startup capital for a career in commerce.

In the past, the household head would retain the right of disposal over all the animals in the family herd until his death, including *sukkilaaji* animals owned by his children. The *sukkilaaye* (plural *sukkilaaji*) is a gift of a heifer from parents to their children at time of birth or naming ceremony. The *sukkilaaye* becomes the personal property of the child, meaning that the *sukkilaaye* and its offspring are not taken into account when the inheritance is divided among heirs. Traditionally, children only had nominal ownership over their *sukkilaaji*, while the household head retained the right of disposal, meaning that he could sell them to provision the household.

Today, however, household heads in the peri-urban (as well as the agro-pastoral village) complained that their sons challenged them when they tried to sell their *sukkilaaye* or any of its offspring. Sons, and to a lesser extent daughters, that owned animals in the family herd regarded these as their personal property, rather than as part of the family herd that served the collective needs of the household, and refused their fathers to sell their animals. One of the brothers of a peri-urban pastoralist, now living in Maroua, had taken his father to traditional court over the sale of his *sukkilaaye*, in particular over the replacement by another animal, which according to the son had a lesser value than the original animal. Subsequently, household heads were reluctant to give *sukkilaaye* to their children because they feared losing the right of disposal over these animals. Consequently, *sukkilaaye* had all but disappeared in the peri-urban village where only 3 (1%) of the animals in the village were *sukkilaaye*, versus 12 (3%) in the agro-pastoral village and 2 (less than 1%) in the nomadic village (where it was no longer a tradition according to my informants, but it was unclear why not).

Some older men believed that the individualization of livestock ownership resulted from the younger generation becoming too materialistic.²⁵³ They commented *Derkee'en jida huunde* 'the young folks love things [i.e., cattle]' and *Be cigaataako, Be ngiDi huunde* 'they do not guard [herd] well, [but] they [sure] care about things [i.e., cattle]'.

Another explanation for why children, i.e., young men in the peri-urban, but also the agro-pastoral village, challenged their father's right of disposal over their sukkilaaye was their interest in commerce. There was a great interest in markets on the part of the younger generation in the peri-urban and agro-pastoral villages, to hang out but also to pursue a career in commerce.²⁵⁴ There were a few role models in the peri-urban and agro-pastoral village of men who were successful in the retail of Nigerian goods and livestock trade. One of the easiest ways for young people to find the start-up capital for a career in commerce was to sell 'their' cattle from the family herd. A number of young men sold their sukkilaaye or its offspring to start a business. The problem was that not all young men were adept businessmen and so the capital evaporated quickly. In some cases, the commercial aspirations proved to be a continuous drain on the family herd (see also, Bates 1990:156; Fieder 1997).²⁵⁵ This was a reoccurring theme in stories about specific

²⁵³ Of course, older generations are often complaining about the younger generation, and the lack of time-depth of this study makes it difficult to evaluate their claims.

²⁵⁴ Older FulBe would say: *derke'en sey luube. To weeti Be dilli, sey to hiri Be ngarata* 'the young folks are only interested in markets. They leave early in the morning and come back late in the afternoon'.

²⁵⁵ One Pullo called this *Fila fiDDa* 'trading by brushing off dust', i.e., to sell cattle from the family herd to invest in commercial activities. The trader-herder sells animals to keep his business activities going and convinces himself that it is necessary to sell certain animals because they are dust, i.e., old, sick, or barren.

FulBe pastoralists in the Far North that people told each other in all three villages. Older agro-pastoralists would harass the younger folks asking *toy wayneye?* ‘where is such-and-such cow?’ knowing that *Yaaka Don nder jiiba* ‘Yaaka [name of cow] was in a wallet’.²⁵⁶ There was no generational conflict with regard to interest in the commerce versus pastoralism in the peri-urban village. Interest in commerce was encouraged by peri-urban household heads, although this did not necessarily mean that they gave more sukkilaaji to their sons (most of them had stopped this practice long ago). Most peri-urban household heads earned an income through commerce themselves and hoped their sons would do so in the future. In fact, most household heads did not want their children to become pastoralists. On the contrary, they preferred their children to attend public school and/or Koranic school and become businessmen or Koranic scholars (or, even better, both).

This focus of young people on commercial careers using their sukkilaaye animals as starting capital has contributed to an increasing individualization of livestock property. It also represents a shift in thinking of the family herd as source of investment capital for individuals rather than subsistence security for the collective household (cf., Shimada 1993:109).

This particular form of investment in business is often very unproductive and has the potential of finishing off entire family herds.

²⁵⁶ Fathers did not necessarily disapprove entirely of the younger generations’ aspirations. The fathers gained if their sons succeeded. In reality, however, many young FulBe neglected herding and farming tasks at home while simultaneously failing in business. This is what fathers were most distraught about.

Monetarization of Indirect Dowry

A similar intra-household conflict over property rights in the family herd happened with cattle that were part of the indirect dowry (*sadaaki*). The gift of cattle as indirect dowry has all but disappeared in the peri-urban village, and although this is not a recent change, it followed a similar pattern in which household heads did not want to lose the right of disposal over animals that were previously owned by women in name only.

Sadaaki is the indirect dowry from the groom's family to the bride (Goody and Tambiah 1973; Pastner 1978). Traditionally, a bride was given a cow in the herd of her husband's family by her father-in-law or her husband as sadaaki. The gift did not involve a physical transfer of cattle, only a change of ownership. The animal remained in the family herd of the husband, and the household head retained the right of disposal over the animal and its offspring.

The gift of cattle as sadaaki has all but disappeared in the peri-urban area in the early 1960s and among agro-pastoralists in the mid 1970s (see table 8.5).²⁵⁷ Today, household heads give cash instead of cattle (Buhl 1999; Pelican 2003), partly to avoid that their women will treat sadaaki animals as personal property rather than collective property of the household.

²⁵⁷ In the nomadic community, there has been no monetarization of indirect dowry; all sadaaki were given in cattle.

When asked about the practice, household heads in the peri-urban village expressed a reluctance to give animals as sadaaki to their wives or their sons' wives because they feared that with the increased individualization of livestock ownership, women would challenge their right of disposal over these sadaaki animals. Their objections concerned a hypothetical situation since cattle were no longer given as sadaaki. It reflected, however, a general sentiment of reluctance to take in any animals that are owned by their wives since their right of disposal over these animals could be challenged.

Although production costs were distributed over individual owners in the peri-urban village, household heads continued to carry the brunt of the collective costs for the family herd. As with entrusted animals, household heads ended up subsidizing the animals owned by wives and children over which they no longer had the right of disposal. Consequently, one household head outright refused to take into the family herd animals that his wives had inherited from their father. He argued that he would end up paying veterinary and other costs for animals that were owned by 'outsiders' (thereby classifying his wife as an outsider).

Today, the husband's family prefers to give cash to the bride instead of cattle. In this way, the household heads remain in full control over all the animals in the family herd. Women, for their part, complained that the monetarization of the sadaaki meant that they had less (re-) productive capital and were thus more dependent on their husbands. Cash, they argued, disappears more quickly than cattle, even more so when the money is

given to their parents who use it to finance their daughter's dowry (cf., Pastner 1978:437).

The household head's loss of the right of disposal over the sadaaki animals is one of the reasons why the gift of a cow as indirect dowry has disappeared. Another reason is the dowry's increase in volume and value over the last decades. The dowry's costs for parents have increased, and they prefer to use the money from the indirect dowry to finance the dowry. There was considerable variation within the two sedentary communities in whether the bride or her parents were receiving the sadaaki (see also, Buhl 1999:159).²⁵⁸

The monetarization of the indirect dowry and its transfer to the bride's parents does not imply that in the past women had more control over their sadaaki cattle (*jabbere sadaaki* 'the sadaaki lineage'). In principle, the animal(s) belong to the woman as compensation for her loss of virginity.²⁵⁹ In reality, a woman seldom had the right of disposal over her sadaaki cattle. In many cases, a woman did not know whether she was given an animal as sadaaki, and if so, what animal.²⁶⁰ Some of FulBe men joked about how women were given a fictive animal named koobaaye, which comes from *kooba*

²⁵⁸ The amount of cash for sadaaki depended on the status and wealth of both households – poor brides, divorcees, and widows fetched less, and wealthy grooms always paid more than poorer grooms – and ranged from 5,000 FCFA (\$6.50) to 100,000 FCFA (\$135) with a mode of 40,000 FCFA (\$53).

²⁵⁹ Only when the woman ran away before the marriage was consummated, did the cow remain the property of the husband's family.

²⁶⁰ In many cases, the husband did not know what the sadaaki animal was either as his father never told him and he nor his bride were present at the announcement of the sadaaki. During the marriage ceremony (*teegal*), the mallum asks the groom's father (or family) what the sadaaki is. At that moment, the father stands up and tells the crowd that he has given a particular amount of money or that he decided to give the cow named *sayge* as sadaaki.

(antelope), suggesting that the women were given an antelope that had run away to the bush (i.e., her husband had sold the sadaaki animal at the market).²⁶¹

This monetarization of indirect dowry is an example of how changing property relations in the family herd that challenge the household head's right of disposal, have led to the gradual disappearance of livestock exchanges within the household and an increasing concentration of livestock ownership in the hands of the household head in the peri-urban village.

²⁶¹ *Hoobaaye*, on the other hand, is a genuine name for a cow, which comes from the same root, and means cow with the coloring of an antelope. Supposedly, women did not know the difference because cattle was not their domain.

Table 8.5: Monetarization of Indirect Dowry (*Sadaaki*), 1925-2000

	Peri-Urban Pastoralists			Agro-Pastoralists		
	Cattle	Cash		Cattle	Cash	
1930-1960	78%	22%	(n=9)	100%	0%	(n=4)
1960-1975	14%	86%	(n=7)	40%	60%	(n=5)
1975-2000	3%	97%	(n=30)	0%	100%	(n=11)

The indirect dowry was always given in cattle in the nomadic village. The data only concerns the indirect dowry of women living in the two villages today.

REEVALUATING LIVESTOCK OWNERSHIP

In this section, I will compare livestock ownership in the three villages in order to examine the effects of the individualization of livestock ownership and management, on the economic status of peri-urban households. It is important to evaluate how this individualization has affected the economic status of households (and household heads) because it has direct implications for the sustainability of the intensification of the peri-urban pastoral system. Now that dairy revenues are no longer the most important source of income for peri-urban households and household heads are losing the right of disposal over animals owned by other members of the household, the question becomes whether they still command sufficient economic resources to make ends meet.

When comparing livestock ownership, quantitative analyses are not sufficient in themselves. The complexity of property rights in livestock makes a combination of qualitative and quantitative analyses a necessity. Children's property rights over livestock, for example, are very different in each of the three villages, even though the percentages of animals owned by children are similar: 5% and 6% in respectively the peri-urban and nomadic village (see table 8.6). These percentages do not reflect the property relations in the family herd, because in the nomadic village, the household head has the right of disposal over animals owned by children, but that is not the case in the peri-urban village. This means that the percentages also do not accurately reflect the economic status of the household since households do not have the right of disposal over

all the animals in the family herd. ‘The water is dark but not deep’ as the FulBe say, meaning: the size of the herd does not say much about the household’s economic resources.

When comparing livestock ownership and assessing the economic status of households in the three villages, the most important information is not who owns what, because that might be in name only, but who has the right of disposal over what animals. In addition, one should consider what animals, over which the household (head) does not have the right of disposal, could be sold in case of an emergency (e.g., hunger in the household). These are the animals, primarily owned by outsiders that can potentially be sold without immediate major repercussions. Finally, it is important to consider whether the household has usufruct rights over the milk of the animals and whether dairy revenues are available to the household. Most studies of pastoral households do not make these distinctions when recording and comparing livestock ownership and risk misrepresenting household economic status (e.g., Buhl 1999; Fratkin and Roth 1990; Roth 1990; Zaal 1998).

It is important to recognize that there is a category of animals over which the household (head) does not have right of disposal, but which does constitute an economic asset for the household in case of emergencies. I have called sales of animals in this category ‘tolerated theft’.²⁶² Tolerated theft refers to those cases that the herd manager

²⁶² I am not using the notion of tolerated theft here in the narrow sense of behavioral ecology theory in which successful hunters tolerate the theft of meat from large animals because of the diminishing returns of defending it (Blurton Jones 1984; Blurton Jones 1987; Winterhalder 1996). Tolerated theft is, however, an apt description of the illegal sales of livestock by herders or herd managers without the permission of the owner. All FulBe consider these illicit sales a theft, but owners often tolerate them taking into account the

sells animals entrusted by non-resident male kin and outsiders without the explicit permission of the owners. Tolerated theft is an important economic strategy. Households who have only entrusted animals from outsiders are always better off than households without any animals. First, the household has usufruct rights over the milk of entrusted animals. Second, the household head always has the option of selling an entrusted animal if his children are chronically hungry. Thus, even outsiders' animals are an important economic asset for households. The most serious repercussion of this illicit sale would be the owner taking the herd manager to traditional court, where he is fined and ordered to reimburse the owner. However, the herd manager will not go to prison, and most likely, will never reimburse the owner.²⁶³ Most cases of tolerated theft concern relatively poor people, so reimbursement is unlikely, and often the illicit sale is considered not unreasonable. However, if a thief (instead of a herd manager) stole that same animal he would definitely go to prison (if caught).

One poor pastoralist in the agro-pastoral village, Ahmadu, had quite a reputation for selling entrusted animals. He sold without permission one bull that was owned by a Masa woman living in the same village. She complained to the lawan who decided in her favor. However, she was never reimbursed for her loss. That same year, Ahmadu sold an animal

costs and benefits of confronting the thief (e.g., having a reputation of being materialistic). Moreover, the discussion of tolerated theft in forager studies explicitly recognizes it as a form of sharing (and a potential precursor of reciprocal altruism). Tolerated theft of livestock can also be considered a form of sharing or aid (as the case of Ahmadu and his kaawo below demonstrates).

²⁶³ Generally, if the owner were a Pullo, it would be considered shameful for him to go to court because he would be judged by the community as being too materialistic.

that was entrusted by his *kaawo* (MFFBSS, classificatory MB) who lived in a neighboring village, again without permission. The *kaawo*, acting as a true Pullo, most likely never mentioned anything about this illicit sale directly to Ahmadu (or anybody else). The *kaawo* later entrusted Ahmadu another animal but when drought hit again, he told Ahmadu in advance to sell the animal to buy sorghum, rather than wait until the animal was again sold without permission.

Property relations within the family herd are a gray area of study, which makes it very difficult to distinguish between the right of disposal and tolerated theft. It depends on the context, time, and people involved whether a household head's sale of animals owned by others is judged as 'taking by force' or 'tolerated theft'. What is classified in the agro-pastoral village as 'taking by force' can be classified as 'tolerated theft' in the peri-urban village (e.g., the sale of a son's animals). I have assessed and compared pastoral assets of households (i.e., household heads) using my personal judgment, i.e., my knowledge of the household and interpretation of property relations within the family herd to classify animals as 'right of disposal' instead of 'tolerated theft'. Property relations within the family herd are a sensitive topic of investigation and not easily captured in a survey or even an unstructured interview. One cannot expect reliable answers when asking informants 'can you sell this animal owned by outsiders?' or 'could you sell this animal in a case of emergency, say your children are hungry, without going to prison'.

In the agro-pastoral village, the household head had the right of disposal over all the animals that were owned by resident kin and non-resident female kin (51%). The sales of animals owned by non-resident male kin and purchased animals were generally (but not always) classified as tolerated theft (49%)(see table 8.7).

In general, in the nomadic village, a household head's right of disposal trumped all other property rights of resident and non-resident kin over animals in the family herd. The household heads in the nomadic village had the greatest percentage of animals that they could take by force (85%), which included animals owned by resident and non-resident kin. Only the animals loaned (*nannganaaji*) or entrusted (*kaliifaaji*) were off-limits and classified in the category of tolerated theft (15%). However, if one considered the three entrusted bush herds from peri-urban pastoralists, the percentage of animals over which the household (head) has the right of disposal diminishes considerably (63%)(see tables 8.8 and 8.9).

The process of Islamic renewal in the peri-urban village has led to greater individualization of livestock property and this had a direct impact on what animals the household head could dispose off. In the peri-urban village, household heads had only at their disposal the animals they owned themselves and those owned by daughters (at least partially, since some of the animals were owned by multiple people)(81%).²⁶⁴ There is a

²⁶⁴ It is not uncommon that animals are owned by multiple people. In the peri-urban village, 9% of all the animals were owned by more than one person. In the nomadic and agro-pastoral villages, this percentage was higher, respectively 14% and 22%. When cattle are owned by multiple people, it is referred to as *nagge mardinge* (shared cow). When the animal is divided in two, each part is called *ba nge ba nge* (half half), one-fourth part *kosngal* (leg), one-eighth *tayre* (piece of meat), and one-sixteenth part is called *laasol* (a hair). Joint ownership of animals has the potential of further complicating the assessment of economic status of pastoral households, particularly when co-owners are outsiders.

concentration of livestock ownership in the hands of the household, which is much higher than in the other two villages (see table 8.10). All the other animals that were owned by resident kin (e.g., wife, sons), non-resident kin, and outsiders could be sold but the sale would be considered a case of tolerated theft (rather than taking by force)(19%).²⁶⁵

Overall, most households (or household heads) in all three villages are poorer than they seem at a first glance if one would count all the animals in their corrals (see tables 8.7, 8.8, 8.9, and 8.10). Moreover, there is a considerable variation within each of the three villages in the percentage of animals in the family herd over which the household (head) had the right of disposal. Only three agro-pastoral and one peri-urban household head had the right of disposal over all the animals in their corral. Other households had the right of disposal over a limited percentage of animals in the corral ranging from 16% to 97% of the animals in the family herd. Five agro-pastoral households did not have the right of disposal over any of the animals in their corral.

²⁶⁵ The impact of the market economy and Islamic renewal on women's property rights in the peri-urban village of Wuro Badaberniwol is in some ways contrary to expectations (Beck and Keddie 1978; Dahl 1987a; Hodgson 2000a; Oboler 1985). A common pattern in other African pastoral societies is that women traditionally had multiple rights in various categories of livestock, including considerable rights of control over at least some cattle, but lost these rights due to incorporation into the market and/or the conversion to Islam (Aguilar 2000: 249; Beck and Keddie 1978; Dahl 1987a; Ensminger 1987; Hodgson 2000a:11; Oboler 1985). The commoditization of the peri-urban pastoral system and the process of Islamic renewal have led to different outcomes. Peri-urban women have now greater control over their own animals as they gained the most important right to disposal. However, at the same time, they have lost usufruct rights over milk from other animals in the family herd. Moreover, the recently gained right of disposal over their animals also came with financial responsibilities. It remains to be seen whether the intensification of the pastoral system is sustainable for women who generally own few head of cattle (see chapter nine). Some women were selling their dowry and small stock, their other security blankets, to buy cottonseed cakes and ensure the survival of their cattle. The commoditization of pastoral production inputs and the increased individualization of livestock ownership under new Islamic norms might lead to a situation that is economically not viable for women. Greater rights over animals now might in the future again result in peri-urban women's loss of control over cattle because of the financial burden of production costs. The paradox of peri-urban women gaining property rights while losing livestock is furthered by the reluctance of household heads to take animals in from their wives whose animals are now considered outsiders' animals.

Nomadic pastoralists on average did not have the right of disposal over 35% of their animals (including entrusted herds, 13% excluding entrusted herds), agro-pastoralists 27%, and peri-urban pastoralists 15% (see table 8.11). These differences between the number of animals in the family herd and the number of animals over which the household (or the household head) has the right of disposal is substantial. It underscores the importance of taking into account property relations within the family herd for a more realistic assessment of economic status of pastoral households.

Table 8.6: Comparison of Livestock Ownership in Three Villages

	Peri-urban Pastoralists	Agro- Pastoralists	Nomadic Pastoralists (excl. entrusted herds)	Nomadic Pastoralists (incl. entrusted herds)
Household head	0.78	0.37	0.42	0.29
Family (undivided inheritance)	0.00	0.14	0.14	0.10
Wives	0.07	0.03	0.09	0.06
Children (resident only)	0.05	0.08	0.09	0.06
Resident kin	0.05	0.06	0.01	0.01
Non-resident kin	0.02	0.27	0.13	0.09
Outsiders (non-kin)	0.02	0.05	0.12	0.39
Total	1.00	1.00	1.00	1.00

Livestock ownership in this table concerns only nominal ownership. The category *non-resident kin* also includes children that no longer live in the village. In all the tables concerning livestock ownership, I have calculated livestock ownership for nomadic pastoralists with and without the entrusted herds. The herds are managed entirely separate from the family herds but the nomadic households have use rights over the milk.

Table 8.7: Property Rights in Agro-Pastoral Households

Household	Right of Disposal	Tolerated Theft	Dairy Revenues Available	Total Number Animals	TLU/ ACE	TLU at Disposal/ ACE	Difference	Difference (%)
1	1.00	0.00	Yes	69	16.2	16.2	0	0%
2	0.82	0.18	No	17	2.8	2.3	-0.5	-18%
3	1.00	0.00	No	3	0.9	0.9	0	0%
4	0.00	1.00	Yes	6	0.6	0.0	-0.6	-100%
5	0.00	1.00	Yes	14	5.1	0.0	-5.1	-100%
6	0.00	1.00	Yes	10	2.4	0.0	-2.4	-100%
7	0.20	0.80	Yes	5	1.1	0.2	-0.9	-82%
8	0.00	1.00	No	10	1.9	0.0	-1.9	-100%
9	0.00	1.00	Yes	5	0.8	0.0	-0.8	-100%
10	0.53	0.47	Yes	30	4.1	2.2	-1.9	-46%
11	0.76	0.24	Yes	25	3.0	2.3	-0.7	-23%
12	0.86	0.14	Yes	51	12.8	11.0	-1.8	-14%
13	0.33	0.67	Yes	6	0.9	0.3	-0.6	-67%
14	0.85	0.15	Yes	26	5.2	4.4	-0.8	-15%
15	0.85	0.15	Yes	26	17.3	14.7	-2.6	-15%
16	1.00	0.00	No	3	1.5	1.5	0	0%
Average	0.51	0.49			4.8	3.5	-1.3	-27%

Pratt & Gwynne (1977) estimated that 4.5 TLUs per person would provide an individual with sufficient calories in a pastoral economy (Fratkin and Roth 1996:165). Following this standard, three agro-pastoral households, three peri-urban, and all nomadic households could live of the herd alone. Right of disposal and tolerated theft are presented as percentage of animals within the family herd. The households where dairy revenues are not available are the mallum-headed households. Household head number 16 was divorced.

Table 8.8: Property Rights in Nomadic Households (including entrusted herds)

Household	Right of Disposal	Tolerated Theft	Dairy Revenues Available	Total Number Animals	TLU/ ACE	TLU at Disposal /ACE	Difference	Difference (%)
*1	0.34	0.66	Yes	131	11.4	3.9	-7.5	-66%
*2	0.43	0.57	Yes	58	13.6	5.9	-7.7	-57%
3	0.94	0.06	Yes	113	22.6	21.2	-1.4	-6%
4	0.97	0.03	Yes	68	9.4	9.1	-0.3	-3%
7	0.76	0.24	Yes	54	11.4	8.6	-2.8	-25%
*8	0.33	0.67	Yes	95	13.1	4.3	-8.8	-67%
Average	0.63	0.37			13.6	8.8	-4.8	-35%

Households with an asterisk * have entrusted herds. Nomadic household heads have the right of disposal over all the animals in the herd, except those entrusted by absentee owners and those loaned through a nanngaaye exchange by fellow nomadic pastoralists.

Table 8.9: Property Rights in Nomadic Households (excluding entrusted herds)

Household	Right of Disposal	Tolerated Theft	Dairy Revenues Available	Total Number Animals	TLU/ ACE	TLU at Disposal/ ACE	Difference	Difference (%)
1	0.76	0.24	Yes	59	5.1	3.9	-1.2	-24%
2	0.93	0.07	Yes	27	6.4	5.9	-0.5	-8%
3	0.94	0.06	Yes	113	22.6	21.2	-1.4	-6%
4	0.97	0.03	Yes	68	9.4	9.1	-0.3	-3%
7	0.76	0.24	Yes	54	11.4	8.6	-2.8	-25%
8	0.76	0.24	Yes	95	5.7	4.3	-1.4	-25%
Average	0.85	0.15			10.1	8.8	-1.3	-13%

Table 8.10: Property Rights in Peri-Urban Pastoral Households

Household	Right of Disposal	Tolerated Theft	Dairy Revenues Available	Total Number Animals	TLU/ ACE	TLU at Disposal /ACE	Difference	Difference (%)
1	0.59	0.41	No	76	3.9	2.3	-1.6	-41%
2	0.59	0.41	No	104	4.3	2.5	-1.8	-42%
3	0.81	0.19	No	85	22.7	18.4	-4.3	-19%
4	0.98	0.02	No	233	19.0	18.6	-0.4	-2%
5	0.91	0.09	No	81	6.6	6.0	-0.6	-9%
6	1.00	0.00	Yes	25	3.1	3.1	0	0%
Average	0.81	0.19			9.9	8.5	-1.5	-15%

There is considerable variation within the peri-urban village with regard to the percentage of the animals in the herd the household head has the right of disposal, but overall the percentage is relatively high 85%. Peri-urban household heads only have the right of disposal over animals they, their daughters, and their youngest children own.

Table 8.11: Re-evaluation of Livestock Ownership in Three Villages

	Right of Disposal	Tolerated Theft	TLU/ ACE	TLU at Disposal / ACE	Difference (%)
Peri-Urban Pastoralists	0.81	0.19	9.9	8.5	-15%
Agro-Pastoralists	0.51	0.49	4.8	3.5	-27%
Nomadic Pastoralists (incl. entrusted herds)	0.63	0.37	13.6	8.8	-35%
Nomadic Pastoralists (excl. entrusted herds)	0.85	0.15	10.1	8.8	-13%

SUMMARY

The combination of increasing production costs and institutional changes in peri-urban pastoral households has led to a number of major changes in the management of family herds, such as the distribution of production costs and the disappearance of livestock exchanges within and between households. The main transformation concerns the individualization of livestock ownership and management. Family herds are no longer regarded by all as a collective resource for peri-urban households. Household heads have lost the right of disposal over animals from other members of the saare (household, family, lineage) who consider their animals personal property rather than a collective resource for the household. The question is how these changes in property relations within the family herd affect the sustainability of the intensification of the peri-urban pastoral system, not only for the household head who is now solely responsible for provisioning the household, but also for members of the household who are now responsible for their own animals.

CHAPTER 9: MAKING ENDS MEET

INTRODUCTION

This concluding chapter ties together the arguments made in the preceding chapters and discusses how changes in institutions and relative prices have transformed an extensive agro-pastoral system in which the family herd was a collective resource that served the household into an intensive pastoral system in which the herd has become a collection of individually owned and managed animals. In this discussion, I emphasize the crucial role that the combination of changes in relative prices and changing institutions plays in the transformation. Although, this dissertation discusses a wide-range of data that support my analysis, there is no conclusive evidence and my thesis waits further testing. Hopefully, this dissertation makes a convincing case that there is an individualization of livestock ownership and management in peri-urban family herds and that a combination of factors – higher production costs and stricter observance of Islamic codes – is responsible for the transformation of the peri-urban pastoral system. In this chapter, I discuss two lines of indirect evidence that support my thesis.

Secondly, I will discuss how peri-urban pastoralists make ends meet now that their pastoral system has undergone such a major transformation. I evaluate the economic performance and long-term sustainability of intensification, taking into consideration the

institutional reorganization of the household economy and the changes in the management of the family herd. In my evaluation of economic performance, I distinguish between households (or household heads responsible for provisioning the household) and individuals within the household who own animals in the family herd. The evaluation suggests that intensification might not be sustainable in the long-term for people who own only a few animals and do not have additional sources of income, which means that the transformation of the peri-urban pastoral system will likely increase inter- and intra-household differentiation.

The evaluation of the economic performance and sustainability of the intensification of the peri-urban pastoral system in the Far North Cameroon has implications for pastoral development in Africa. Some of the lessons that can be drawn from this study will be discussed in relation to the two dominant paradigms of pastoral development: modernization and mobility. Finally, the implications of this study of the transformation of the peri-urban pastoral system for the study of agricultural intensification, including that of pastoral systems, will be discussed.

THE TRANSFORMATION OF A PASTORAL SYSTEM

The transformation of the peri-urban pastoral system in the village of Wuro Badaberniwol refers to technological changes, i.e., the extensive use of cottonseed cakes

and subsequent changes in the everyday management of the family herd, as well as to changing property relations within pastoral households and family herds. This section explains how changes in relative prices of production and institutional changes associated with a process of Islamic renewal have led to a transformation of the peri-urban pastoral system.

Although FulBe pastoralists have participated in the global market economy for centuries, they have increasingly been incorporated over the last decades. I have argued that market incorporation in general is not responsible for the transformation of the peri-urban pastoral system, but specifically the commoditization of pastoral production inputs. Contrary to expectations, this has not led to increased marketing of pastoral products or a shift from subsistence to market-oriented pastoral production. Instead, the commoditization of pastoral production inputs was made possible through an economic diversification of household activities, which included cotton cultivation, commerce, and maraboutage.

Proximity to the provincial capital of Maroua played a key role in the economic diversification because it offers peri-urban households opportunities to earn an off-farm income that can be used for investment in the pastoral system. Proximity to Maroua also meant better prices for pastoral products and lower prices for commercially produced inputs such as veterinary medicines and cottonseed cakes (compared to the rural areas). The differences in relative prices between peri-urban and rural areas are crucial for the economic performance and the sustainability of the intensification of the peri-urban pastoral system. The continuing development and growth of the livestock marketing

system in the greater Chad Basin and the important role of Nigerian demand ensure that there is a relatively stable market for pastoral products and favorable terms of trade for pastoralists in the Far North of Cameroon. The macro economic conditions of the pastoral economy provide the economic basis for the intensification of the peri-urban pastoral system.

The proximity to the expanding city of Maroua and the subsequent disappearance of the bush is also the reason why the peri-urban pastoral system was intensified in the first place. Peri-urban pastoralists have adapted to the pressures on rangelands and the lack of natural forage in the dry season by pursuing both extensive and intensive strategies. They divided their herds in two; entrusting one part permanently to nomadic pastoralists, and feeding the animals remaining in the village costly cottonseed cakes throughout the dry season.

The intensification of the peri-urban pastoral system led to an enormous increase in production costs because of the use of cottonseed cakes and hulls. These high costs raised questions among peri-urban pastoralists about the economic performance and sustainability of the intensification of the pastoral system.

The transformation of the peri-urban pastoral system did not end with the use of cottonseed cakes and the increase in production costs. One of the consequences of the increase in production costs was an individualization of livestock ownership and management in the family herd. This ‘decollectivization’ of the family herd was also furthered by institutional changes within the household that were part of a process of Islamic renewal in the Far North of Cameroon.

The Islamic renewal involves an increasing commitment to a more orthodox form of Islamic piety and a stricter adherence to the codes of Islam by Muslims. FulBe in the peri-urban area were better educated, had more knowledge of Islam, and were generally more pious than FulBe in the rural areas of the province. Peri-urban pastoralists' pursuit of piety was manifested in higher levels of Koranic education, the seclusion of women, a higher rate of polygyny, stricter observance of Islamic codes, and the institutional organization of the household economy.

The most important institutional change in household organization in the peri-urban village was that household heads were now solely responsible for provisioning the household. I have argued that this shift in provisioning responsibilities and separation of funds is correlated with an increase in polygynous marriages in the peri-urban village. In polygynous households, women's dairy revenues were considered their personal income, which they were not required to contribute to a common household fund. This individualization of income and property also affected property relations within family herds.

The individualization of livestock ownership and management in the peri-urban village is the result of both changes in relative prices and institutional changes in pastoral households. Although, it is unclear what came first, the individualization of livestock ownership or the distribution of production costs, it is clear that the two reinforce each other today. The distribution of production costs meant that individual members of the household were making a monetary investment in their animals, which has led to an individualization of livestock ownership, similar to the effect that the purchase of animals

with personal funds had on property relations in the family herd. In addition, institutional arrangements in peri-urban households such as the separation of income and property of spouses and the disappearance of the common household fund, as well as the negative emphasis of Islamic institutions of inheritance and zakka on collective property rights, have further strengthened the individualization of livestock ownership and management.

The household head's simultaneous loss of the right of disposal over animals owned by other household members and the loss of dairy revenues as a source of income for the household had two implications for the management of peri-urban family herds. More milk was reallocated to nursing calves than to women's dairy marketing, and this de facto led to a shift from market- to subsistence-oriented dairy production. Secondly, there were few intra-household exchanges of animals as household heads were reluctant to lose even more control over the animals in the family herd.

Inter-household livestock exchanges have also practically disappeared in the peri-urban village. The primary reason is the enormous increase in production costs, which made mutual aid in the form of livestock loans more a burden than benefit for poorer recipients. Similarly, there were very few animals from outsiders in the peri-urban family herds because of the high production costs and the effect this has had on the entrustment relationship between owner and herd manager. There is evidence suggesting that the reduction in livestock exchanges has led to greater socioeconomic differentiation within and between households.

Two Lines of Indirect Evidence

The comparative research that forms the basis of my dissertation was designed to test a number of hypotheses about the suspected demise of the pastoral moral economy of livestock exchanges, but not to examine the transformation of the peri-urban pastoral system. At this point, I do not have sufficient data to support my thesis that a combination of factors – higher production costs and stricter observance of Islamic codes – is responsible for the individualization of livestock ownership and management in peri-urban family herds. To test the thesis one needs to compare religious observant pastoral households with less observant ones that both use cottonseed cakes extensively, as well as pious and less pious pastoral households that do not use cottonseed cakes. Unfortunately, the intensification and the pursuit of piety are correlated with a third variable, proximity to the city of Maroua, which makes it difficult to control for either variable.

However, two lines of indirect evidence support my analysis of the transformation of the peri-urban pastoral system and the crucial role of the combination of intensification and Islamic renewal therein. One line of evidence comes from mullum-headed households in the agro-pastoral village that were stricter in their observance of Islamic codes but had not intensified their pastoral system. The other line of evidence comes from a peri-urban pastoralist who used more cottonseed cakes than anybody else but was not as strict as other peri-urban pastoralists in the observance of Islamic codes.

The three mallum'en that were household heads in the agro-pastoral villages were much stricter in their observance of Islamic codes than all the other agro-pastoral household heads, but as all agro-pastoralists, they hardly used any cottonseed cakes and their production costs were low. The institutional organization of these three mallum-headed households was similar to that of peri-urban households. All three were polygynous households in which the household head was solely responsible for provisioning the household. In these cases, women's revenues from dairy marketing were considered their personal property and women no longer contributed to a common household fund. However, the management of family herds was similar to that of other agro-pastoralists. Production costs were not distributed over individual owners, milk was not re-allocated to nursing calves, and there was no individualization of livestock ownership and management. The family herd remained a collective resource for the household instead of a collection of individually owned and managed animals.

The transformation of the pastoral system happened in all but one of the pastoral households in the peri-urban village. This household is an exception to many of the patterns described as part of the transformation of the peri-urban pastoral system. The household head, Yeero, used cottonseed cakes and hulls as all other peri-urban pastoralists, but the management of his family herd was similar to that of 'traditional' ones. The reason, I will argue, is that Yeero was not as strict in the observance of Islamic codes and norms compared to other peri-urban household heads.

Yeero lived with his father and mother who were respectively 85 and 70 years old. He was de facto the household head (*baaba saare*) because his father was too old.

Yeero was 57 years old. His family was polygynous and consisted of three wives, each with one child: two daughters (27 and 7 years old), and one son (5 years old).

The family herd was relatively small, about 27 animals, which were kept in the village and fed cottonseed cakes throughout the dry season. No animals were entrusted to nomadic pastoralists. All animals were owned by Yeero's parents; there were no longer animals from outsiders in the herd (in the past, a RiimayBe neighbor had entrusted animals in the herd). Yeero was in charge of the daily management of the herd, which he managed as a collective resource for the household. One example is that troughs were used to feed cottonseed cakes and hulls to all the animals simultaneously, rather than enamelware bowls to feed them one at a time as in the other peri-urban households. Yeero covered all the production costs, which were not distributed among individual owners, mainly because the animals were already 'owned' by Yeero as their sole heir.

Yeero milked and distributed the milk among the four married women in the household, of which his mother, the *daada saare* (mother of the household), received the bulk, which she processed and marketed. Yeero's was the only peri-urban household that marketed sour milk and butter on a regular basis. It was also the only household to use cottonseed cakes to increase milk production (all other peri-urban pastoralists used them to ensure that their animals survived the dry season). Yeero fed his cattle more cottonseed cakes, hulls, and hay than was needed for survival and consequently his animals reportedly produced the most milk. The main reason why Yeero used cottonseed cakes to increase milk yields was that his mother contributed the dairy revenues to a common household fund, in contrast to the pattern in other peri-urban households that were more

affected by the process of Islamic renewal. Yeero's three wives sometimes marketed milk but, unlike their mother-in-law, they did not contribute the revenues to the common household fund but used them for personal expenses (as in other peri-urban households). They also received less milk from Yeero than their mother-in-law.

Yeero's household was interesting in that one could find two types of economic organization in one household. The nuclear family that included Yeero and his parents followed the 'traditional' FulBe system in which the family herds was considered a collective resource, while the nuclear family that included Yeero and his three wives followed the new Islamic system in which income and property of spouses was separated and women no longer shared any provisioning responsibility. The two systems in one household illustrate that the institutional changes in peri-urban households represent a generational change. Yeero was polygynous; his father was not. Yeero's wives did not have provisioning responsibilities; his father's wife did. Yeero followed new Islamic norms and codes; his father followed traditional norms.

Even though Yeero was a devout Muslim and more observant of Islamic codes than his father, he was not as observant and well educated as other peri-urban pastoralists. Yeero was more interested in the mystical ways of Islam than the more orthodox pursuit of piety. Yeero was also more concerned with cattle than the pursuit of piety and this is illustrated by his avoidance of the payment of zakka over livestock wealth. In principle, he was not yet obliged to pay zakka because his livestock holdings were too small (about 27 animals). However, Yeero refused to deliberately increase his herd size to reach the

30-animal limit by selling one or two older animals and buying several younger calves or heifers as was suggested by more pious peri-urban pastoralists in the village.

None of the household members, including Yeero, had other sources of income than the marketing of agricultural products (including dairy, cattle, small stock, cotton, and sorghum). Yeero's family herd fed the family and the herd through dairy and animal sales. As a result, Yeero's was the only pastoral household in the peri-urban village that saw its herd size diminish over the 2000-2001 year. The decrease in herd size was due to the fact that Yeero sold more animals; 30% of his livestock holdings compared to an average 14% for other peri-urban pastoralists. Most of the male offspring in his herd were sold before they were one year old and many female calves were sold before they were three years old in order to buy cottonseed cakes and hulls.²⁶⁶ Yeero's pastoral production costs were considerable, 508,638 FCFA (\$678) for the herd and 19,194 FCFA (\$26) per animal. Yeero sold as many animals as were born that year to cover the production costs and provision the household. The total revenues from cattle sales were 728,000 FCFA (\$971) during the 2000-2001 year, which easily covered the production costs but left little revenues for provisioning the household. This suggests that intensification is more

²⁶⁶ As a result, the composition of Yeero's family herd was different from that of other peri-urban herds. *Sey daadaajii* 'only cows' other peri-urban pastoralists said (but they exaggerated). The sex composition of Yeero's herd was 84% female and 16% male compared to an average of 72% and 28% in the peri-urban village. Yeero's family herd contained only four male animals: a breeding bull and three young calves that were born during the research period. The remainder of the cattle were cows, heifers, and female calves.

difficult to sustain for pastoral households without additional income from off-farm commercial activities or a bush herd with lower production costs.²⁶⁷

The two lines of indirect evidence do support the analysis, but not conclusively. The case of the mallum-headed households shows that stricter adherence to Islamic codes, without an increase in production costs, does not lead to an individualization of livestock ownership and management. While Yeero's case shows the reverse, an increase in production costs, without institutional changes in the household economy does not automatically lead to individualization either.²⁶⁸ The two lines of indirect evidence suggest that the combination of Islamic renewal and intensification is responsible for the transformation of the pastoral production system.

EVALUATING ECONOMIC PERFORMANCE

Evaluating the economic performance of the intensification of the peri-urban pastoral system is important for two reasons: 1) it represents one alternative trajectory for

²⁶⁷ One should take into account that the data concern a very dry year with practically no herd growth in the agro-pastoral village during the 2000-2001 year. From that perspective, the family herd of Yeero was only slightly worse off in terms of herd growth than the agro-pastoral households.

²⁶⁸ One could argue that there was no individualization of livestock ownership and costs were not distributed because all the animals were 'owned' by Yeero as the future heir of his aging parents. This is the main weakness of using Yeero's case to show that an increase in production costs does not automatically lead to an individualization of livestock ownership and management. However, the reason that most milk was allocated to dairy marketing instead of nursing calves was clearly because there was still a common fund in Yeero's household.

pastoral development in Africa, 2) it is also vital for individual peri-urban pastoralists in Wuro Badaberniwol who are investing large amounts of money in their family herd and are now solely responsible for provisioning the household.

Peri-urban pastoralists themselves expressed concern about the economic viability of intensification. They were not sure whether they would be able to feed the household and the herd and make ends meet (*taare jokkel* 'tie ends together'). It was clear to them that in principle the sale of four to five head of cattle would easily cover the annual production costs.²⁶⁹ What was less clear was whether this hypothetical off-take (to cover the pastoral production costs) on top of the normal commercial off-take (for provisioning the household) was sustainable in the long term and would not lead to depletion of the family herd. Stories were going around about other pastoralists in the peri-urban area who sold so many animals to buy cottonseed cakes that their herds diminished in size (and some of the stories might have been about Yeero).

One of the challenges that peri-urban pastoralists faced in evaluating the sustainability of intensification was that the size of financial investments in the family herd was unprecedented. It represented a completely new way of thinking about the family herd and required new criteria for assessing sustainability and economic success. Whereas previously, peri-urban pastoralists measured economic performance in terms of overall herd growth as the balance of in-take and off-take, e.g., the number of calves

²⁶⁹ This was a hypothetical situation since most peri-urban pastoralists used alternative sources of income to cover at least part of the production costs. However, since they kept track of their expenditures, they knew very well what their annual expenditures were on the family herd and how many animals they would have to sell to cover these expenditures if they did not have an additional source of income.

born, the cattle sold to buy sorghum, and the occasional theft of an animal in any given year. Today, they also had to consider the financial investments, whether these financial investments paid off, and how to measure these financial returns. What complicated the evaluation of economic performance was that most peri-urban pastoralists used income from animal sales and non-pastoral sources to cover the production costs. This made it more difficult to keep track of money sources and measure whether the financial investments paid off and whether the herd could financially sustain itself.

Here, I have evaluated the economic performance of the peri-urban pastoral system from three criteria: 1) does the herd grow; 2) what are the net financial returns; and 3) is this strategy sustainable (i.e., if the owner cannot sustain the costs or the herd does not grow, the strategy is not sustainable).²⁷⁰ An additional question for peri-urban household heads is whether they can provision the household and make ends meet. Peri-urban pastoralists have to find a balance between selling animals to cover some of the production costs and provision the household, while simultaneously ensuring that the herd grows and will serve the household in the future.

In the past, revenues from animal sales were only used to provision the household, now they were also used to cover pastoral production costs, and off-farm

²⁷⁰ This leaves aside the question of labor investments of households (Chayanov 1986; Donham 1990; Maclachlan 1987), on-farm labor directly related to the family herd and also labor involved in other economic activities of which the profits are in turn invested in the herd. Today, in the peri-urban village, herd growth has become dependent on labor investments in other economic activities (such as trade, maraboutage, and cotton cultivation) which income is used for purchase of cottonseed cakes, rather than only on natural herd growth through reproduction.

income has become indispensable for peri-urban households.²⁷¹ This was illustrated by Yeero, the peri-urban pastoralist without a bush herd or a non-pastoral source of income, who saw his herd decrease in size. His case suggests that alternative sources of income or the availability of a bush herd with much lower production costs are necessary conditions for the economic viability of intensification in the peri-urban village. The family herd alone can no longer support the family and the herd in the peri-urban village, even when there are no institutional changes in the economic organization of the household and dairy revenues still contribute to a common household fund, as was the case in Yeero's household.

Economists and anthropologists have shown that institutions matter in that they determine how costs and benefits are distributed in society and affect economic performance even though that is not always intended. Institutional changes in the peri-urban households, in particular shifting rights and responsibilities, have led to a number of changes in the management of the family herd that affect its economic performance. Peri-urban household heads are now solely responsible for provisioning the household, while dairy revenues are no longer a source of income for the household, and household heads have lost the right of disposal over animals owned by other household members. The implication of these institutional changes in peri-urban households is that an evaluation of economic performance should consider that the peri-urban family herd is no

²⁷¹ The family herd could still feed the household – in four peri-urban households, the revenues from cattle sales would have covered the Basic Maintenance Costs (BMC) – and they could have done this without additional sources of income if it were not for the production costs, which add up to about 50% of the BMC.

longer a collective resource and that households no longer operate as one corporate unit. An evaluation of economic performance should thus consider whether intensification is sustainable for households, i.e., household heads who have the responsibility to provision the household, but also for individual members of the household who have to cover the costs for their own animals.²⁷²

In terms of herd growth, the performance of peri-urban households was positive. Household heads no longer had the right of disposal over all the animals in the family herd, so their resources were limited, but they still owned the majority of the animals in the family herds (on average 78%). The part of the family herd over which household heads had the right of disposal grew only by about 5% in 2000-2001 (that is taking into account all in- and off-take, e.g., births, sales, thefts in both the village and bush herd) (see table 9.2).²⁷³ This is low compared to the 12% growth of the entire family herd (including village and bush animals owned by others). However, if one excludes the two peri-urban household heads without additional sources of income, the herd growth is about 7%, and if one also excludes the household that lost so many animals in the bush herd to theft, the herd growth rate is on average about 24% (n=3). There is thus a clear divide between household heads with and those without additional sources of income –

²⁷² I have included tables that show the economic performance of agro-pastoralists and nomadic pastoralists for comparison, but in the discussion, I will focus on different groups of livestock owners in the peri-urban village, i.e., household heads, individual members of the household, as well as outside owners with entrusted animals in peri-urban herds.

²⁷³ Although the evaluation of economic performance is primarily about finding out whether the intensification of the peri-urban village herd is sustainable, in measuring herd growth and financial returns, it is important to include the bush herd as well because it is an integral part of the peri-urban pastoral system. Moreover, intensification is only economically viable with either alternative income or a bush herd that is cheaper to maintain.

the latter saw their herd size unchanged or diminish – which underscores the importance of economic diversification in the intensification of the peri-urban pastoral system.

In terms of financial returns, herd revenues from cattle sales easily covered the production costs, but they left little for provisioning the household. The numbers confirm that intensification was only economically viable for peri-urban household heads if they had alternative sources of income or access to a bush herd from which they could sell animals because the combined production costs and BMC, 1,599,171 FCFA (\$2,132), were much higher than the herd revenues, 998,750 FCFA (\$1,331). The alternative sources of income covered on average 38% of the BMC of the household and pastoral production costs in the peri-urban village: 600,421 FCFA (\$800) (see table 9.2).²⁷⁴

My analyses showed that in terms of herd growth and financial returns the peri-urban strategy of intensification is sustainable for household heads, but only when they combined intensive with extensive strategies (i.e., a village and a bush herd) and had alternative sources of income. Overall, the intensification strategy of these household heads was sustainable but it was certainly not as efficient or profitable as ‘traditional’ pastoral strategies.

Peri-urban pastoralists themselves evaluated the economic performance and sustainability of intensification using two criteria: survival of their animals and their ability to cover the financial costs. First, the goal of peri-urban pastoralists was to get their animals through the dry season predicament of forage scarcity and weight loss and

²⁷⁴ Although, the balance (total costs minus herd revenues) shows a deficit for all households, I know from observations that this deficit is covered by other sources of income (from cotton cultivation, commerce, or maraboutage) since none of the peri-urban pastoralists skipped a meal.

to maintain normal (or above normal) herd growth. The intensification of the pastoral system was a response to the disappearance of rangelands in the peri-urban zone and peri-urban pastoralists fed their animals enough to survive the dry season (except for Yeero who also aimed at increasing milk production). Second, peri-urban pastoralists did not measure economic performance in terms of financial profits, but whether they were able to cover the production costs without too much pain or problems. Their first concern was not how much money they invested in the family herd, but whether they were able to cover these costs (with animal sales or non-pastoral sources of income). Of course, the higher the expenditures, the more difficult it was for them to cover them, and all peri-urban pastoralists complained about high production costs. Most were able to cover the costs of intensification with revenues from animal sales and/or off-farm income, and partly by distributing costs to individual owners of livestock. But when rains were late, towards the end of the 2001 dry season, peri-urban pastoralists were in trouble because financial reserves ran low while cottonseed cake prices peaked. At that point, they were reluctant to buy any more cottonseed cakes and decided to send their animals on an early rainy season transhumance to the south (*tijjaago* 'in search of rain clouds'). This was earlier than they planned and than they wanted, since there was not yet sufficient new grass cover in the rainy season transhumance area.

Measured against their own criteria, peri-urban pastoralists' intensification strategy was successful. Most animals survived the dry season without any problems, mortality rates were relatively low, and their cattle holdings grew, albeit slowly. Peri-urban pastoralists generally were able to cover the production costs and provision the

household, although, they were aware of the sacrifices they made, in terms of labor and capital inputs, and the significant step back they have taken in terms of financial returns compared to ‘traditional’ pastoral systems.²⁷⁵

Evaluating the economic performance of individual members in peri-urban households, e.g., wives and adult sons, is less complex because they do not have the provisioning responsibility of the household head, although they too have to find the balance between (current and future) herd growth, capital investments, and herd revenues. The fact that these individual owners generally owned only a few animals adds another dimension to the evaluation of economic performance: the economy of scale.

Individual livestock owners within the household, mainly wives and adult sons owned on average five heads of cattle per person (see table 9.4). None of them sold cattle to cover the pastoral production costs. Most of them used non-pastoral sources of income to cover the production costs for their animals during the year 2000-2001. They sold small stock, dowry items (women only), or used income from commerce to cover the average costs of 27,109 FCFA (\$36) per owner. Partly as a result, their livestock holdings grew in size or remained the same. This suggests that when individual livestock owners within the household have alternative sources of income and do not have to sell animals to cover the production costs, intensification is an economically viable strategy.

²⁷⁵ Researchers have evaluated the costs and benefits of intensification in terms of the conversion of the ratio of grain to live weight (8 kilograms of grain are necessary for an animal to gain 1 kilogram weight)(McIntire, et al., 1992). These results show that supplementary feed is inefficient. However, these measurements are inappropriate and irrelevant to the peri-urban pastoralists. They are not concerned about their animals gaining 1-kilogram in weight nor do they care about the number of kilograms of grain they have to feed their animals. What is important to pastoralists is whether the animal will survive the dry season, what it costs in FCFA, and whether they are able to cover these costs. Other research has shown that in terms of animal survival supplementary feeding pays off (Taylor-Powell 1987).

However, when reproductive rates are low, there are unexpected losses, and individual owners have to sell animals to cover the production costs. The sustainability of intensification is in jeopardy because their cattle holdings are small. This is where economy of scale becomes important. Research has repeatedly shown that pastoralists with larger livestock holdings are better able to withstand the shocks of drought than pastoralists with smaller livestock holdings (Bradburd 1982; Dahl and Hjort 1976; Fratkin and Roth 1990; Fratkin and Roth 1996; Salzman 1999). One can make a similar argument for coping with the costs of intensification in the peri-urban village. A household head with 30 cattle can more easily sell 4 of them to buy cottonseed cakes without endangering long-term herd growth, than his wife with only 2 cattle who cannot sell one to feed the other without jeopardizing her livestock holdings.

This situation describes well the predicament of outsiders with entrusted animals in peri-urban herds. These livestock owners, mostly farmers with off-farm income from commerce or crafts, generally owned only a few head of cattle. Their production costs were not as high as for peri-urban pastoralists, because they generally covered only the ‘individual’ costs, but it was still a significant amount: 18,523 FCFA (\$25) per owner or 5,288 FCFA (\$7) per animal.²⁷⁶ Modeling the costs and benefits of the strategy of intensification shows that it is economically viable for entrusted animals (see table

²⁷⁶ The costs per animal are slightly higher than for individual owners within the household with animals in the family herd: 4,435 FCFA (\$6).

5.5).²⁷⁷ In reality, the people with entrusted animals saw their livestock holdings diminish in the 2000-2001 year due to sales and unexpected losses, even though many had off-farm sources of income to cover some of the production costs (see table 9.5).²⁷⁸ This suggests that intensification might not be sustainable in the long-term for people with entrusted animals, although one has to consider that 2000-2001 was a drought year and many of the owners with entrusted animals were in dire straits.

There are a number of similarities between outsiders with entrusted animals and members of the household with animals in peri-urban family herds. They covered the same 'individual' costs, they owned only a few head of cattle, and had additional sources of income.²⁷⁹ The entrustment case provides thus a good analogy to examine what would happen to the economic performance of individual owners within pastoral households if they sold animals to finance the costs of cottonseed cakes (or when they suffer unexpected losses). The implication is that, although intensification is economically viable for individual owners within the household during the 2000-2001 year, it might not be sustainable in the long term because of the small size of their livestock holdings.

²⁷⁷ Modeling shows that intensification is viable for outsiders with entrusted animals in peri-urban herds, although the herd growth is the lowest of all the pastoral systems due to low fecundity rates and the low prices that entrusted animals fetched on the livestock markets.

²⁷⁸ All the calculations are on the assumption that there is no carry-over of funds from one year to another, which reflects the reality that people do not save cash from the sale of one animal (anywhere between 50,000 and 100,000 FCFA) for production costs in the following years. However, when intensification is financed with animal sales, the economy of scale becomes important. According to the model, someone with 3 animals could finance the pastoral production cost through the sale of animals alone - provided that there are no unexpected losses and the two animals are fertile cows and at least one of them is reproducing each year. More likely, financing intensification through animal sales is probably only feasible with livestock holdings in the range of approximately 7 to 10 animals.

²⁷⁹ However, one has to keep in mind that, unlike the individual owners within the household, many of the owners with entrusted animals are household heads and responsible for provisioning their household.

The evaluation of economic performance shows that intensification might not be a sustainable strategy for all livestock owners. People with only a few head of cattle are at risk of seeing their livestock holdings diminish, particularly when they have to sell animals to feed others or suffer unexpected losses. That is the reason why most owners use income from non-pastoral sources to cover the pastoral production costs. This diversification of economic activities is crucial, not only for people with only a few head of cattle but also for wealthier pastoralists. Yeero, the peri-urban pastoralist without a bush herd or additional income, saw his herd diminish in size because he sold as many animals as were born to feed his household and herd in 2000-2001. Intensification might thus offer only an option for wealthy pastoralists with off-farm income to cover the expenditures as they arise. Equally important for the sustainability of intensification is the combination of intensive and extensive strategies, i.e., a bush herd, from which peri-urban pastoralists can sell animals without endangering the base of production. This means that in the long-term the intensification of the peri-urban pastoral system and the reorganization of the household most likely will lead to greater inter- and intra-household differentiation. The ultimate effect of such a trend would be that individual livestock owners in the household, wives and adult sons, in the future risk losing the livestock over which they recently gained the right of disposal.

Table 9.1: Economic Performance of Agro-Pastoralists, 2000-2001

	Herd Size Before	Herd Size After	Change	Production Costs	Herd Revenues	Net Return Herd	BMC Household	Balance	Other Sources of Income
1	53	56	3	145,393	598,750	453,357	187,935	265,422	Trader
*2	15	12	-3	18,000	433,125	415,125	265,320	149,805	Intermediary
3	1	3	2	7,875	0	-7,875	143,715	-151,590	Trader
*4	9	3	-6	11,450	396,000	384,550	464,310	-79,760	Maraboutage
5	1	0	-1	18,438	249,999	231,562	121,605	109,957	NA
6	0	0	0	2,863	0	-2,863	187,935	-190,798	Intermediary
7	1	1	0	1,313	0	-1,313	198,990	-200,303	NA
*8	0	0	0	15,938	162,000	146,063	232,155	-86,093	Maraboutage
9	0	0	0	3,000	276,000	273,000	265,320	7,680	NA
10	13	16	3	24,713	213,000	188,288	320,595	-132,308	Intermediary
11	23	19	-4	62,125	661,500	599,375	364,815	234,560	Intermediary
12	38	44	6	42,850	550,666	507,816	176,880	330,936	NA
13	4	2	-2	33,013	50,000	16,988	287,430	-270,443	Cattle driver
14	27	26	-1	10,438	550,000	539,563	221,100	318,463	NA
15	23	26	3	41,838	280,000	238,163	66,330	171,833	NA
16	3	3	0	17,525	70,000	52,475	88,440	-35,965	Trader
Average	13.2	13.2	0.0	28,548	280,690	252,142	224,555	27,587	

This table only includes the animals over which the household head has the right of disposal. The *BMC Household* only includes market purchases, i.e., cash expenditures (and does not include subsistence production of sorghum and milk). BMC = Basic Maintenance Costs. Part of the *Balance* in the agro-pastoral village is covered by dairy revenues, which were contributed to the common household fund, save in the mullum-headed households, marked with an asterisk (*). A number of households had deficits but many of them had additional sources of income. The *Net Returns* of the herd were substantial but the cattle holdings of households did not grow, most likely because 2000-2001 was a drought year.

Table 9.2: Economic Performance of Peri-Urban Pastoralists (including bush herds), 2000-2001

	Herd Size Before	Herd Size After	Change	Production Costs Herd	Herd Revenues	Net Return Herd	BMC Household	Balance	Other Sources of Income
1	35	47	12	399,563	502,500	102,937	1,730,025	-1,627,088	Maraboutage
2	53	58	6	497,113	1,608,000	1,110,887	1,665,950	-555,063	Trader
3	66	85	19	348,138	760,000	411,862	448,525	-36,663	Retail
4	216	205	-11	960,338	1,084,000	123,663	1,025,200	-901,538	Trader
5	73	73	0	345,963	1,310,000	964,038	1,025,200	-61,163	NA
6	27	26	-1	508,263	728,000	219,738	640,750	-421,013	NA
Average	78.3	82.3	4.2	509,896	998,750	488,854	1,089,275	-600,421	

Household number 4 saw its herd size diminish because of cattle theft (i.e., illicit sales by nomads who were his salaried herders). Household numbers 5 and 6 had no off-farm income and saw their herd size unchanged or diminish in 2000-2001. Only household number 6 did not have a bush herd. The *Net Returns* of the herd were substantial but not sufficient to also cover the *BMC Household*. Cattle holdings over which the household head had the right of disposal grew by about 5%, which was more than agro-pastoralists but less than nomadic pastoralists and individual owners within the household. If peri-urban pastoralists were to cover all the expenditures (production costs and BMC) with livestock sales, their holdings would diminish in size (since the average price of cattle sold in the peri-urban village is 104,000).

Table 9.3: Economic Performance of Nomadic Pastoralists (excluding entrusted herds), 2000-2001

	Herd Size Before	Herd Size After	Change	Production Costs Herd	Herd Revenues	Net Return Herd	BMC Household	Balance
1	44	48	4	131,975	1,680,000	1,548,025	1,316,280	231,745
2	25	25	0	91,875	816,000	724,125	658,140	65,985
3	92	104	12	192,625	1,222,000	1,029,375	564,120	465,255
4	64	66	2	143,500	858,000	714,500	940,200	-225,700
5	35	40	5	114,250	628,000	513,750	752,160	-238,410
6	28	28	0	77,675	935,000	857,325	752,160	105,165
Average	48.0	51.8	3.8	125,317	1,023,167	897,850	830,510	67,340

Nomadic pastoralists did not have alternative (non-pastoral) sources of income and the *Net Returns* from cattle sales on average covered the *Production Costs* and the *BMC Household* (although there was considerable variation and this table does not take into account dairy revenues). Cattle holdings over which the household head had the right of disposal grew by about 8%. Nomadic pastoralists were thus able to cover the production costs and provision the household with herd revenues, and maintaining herd growth. This table does not take into account dairy revenues which are more substantial among nomadic pastoralists than among pastoralists in the other two villages.

Table 9.4: Economic Performance of Individual Owners within Peri-Urban Family Herds, 2000-2001

	Cattle Holdings Before	Cattle Holdings After	Change	Production Costs Cattle	Cattle Revenues	Net Return Cattle	Other Sources of Income
1	3	5	2	23,250	0	-23,250	NA
2	6	6	0	49,350	0	-49,350	NA
3	5	7	2	45,775	0	-45,775	Trade
4	5	7	2	61,525	0	-61,525	Retail
5	10	14	4	29,725	0	-29,725	Herder
6	3	3	0	0	105,000	105,000	NA
7	2	4	2	0	0	0	NA
8	6	6	0	7,250	0	-7,250	NA
Average	5.0	6.5	1.5	27,109	13,125	-13,984	

Cattle holdings grew with 30%, which is partly because only one owner sold an animal, but it is also a reflection of the small cattle holdings. Two owners (number 6, and 7) did not cover any production costs for their animals. Owner number five, oldest son of the household head, was the herder of the family herd. He did not receive a salary but he also did not have to cover all the production costs for his animals (it was an exchange in kind – quid pro quo). Owner number 6 sold an animal to cover other expenses, but did not use any of the revenues to cover production costs. Two owners had off-farm income to cover the production costs. Others had to sell small stock and other goods to feed their animals.

Table 9.5: Economic Performance of Outsiders with Entrusted Cattle in Peri-Urban Herds, 2000-2001

	Cattle Holdings Before	Cattle Holdings After	Change	Production Costs Cattle	Cattle Revenues	Net Return Cattle	Other Sources of Income
1	4	6	2	25,375	0	-25,375	Maraboutage
2	7	5	-2	40,000	246,000	206,000	Retail
3	3	3	0	14,025	0	-14,025	NA
4	2	1	-1	7,563	110,000	102,438	Trader
5	6	3	-3	15,288	90,000	74,713	Trader
6	2	1	-1	23,563	60,000	36,438	Tailor
7	3	1	-2	21,250	90,000	68,750	Retail
8	3	3	0	1,125	0	-1,125	Maraboutage
Average	3.8	2.8	-0.9	18,523	74,500	55,977	

The cattle holdings of owners with entrusted animals declined on average with 24%. This is partly because most of them sold animals. Some of them sold animals to cover production costs; others used the revenues to cover other expenditures.

IMPLICATIONS OF THE STUDY

This dissertation has touched upon a number of theoretical and analytical issues that have implications for the study of agricultural intensification, including that of African pastoral systems. This section discusses a wide range of lessons that can be drawn from this study of how peri-urban pastoralists adapted to the disappearance of rangelands for pastoral development in Africa. Focus is on the factors in successful adaptation (e.g., economic diversification, wealth), the effects (e.g., greater differentiation), the potential threats to this autonomous development (e.g., political economy of the patrimonial state), and the advantage of my analytical approach (e.g., focus on relative prices and institutions). I argue that despite the transformation, peri-urban pastoralists are an example of the resilience of African pastoral systems that offers a model for future pastoral development.

I have argued that the intensification of the peri-urban pastoral system should not be regarded as the demise of pastoralism but rather as its resilience. The intensification of the peri-urban pastoral system in Wuro Badaberniwol was a response to the disappearance of rangelands and subsequent lack of natural forage in the dry season.

Although the use of cottonseed cakes was not without precedent, the particular form this intensification took was novel because peri-urban pastoralists relied on cottonseed cakes to the extent that it was no longer a supplement but rather a substitute for natural forage. Although peri-urban pastoralists used industrially produced cottonseed cakes, the way these were integrated in the peri-urban pastoral system was novel and came forth out of

pastoralists' own experimentations. The pastoral system continues to develop as peri-urban pastoralists are looking for cheaper and more reliable ways to get their animals through the dry season and adapt to the growing pressures on rangelands.

For peri-urban pastoralists, the dichotomy between the pastoral development paradigms of modernization and mobility does not exist. Their main concern was the survival of animals and the continuity of the family herd and household, which they achieved by integrating the two strategies in one pastoral system. They entrusted part of their herd to nomadic pastoralists, while intensifying the production system in the village. Even with the village herd, peri-urban pastoralists combined intensive and extensive strategies, by feeding cattle cottonseed cakes in the dry season and sending them on transhumance in the rainy season. Moreover, cattle were frequently transferred between the village and the bush herds, and revenues from one herd were used to cover production costs in the other. In short, intensive and extensive (or modernization and mobility) strategies were fully integrated in one pastoral system.

Since peri-urban pastoralists pursued and relied on modernization and mobility strategies, development policies coming forth out of both development paradigms are relevant to support their autonomous pastoral development. Pastoral rights and access to key resources need to be protected in order to support pastoralists' mobility and flexibility, e.g., protection of transhumance routes between traditional transhumance zones in the Mindif-Moulvoudaye region and the Logone Flood Plain. Simultaneously, it is imperative to further the development and marketing of new and cheaper supplementary feeds and veterinary medicines to support the village herds in the dry

season. Pastoral development programs should be as flexible in their approach to development as peri-urban pastoralists and plan beyond the dominant paradigms (Scoones 1995).

It is also important to consider the political economy in which peri-urban pastoralists have adapted to the disappearance of rangelands, both with regard to extensive and intensive strategies. Elsewhere, my colleagues and I have discussed the political economy of extensive pastoral strategies and the threats that insecurity and corruption pose to pastoral mobility and development (Moritz and Kari 2001; Moritz, et al., 2002). Here, I would like to mention that the political economy of cottonseed cakes, which includes the monopoly of Sodecoton on cotton production, processing, and marketing, as well as the associated informal market of cottonseed cakes, forms a potential threat to the sustainability of the peri-urban pastoral system. The dependency of peri-urban pastoralists on an expensive and unreliable supply of cottonseed cakes adds another layer of risk to their pastoral system. Pastoral development programs are doomed to fail if they do not seriously consider the political economic context of the African state, which includes corruption and patrimonial client networks.²⁸⁰

This study has emphasized the need to study pastoral systems holistically and it has shown that economic diversification in particular, non-pastoral sources of income, are

²⁸⁰ A promising development in this context is the liberalization of the market in veterinary services and products in Cameroon, which is part of the Structural Adjustment Program and reduces pastoralists' reliance on government officials. One of the direct results is a greater number of veterinary pharmacies and veterinarians that service pastoralists in the peri-urban area and beyond. Pastoralists throughout the province now have more reliable access to cheaper veterinary products than before. A liberalization of the market in supplementary feeds would most likely have similar results and lead to a more reliable as well as cheaper supply of cottonseed cakes.

crucial in the intensification of the peri-urban pastoral system. Pastoral development programs should recognize that diversification of economic activities are an integral part of the pastoral system that promote livelihood security for pastoral households. Again, economic diversification of pastoral households need not be an indicator of the demise of pastoralism (Spencer 1998) but rather evidence of its resilience (Scoones 1995).

My analyses suggest strongly that the new pastoral system, which combines intensification and entrustment to nomadic pastoralists, is not an option for all pastoralists or livestock owners. Large livestock holdings and off-farm income are essential for the sustainability of the new peri-urban pastoral system. It is possible that intensive pastoralism is only an option for the wealthy and that the poor will be forced out of pastoralism because they cannot cover the costs of keeping animals in the peri-urban area (López 1998; Murton 1999; Spencer 1998). Peri-urban households did not start on an equal footing, but pastoral intensification, because it is so capital-intensive, has exacerbated economic differences.

Studies have repeatedly shown that processes of rural development have a different impact on wealthy, middle, and poor pastoral households (Bradburd 1982; Ensminger 1992; Fratkin and Roth 1990). This means that outcomes of studies of rural development depend to some extent on what segment of the population is studied. This study focused primarily on wealthy peri-urban pastoralists, which was a choice made for me; there were only wealthy pastoral households in the village. However, I believe that it is important to study how wealthy peri-urban pastoralists have successfully adapted to the pressures on rangelands, because other African pastoralists are, or will be, facing similar

pressures in the near future. The lessons of this study can be selectively diffused to other pastoralists, including the less wealthy (for a similar approach in a very different context see, Gallimore, et al., 1993; Weisner 2000).

However, sloughing off impoverished pastoralists might be inherent feature of pastoral economies (Barth 1961) and inevitable in the future as African pastoralists face increasing commoditization of the pastoral means of production (i.e., land, labor, livestock, and feed)(Spencer 1998; Sutter 1987). Pastoral development programs might have to accept that possibility and consider alternative economic options for impoverished pastoralists rather than focus their efforts on restocking them (Anderson 1999; Toulmin 1995).

I have also argued that one should not assume that pastoral households are corporate units nor that family herds are collective resources. Now more than ever, the FulBe saying ‘the water is dark but not deep,’ (that herd size does not necessarily mean that the herder has property rights over the animals), should caution pastoral development programs that there might be hidden differentiation within and between households. Taking into account the institutional organization of the household economy and property relations within the family herd is thus essential for accurately assessing the economic status of individuals within the household and households as a whole. This involves combining qualitative and quantitative methods in assessing livestock wealth, meaning counting animals while making distinctions between usufruct rights and rights of disposal, and different forms of the right of disposal, e.g., ‘taking by force’ and ‘tolerated theft’.

The role of the city is important in the study of rural development. Proximity to Maroua played a significant role in the transformation of the pastoral system in the peri-urban area for a number of reasons. First, Islamic renewal was stronger in the peri-urban area since Maroua is the religious center of the Far North and this had its impact on the economic organization of the household. Second, Maroua offered peri-urban pastoralists a number of economic opportunities. Prices for their agricultural and pastoral products were higher in the city (where transport costs were cheaper), while prices of industrial goods were lower, which also meant that they had access to less expensive cottonseed cakes (compared to agro-pastoralists in the rural areas).²⁸¹ Maroua also offered opportunities for non-agricultural and non-pastoral sources of monetary income. This urban source of income financially supported the transformation of the peri-urban pastoral system (Murton 1999; Zaal and Oostendorp 2002).

Many changes in the peri-urban pastoral system follow von Thünen's model of rural development around cities (von Thünen 1826; von Thünen and Hall 1966). Von Thünen's model predicts that each concentric ring around a city should be devoted to the agricultural use in which it would yield the highest profit, taking into account production costs, costs of transport of agricultural products to the urban markets, and the perishability of these products. One would thus expect the location of dairy farms close to the city because of the short shelf life of milk, and that the prices and demand are high enough to compensate for the higher costs of raising cattle in the peri-urban area.

²⁸¹ The disadvantages of proximity to the city, aside from the disappearance of rangelands, were higher prices for the means of production: land and labor.

Extensive pastoralism in which animals are raised for meat, on the other hand, will be found farther away from the city where there is enough bush, and animals can be transported on the hoof to the city. The changes in the peri-urban pastoral production system in the Far North follow this pattern through the division of cattle in a village and a bush herd.

The intensification of the peri-urban pastoral system also follows patterns outlined by other theoretical orientations that aim to explain intensification processes and the relation between population growth, markets, and agricultural development in Africa (Berry 1993; Hydén, et al., 1993; Mortimore 1998; Netting 1993; Turner, et al., 1993). Population growth and pressure on rangelands have forced peri-urban pastoralists to intensify their pastoral system, dividing their herds in two, following an intensive strategy near the city and extensive strategy farther away from the city. Peri-urban pastoralists were able to finance the intensification through economic diversification and favorable terms of trade due to their proximity to Maroua (neo-classical economics). However, intensification is not an option for all pastoralists and this is potentially leading to greater socioeconomic differentiation and poverty (Kates, et al., 1993).

In general, theories of agricultural intensification have good predictive value but on one important account, the theories fall short. They neglect the role of institutions in rural development. The von Thünen model, for example, assumes that agriculturalists and pastoralists are rational actors (in the narrow economic sense of profit maximizers), that their production is market-oriented, and that this informs their land-use decisions. The model ignores the role of institutions and its effect on economic performance. That is the

reason the von Thünen model does not explain why, despite higher fecundity rates and milk yields and high prices for dairy products in Maroua, the intensification of the pastoral system did not lead to increased marketing of dairy products by peri-urban pastoralists. Dairy marketing has all but ceased in the peri-urban village despite higher milk yields due to the feeding of cottonseed cakes and high prices. Institutional changes within the household are responsible for this paradox. Now that dairy revenues are the personal income of FulBe women and no longer contribute to a common household fund, milk is no longer a source of income used to provision the household. Subsequently, household heads have reallocated milk to nursing calves and household consumption rather than to dairy marketing. This shift from market- to subsistence-oriented production runs counter to all theoretical predictions of intensification primarily because they do not consider institutions or intra-household economic activities in their analyses. Institutions and institutional change within households should be incorporated in studies of rural development, not just as a dependent but also as an independent variable. I do not mean as an obstacle to change, but more general (and neutral) as shaping processes and outcomes of pastoral intensification in important ways that affect the economic performance of pastoral households and family herds.

This study emphasizes that attention to changes in relative prices and institutions as well as the interplay between the two are crucial in explaining the transformation of the peri-urban pastoral system. Changes in relative prices are important and do lead to changes in economic behavior and institutions (Ensminger 1992; North 1990). Changes in relative prices had a profound effect on the economic relations within and between

households; the increase in production costs was partly responsible for the individualization of livestock ownership and management within the family herd.²⁸²

However, institutions were equally important in shaping economic behavior and institutions. I have argued that Islamic institutions and ideologies also affect the household economy and management of the family herd of peri-urban pastoralists. The individualization of livestock ownership and management was promoted directly through Islamic institutions of inheritance and zakka and indirectly through changes in the economic organization of the household.

The advantage of this study, on the impact of Islamic renewal on pastoral households, is that Islam is characterized by a vast body of codified law applicable to virtually all aspects of public and private life (Pastner 1978:435). Although the role of ideology in social change is the subject of great and ongoing debate, ideology played a causal role in changing institutions and economic behavior of peri-urban pastoralists (for a contrasting view see, Ensminger 1992:180).

I have argued that the individual pursuit of piety is one of the factors driving transformation of the peri-urban pastoral system. The pursuit of piety is an evolving and continuing life-goal for peri-urban pastoralists that involves advanced Koranic education,

²⁸² The high production costs have led to a reduction in the profit margin on milk and other dairy products, since the market value of dairy products has not changed significantly. Because of changes in relative prices, peri-urban pastoral producers experience the dairy and livestock market very different from the urban and peri-urban consumers, as the following example illustrates. When Yeero left his compound and ran into the son of his impoverished neighbor Buuba, he asked the young boy where he was going. "Buy milk" said the boy. "For how much?" asked Yeero. "25 FCFA" (approximately 0.2 liter) answered the boy. "What! Are you crazy? Cottonseed cakes costs 7,000 FCFA per sack! Do you think that I will sell you milk for 25 FCFA? Go away!" Yeero's reaction is understandable if one considers how much he spent per day on the family herd during the dry season: 2,200 FCFA (\$3). Yeero spent less per day on food for the household during that same period 1,830 FCFA (\$2.45).

stricter adherence to the codes of Islam, and being (and being perceived as) a good Muslim. The institutional changes in peri-urban households coming forth out of this stricter observance of Islamic codes were not aimed at improving economic performance (or efficiency), but they had an impact nevertheless.

SUMMARY

I have shown in this dissertation how institutional changes and changes in relative prices shaped the process and outcome of pastoral intensification and led to the transformation of the peri-urban pastoral system from an agro-pastoral system in which the family herd was a collective resource to an intensive system characterized by an individualization of livestock ownership and management. In my analysis, I have focused on what happens inside pastoral households and family herds, and on the role of changes in relative prices and institutions in pastoral intensification (again, within households).

I have also evaluated the economic performance of the peri-urban pastoral system and shown that intensification is sustainable under certain conditions – economic diversification and the combination of intensive and extensive strategies – but that it is not as efficient as traditional, extensive systems. Moreover, pastoral intensification might not be sustainable for all and thus may lead to greater differentiation within and between households in the near future. Other African pastoralists who face similar pressures on

rangelands will likely intensify their production system. This study shows that despite major transformations, this does not necessarily mean the end of African pastoralism.

APPENDICES

ABBREVIATIONS

ACE	Adult Consumer Equivalent
BMC	Basic Maintenance Costs
CEDC	Centre d'Etude de l'Environnement et du Développement au Cameroun
CFDT	Compagnie Française pour le Développement des Fibres Textiles
CPDM	Cameroon People's Democratic Movement
FCFA	Franc de la communauté financière d'Afrique
FSR	Farming Systems Research
IMF	International Monetary Fund
IUCN	International Union for the Conservation of Nature
LANAVET	Laboratoire National Vétérinaire
MINEPIA	Ministry of livestock, fisheries, and animal industries
RDPC	Rassemblement Démocratique des Peuples Camerounais
SEMRY	Société d'Expansion et de Modernisation de la Riziculture de Yagoua
Sodecoton	Société de développement du coton du Cameroun
TLU	Tropical Livestock Unit (1 TLU = 1 camel; 0.8 cattle; 0.1 small stock)
UNC	Union Nationale Camerounaise

LIST WITH FULFULDE WORDS

Singular, Plural	Translation
<i>Adanko'en</i>	Group of nomadic FulBe
<i>Afufa</i>	Cottonseed hulls
<i>Alaji, Alaji'en</i>	Man who has made the pilgrimage to Mecca
<i>Alijamjo, Alijam'en</i>	Group of nomadic FulBe
<i>Alkaali</i>	Islamic judge
<i>Alluha</i>	Wooden plank used for writing Koranic verses
<i>Ardo</i>	(Nomadic) leader
<i>Asiri</i>	Prayer in the afternoon (around 16:00)
<i>Ba'jo, Ba'en</i>	FulBe Clan
<i>Baaba Saare</i>	Household head, father of the household, patriarch
<i>Bakkewa</i>	Nutribet, cottonseed cakes produced in Maroua
<i>Bandiraawo, bandiraaBe</i>	Family
<i>Banga banga</i>	Hemorrhagic septicemia, Pasteurellosis
<i>Ba ngal</i>	Marriage, wedding
<i>Ba nge ba nge</i>	Ownership of half of an animal
<i>Baskooje</i>	Okra
<i>BiBBe Woyla</i>	Group of nomadic FulBe, lit. Children of the North

<i>Bila</i>	Unexpected expenses
<i>Bilaaji</i>	Everyday needs
<i>Binndi</i>	Maraboutage, Islamic sorcery
<i>BiraaDam</i>	Fresh milk
<i>Biriteenge, Biriteeji</i>	Milk cow assigned to married women
<i>Bodeeji</i>	Mahogany red cattle
<i>BoDaaDo, WoDaaBe</i>	Group of nomadic FulBe
<i>Budeejo</i>	Mallum who makes amulets, also charlatan
<i>Buhure</i>	Sack, standard measure, 100-kilogram sack
<i>Cake bi'e</i>	Cottonseed hulls
<i>Cureeji</i>	Milk animals that stay in the village
<i>Daada saare</i>	Female head of the household, first wife of baaba saare
<i>Dabi'aaji</i>	Traditions, FulBe traditions, social traditions
<i>Daldaari</i>	Sorghum plants that have not yet matured
<i>Dankali</i>	Sweet potatoes
<i>Dewra</i>	Indirect dowry
<i>Diilaaye, diilaaji</i>	Loan of milk cow
<i>Diina</i>	Religion (Islam)
<i>Dimaajo, RiimayBe</i>	Former slaves, freed slaves
<i>DolaaDam</i>	Heated milk
<i>Dottal, dotte</i>	Ball of cooked sorghum
<i>Dunya</i>	Life on earth, social life

<i>Duumol</i>	Rainy season
<i>Eesaa'i</i>	Evening prayer
<i>Essiraawo, essiraaBe</i>	Affinal kin
<i>Faasikaare</i>	Dishonesty
<i>Fattude, pattule</i>	Quarter
<i>Fayannde</i>	Cooking unit, hearth
<i>Fendirde</i>	Gourd used to transport and market milk
<i>Folere</i>	Leaf vegetable, Hibiscus sabdariffa
<i>Fulfulde</i>	Language of the FulBe, synonym of pulaaku
<i>Fulfulde fuunaangeere</i>	Eastern Fulfulde, dialect of the Diamaré
<i>Gaari</i>	Porridge
<i>Gantaago</i>	To fatten, fattening of livestock,
<i>Garwaari, garwaaji</i>	Pack oxen
<i>Garware</i>	Alibet, cottonseed cakes produced in Garoua
<i>Gaynaako, waynaaBe</i>	Herder
<i>Gelooki, gelooDe</i>	Guiera senegalensis bushes
<i>Goni</i>	Someone who knows the Koran by heart
<i>Goofalye, goofalji</i>	Entrusted animals
<i>Haabe</i>	Cow that has calved
<i>Haaje</i>	Everyday needs
<i>Haako</i>	Leaves, sauce
<i>Hajj</i>	Pilgrimage to Mecca

<i>Halfiinge, kaliifaaji</i>	Animal under the guardianship of someone
<i>Halfingo</i>	To entrust something to someone
<i>Hiirde</i>	Evening wake
<i>HijjooBe</i>	Pilgrims
<i>Hokkaange</i>	Given cow
<i>Hongo</i>	To take by force
<i>Hooreeji</i>	Best animals
<i>Horde, koore</i>	Spoon shaped gourd used to sell milk
<i>Huunde, kuuje</i>	Things, also used for cattle
<i>Inndeeri</i>	Name giving ceremony
<i>Jabbere</i>	Lineage of cattle
<i>Jafun'en</i>	Group of FulBe
<i>Jannginoowo, jannginooBe</i>	(Islamic) teachers
<i>Jawmu</i>	Owner
<i>Jawmu saare</i>	Literally 'owner or master of the house', husband
<i>Jawmu na'i</i>	Owner of cattle
<i>Jawro, jawruBe</i>	Village chief, lowest ranking FulBe authority
<i>Jihad</i>	Holy war
<i>Juulde, juule</i>	Prayer
<i>Juulnordu</i>	Circumcision
<i>KaaDo, HaaBe</i>	Non-FulBe, non-believer
<i>Kaawo</i>	Mother's brother

<i>Kalhaldi</i>	Breeding bull, stud
<i>Kaliifa, kaliifa'en</i>	Guardian
<i>Karal, Kare</i>	Clay soil
<i>Kaydal</i>	Indigenous veterinary healer, leader of transhumance
<i>Kettungol</i>	Fatty foam of milk
<i>Kiikoyel</i>	Hemorrhagic septicemia, Pasteurellosis
<i>Konnu</i>	Time of war
<i>Kosngal</i>	Leg, ownership of one-fourth of an animal
<i>Kossam</i>	Generic word for milk
<i>LaafuDo, laafuBe</i>	Poor
<i>LaamiiDo, laamiiBe</i>	FulBe chief, highest ranking FulBe authority
<i>Laasol</i>	Hair, ownership of one-sixteenth of an animal
<i>Laato turto</i>	Cottonseed hulls
<i>Laddeeki</i>	Bush herd
<i>Lammuga</i>	Alibet, cottonseed cakes produced in Garoua
<i>Lawan, lawan'en</i>	FulBe chief, second in rank
<i>Layaaru</i>	Talisman, amulet
<i>Layha</i>	Muslim feast of sacrifice
<i>LeeBol</i>	Butter
<i>Lesdi, lesDe</i>	Land, territory ruled by FulBe laamiiDo
<i>Liman</i>	Person leading in prayer
<i>Luci</i>	Transhumance following the retreat of the water yaayre

<i>Lugga-reeduujo, lugga-reeduu'en</i>	People with deep bellies (that can keep secrets)
<i>MaccuDo, maccuBe</i>	Slave
<i>Mahdia</i>	Islamic brotherhood
<i>Mallum, mallum'en</i>	Koranic teacher, someone who has finished reading the Koran, marabout
<i>Manngariba</i>	Sunset prayer
<i>Marejo, Mare'en</i>	Group of nomadic FulBe
<i>Marware</i>	Nutribet, cottonseed cakes produced in Maroua
<i>Masarji</i>	Maize
<i>Mayo, maaje</i>	Seasonal river
<i>Mbaala, baali</i>	Sheep
<i>Mbeewa, be'i</i>	Goat
<i>Miilu</i>	Appetite (cattle)
<i>Miskinjo, miskin'en</i>	A destitute
<i>Moobaago</i>	To become a moodibbo
<i>Moodibbo, moodiBBe</i>	Advanced scholar of Koranic studies
<i>Muezzin</i>	Caller for prayer
<i>Muskuwaari</i>	Off-season sorghum
<i>Nagge mardiinge</i>	Shared cow
<i>Nanngaaye, nanngaaji</i>	Loan of heifer, heifer attached
<i>Nannganaaye, nannganaaji</i>	Loan of heifer, heifer attached for someone

<i>Nasaara, Nasaara'en</i>	White, European
<i>Njaayo</i>	Small gifts in kind or of cash
<i>Njigaari</i>	Rainy season sorghum
<i>Noonde</i>	Coat color of cattle
<i>Nyallunde</i>	Yogurt
<i>Nyiiri</i>	Cooked sorghum, food
<i>PendiiDam</i>	Sour milk
<i>Pulaaku</i>	FulBe traditions
<i>Pullo, FulBe</i>	FulBe
<i>Pullodebbo, FulBerewBe</i>	Old women, dairy maids
<i>Quadriya</i>	Orthodox tradition of Islam
<i>Risku</i>	Divine favor or predestination, wealth, fortune
<i>Rongo</i>	To inherit
<i>Ruumgo</i>	Rainy season transhumance
<i>Saare, caalaaje, ci'e</i>	Compound, household, home, family, lineage
<i>Saareeji</i>	Cattle (or animals) owned by household members
<i>Saare hee'nde</i>	An independent household, literally a full house
<i>Sadaaki</i>	Indirect dowry
<i>Sadirnde</i>	Hunger period before the rainy season sorghum harvest
<i>Sakkan</i>	Kettle used for ablutions
<i>Sanaa'a</i>	Profession
<i>Seefnugo</i>	Provisioning, to buy food for women to prepare

<i>Senndireeji</i>	Pre-inherited animals
<i>Senndugo</i>	To divide, division of herds
<i>Shari'a</i>	Legal codes of Islam
<i>Siga</i>	Savings
<i>Simtirgo</i>	Profession of faith
<i>Soodaaye, coodaaDi</i>	Animals that are bought
<i>Soro</i>	FulBe initiation of newly weds
<i>Subaha</i>	Morning prayer
<i>Sufi</i>	Mystical path of Islam
<i>Sukkilaaye, sukkilaaji</i>	Gift of heifer to child
<i>Surat</i>	Koranic chapter or verse
<i>Suudu, cuudi</i>	House, tent, family, uterine family, lineage,
<i>Suumago</i>	To fast during Ramadan
<i>TampuDi</i>	Weakened animals
<i>TawtawDi</i>	Animals found (literally), animals inherited
<i>Tayre</i>	Piece of meat, ownership of one-eighth of an animal
<i>Teegal</i>	Marriage ceremony
<i>Tepaawol, tepaaji</i>	Ball of butter, unit used in marketing butter
<i>Tihaaniiya</i>	Islamic brotherhood
<i>Tiijaago</i>	To look at the rain clouds, transhumance that follows rain clouds
<i>Tiitiho</i>	Grass cut for thatching

<i>Turto</i>	Cottonseed cakes (from the French ‘tourteaux’)
<i>Umma</i>	Community of Muslims
<i>Udaa’en</i>	Group of FulBe shepherds from Niger
<i>Waagaare</i>	Sheaf
<i>Waalde, baalde</i>	Corral, compound, household
<i>Waalinde nyaamdu</i>	Food aid
<i>Waare</i>	Bundle
<i>Waazu</i>	Sermon
<i>Wahhabi</i>	Orthodox form of Islam
<i>Walhalla</i>	Compensation
<i>Woyla’en</i>	Name used by sedentary FulBe for Mare’en
<i>Wuro, gure</i>	Village, camp
<i>Wurooji</i>	Village herd
<i>Yaasiji</i>	Cattle (animals) owned by outsiders
<i>Yaayre</i>	Logone Flood Plain
<i>Yarande</i>	Drinking the Koran
<i>Yiite</i>	Fire, hell
<i>YimBe yaasi</i>	Outsiders
<i>Yombe</i>	Sorghum stalks
<i>‘Yoolde, ‘yoole</i>	Sandy soils
<i>Zakka</i>	Muslim tithe
<i>Zuura</i>	Noon prayer

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