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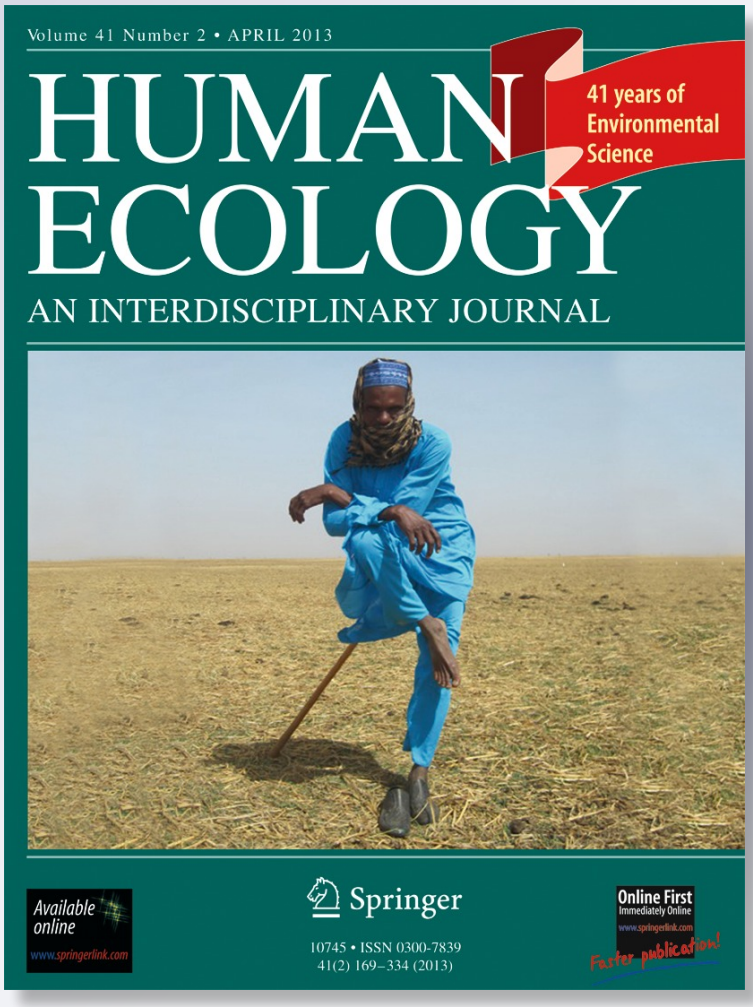

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Livestock Transfers, Risk Management, and Human Careers in a West African Pastoral System

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Abstract Pastoralists employ different strategies to minimize the risk of losing their livelihood due to drought, disease, and other disasters. Livestock transfers have been considered critical because they provide not only a safety net during disasters but also contribute to the resilience of pastoral societies by allowing pastoralists to rebuild their herds after disasters. I examine whether and how livestock transfers serve as risk management strategies in a comparative, ethnographic study of three pastoralist communities in the Far North Region of Cameroon. The findings show that livestock transfers contribute to short-term survival of households but not long-term viability of family herds. Here I argue for a more holistic, anthropological approach that considers the social and cultural aspects of strategic decisions that individual pastoralists make when they engage in these transfers.

Keywords Pastoral systems · Livestock transfers · Risk management · Human career · Cameroon · Africa

Introduction

Livestock transfers are a total social fact (Mauss 1925); rich in meaning, complexity, and morality, integrating all aspects of African pastoral societies. However, most recent research on these transfers has focused narrowly on the economic question whether or not livestock transfers serve as effective social risk management strategies (e.g., Aktipis *et al*. 2011; Bollig 2006; Johnson 1999; McPeak 2006). Pastoralists risk losing their livelihood overnight due to drought, disease, and other disasters. They employ different strategies to minimize these risks, including: mobility, diversification, herd maximization, and social strategies (Halstead and O'Shea 1989; Legge 1989; Salzman 2004; Scott and Gormley 1980). Social strategies, in particular livestock transfers, have been considered critical because they not only provide a safety net during disasters but also contribute to the resilience of pastoral societies by allowing rebuilding of herds after disasters. Thus, systems of livestock transfers have been described as a pastoral moral economy (Bollig 1998; Potkanski 1999; Roth 1996).

In the last 20 years, a number of studies have systematically examined the cultural ecology of livestock transfers, in particular whether and how they might serve as risk management strategies (e.g., Aktipis *et al*. 2011; Bollig 2006; Johnson 1999; McPeak 2006). These have shown that the role of livestock transfers in risk management is more complex than the theory suggests and that transfers are often not functioning as effective risk management strategies. Consequently, some studies have examined whether livestock transfers serve other purposes, including mobility decisions (Huysentruyt *et al*. 2009).

There are, however, a number of reasons why these studies fail to support the theory that livestock transfers serve as effective social risk management strategies. Foremost, the theory and measurements are too narrowly focused on material transfers and the utilitarian concept of risk management. Second, the studies do not consider the social and cultural aspects of strategic decisions that individuals make when they engage in these transfers. I draw on Walter Goldschmidt's (1969, 1990) conceptual framework of the human career and his ethnographic work with the Sebei to examine whether and how livestock transfers serve as risk management strategies among FulBe pastoralists in the Far North Region of Cameroon. Goldschmidt's anthropological approach is particularly useful because it focuses

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on strategic decisions that individuals make within a social context, which, I argue, is key to understanding livestock transfers in pastoral societies, whereas the other approaches focus on rational decisions individuals make within economic contexts.

The Human Career of an African Herdsman

Social risk-management strategies carry special importance in pastoral systems, because they contribute to the social integration of pastoralists as well as to the survival of their societies by allowing rebuilding of herds after disaster. As a result livestock transfers and the family herds they produce are a reflection of the social life of pastoralists, well described by Goldschmidt for the Sebei in Uganda:

> A man's herd is a complex organization of individuals tied to one another in diverse ways; quite as complex as the community of people in which he lives and in many ways reflecting that community. His herd depicts the household structure, lineage, and clan; expresses the network of social relationships as they extend to his father's father and the yet unborn son of his son; and also reflects the ties that have been established through the marriages of his aunt and his sisters and the no less tenuous ties arrived at through contractual relationships, all of which bind him to widely scattered fellow tribesmen. (1986:80).

Goldschmidt's book (1969) *Kambuya's Cattle*: *The Legacy of an African Herdsman* is based on a unique data set comprising extended discussions about the settlement of Kambuya's estate and the social and genealogical history of his herd, reflecting his human career. Goldschmidt worked briefly with Busiendity Kambuya, a rich and well-respected Sebei herdsman, during his fieldwork in Uganda (1961–1962), part of his *Culture and Ecology Project* comparing four East African groups that had shifted from a pastoral to an agricultural economy.

One of the central themes in Goldschmidt's work is a holistic understanding of the human career, studying humans as social and biological entities. The conceptual framework focuses on the individual within a cultural community and their lifetime pursuit of satisfactions, both physical and social, captured well in his concept of "affect hunger" (1990:3; 2006). Thus his approach addresses what drives and motivates individuals, how they make strategic choices within a social and cultural context, and how their aspirations for the future guide their decision-making.

Goldschmidt (1969) describes how Sebei individuals strategically pursue their human careers, including the maintenance of meaningful social relations within their community, notably through livestock transfers. One of the most prominent livestock transfers among the Sebei, *namanya*, entails a man who needs to ceremonially slaughter an animal taking a bullock from another man in exchange for a heifer. Sebei engage in livestock transfers for numerous reasons in addition to the intrinsic pleasure of having cattle: building up herds, providing milk, resolving labor shortages, allowing public investment in herds, creating networks of social obligations, and importantly, spreading risk (Goldschmidt 1967:191–192).

The Complexity of Risk

Because a herder's animals are both his field and harvest (Ekvall 1968), pastoral societies have been considered the epitome of risk management. The risks to pastoral systems stem from pastoralists' reliance on livestock in marginal environments. For example, in dryland ecosystems rainfall variability directly determines pasture productivity and drought can easily wipe out pastoral households (Behnke *et al*. 1993). But pastoralists can also lose their livelihood to the hazards of raids and diseases, and they employ various strategies to minimize the likelihood of these threats and increase the reliability of their production strategies (Krätli and Schareika 2010; Roe *et al*. 1998; Salzman 2004).

Risk has been defined as unpredictability that can be estimated (Cashdan 1990) and the predictability of variability (Halstead and O'Shea 1989; Roth 1990). Moreover, risk is a complex concept with multiple dimensions including: predictability of uncertainty, frequency of hazards, magnitude of hazard, co-variance of loss among households, variance in outcomes, and likelihood of shortfall or the probability that a household will fall below subsistence level. Whereas many have used formal approaches to the study of risk, Baksh and Johnson (1990) have argued for an ethnographic approach that involves a holistic approach assessing the everyday activities of people. The result is realistic descriptions of risks and risk behavior that are more complex than formal models and cannot always be described or measured quantitatively (1990:193–196). However, in most studies the multidimensional and interrelated nature of risks that pastoralists face is disregarded (McPeak *et al*. 2011).

Livestock Transfers as Risk Management

The hypothesis that livestock transfers serve as social risk management strategies is appealing because the concreteness of the livestock transfers allows for quantitative measurements of a social support network. However, it is also extremely difficult to test because it requires a longitudinal data set about a sensitive and often secretive topic. Ideally, the longitudinal data set should include a drought period in which the social support networks come into action. Recently, a number of comparative studies of risk management in pastoral systems have systematically examined whether and

how livestock transfers serve as risk management strategies, including Bollig's comparison of the Himba and the Pokot (2006) and the Global Livestock-Collaborative Research Support Program (GL-CRSP) on Pastoral Risk Management (PARIMA)(McPeak *et al*. 2011).

These studies show that the role of livestock transfers in risk management is more complex than the theory suggests. First, the broader cultural meanings of these transfers (e.g., support, trust, community) do not accurately reflect behavioral reality (e.g., lack of support for the poor). For example, Bollig (1998) found the Pokot concept of *tilyai*, which involves affection, trust, and compassion said to guide emotions and behavior of livestock transfers, was not directly reflected in the practice of livestock transfers that occurred before and during a drought. In general, the studies show that transfers are not functioning as effective risk management strategies. He also found a very weak correlation between exchange networks in1987 and aid given during the disastrous year 1990–1991 among 37 Pokot households. Similarly, McPeak's (2006) econometric analysis from a study of livestock transfers among the Gabra showed that wealthier households were able to maintain larger support networks than poorer households and that livestock transfers are not effective risk management strategies for the poor because they are excluded from these networks (see also Little *et al*. 2008:598). These findings dovetail with other studies of pastoral systems which have shown that in general, the poor and the wealthy will persist simply because the dynamics of herd growth (Bradburd 1982; Fratkin and Roth 1990) over time lead to distinct low herd size and high herd size stable equilibria (Lybbert *et al*. 2005). Thus, there may be two reasons why livestock transfers do not work for poorer households: either they are excluded and/or the number of livestock transfers may simply be too small to have any significant effect on herd longevity (cf. de Vries *et al*. 2006). Computer simulations support this explanation. Recently, Aktipis *et al*. (2011) developed an agent-based model of Maasai livestock transfers to examine whether they were an effective way of risk pooling. The computer simulations showed that the system of transfers is an effective way of risk pooling, but that the median herd duration is only 18 years. Thus livestock transfers may be effective in the short term but not sufficient for long-term survival.

Livestock transfers may also not be necessary for support networks. Scholars have argued that livestock transfers create social capital that can be used to demand aid during disasters and provide economic capital to reconstitute herds after disasters (Bollig 1998; Little *et al*. 2008:598; McPeak 2006). However, transfers are but one of many ways in which pastoralists develop social support networks. For example, Johnson (1990, 1999) found that Turkana social networks consist of relationships maintained through joint activities, food sharing, mutual affection, and occasionally livestock transfer. Livestock transfers may be instrumental in solidifying some of these social relations, but they do not necessarily create strong inter-personal bonds. In the end it is the quality of the social relationship and mutual affection that is critical, not the transfer of livestock, which happens less frequently than other social activities (Carr 1977:118–119; Johnson 1990:33).

These studies suggest that livestock transfers are neither sufficient nor necessary for support networks in pastoral societies. Nevertheless, research continues to focus on these social risk management strategies, in part because they are institutionalized and expressed materially and thus relatively easily studied compared to other qualitative and quantitative aspects of social relations, like visits, food sharing, and the intangibles of friendship. However, there are disadvantages to this narrow focus on institutional forms of livestock transfers, especially when they are described as ideal types.

Livestock Transfers as Ideal Types

Livestock transfers are often described as ideal types rather through actual transfer practices, and this is particularly true in the literature on FulBe pastoralists. Seminal work on the WoDaaBe, a sub-group of FulBe, has profoundly shaped the understanding of FulBe pastoralists in West and Central Africa (Bonfiglioli 1985; Dupire 1962; Stenning 1959). It has also turned the WoDaaBe practice of *nannganaaye* into a prototypical FulBe livestock transfer. The basic principle of nannganaaye is that a heifer is loaned and returned to the owner only after it has calved three times. The recipient keeps the three offspring and must reciprocate later with the loan of a heifer (Bonfiglioli 1985; Dupire 1962). Nannganaaye transfers are usually explained by the WoDaaBe as moral acts, expressions of basic values held by herders, serving as the social cement of their society (Scott and Gormley 1980). The assumption is that these transfers are effective for herd reconstitution (White 1990), securing survival for the poorest households (Bonfiglioli 1985:32), and a functional adaptation to the risks of pastoralism in arid and semi-arid areas (Dupire 1962:138).

The WoDaaBe are often used as a model of all FulBe pastoralists prior to Islamization and sedentarization (de Bruijn and van Dijk 1995). Consequently, it is widely assumed that the WoDaaBe nannganaaye is a tradition of all FulBe rather than of one particular group (Ancey *et al*. 2008). There is, however, no evidence for these assumptions. The WoDaaBe are one of many FulBe groups in West Africa, each with its own particular set of traditions (Botte *et al*. 1999) of which livestock transfers are a part and thus vary across groups.

The use of the WoDaaBe nannganaaye as an ideal type of an effective risk management strategy led later ethnographers to ignore or dismiss livestock transfers when they did

not match the prototype, were not motivated by the ethics of the moral economy, or not effective in supporting impoverished herders in rebuilding their herds (de Bruijn and van Dijk 1995). Thus, variations in FulBe livestock transfers have often been explained as a demise of the pastoral moral economy (Bovin 1990:52; de Bruijn and van Dijk 1995) rather than as cultural variation.

While the principles of nannganaaye transfers have been well described, there has been little systematic research on actual transfer practices among FulBe pastoralists. Boutrais (2008) recently compared livestock transfer practices among FulBe groups in Niger and the Central African Republic and found considerable variation within and between groups. Some groups in Niger had recently adopted the nannganaaye from neighboring groups, while others in the Central African Republic gradually lost this tradition. The question that remains is whether nannganaaye transfers are effective risk management strategies in practice.

Methods

The data for this article were collected in a comparative ethnographic study of three pastoral FulBe communities in the Far North Region of Cameroon in 2000–2001. The main goal was to examine whether integration in the market economy leads to the disappearance of livestock transfers among FulBe pastoralists. The three communities were selected on the basis of distance from the provincial capital Maroua, the commercial center of the region. Distance was used as a proxy for market integration, which was measured in terms of household production and consumption. The communities represent different pastoral systems: peri-urban, agro-pastoral, and mobile pastoralist (Table 1). I conducted multiple household surveys throughout the year to collect demographic, agricultural, and consumption data. I also conducted herd surveys to gather data on herd management, production costs, as well as ownership and transfers of animals. These data also allowed me to examine whether livestock transfers function as effective risk management strategies. Finally, in 2010 I visited all three communities and recorded which households and family herds still existed in order to assess long-term herd viability.

There is a good reason why there are so few studies of property relations within the family herds and why most of them concern only a few households (Bonfiglioli 1988; Dupire 1962; Goldschmidt 1969; Krätli 2008; McCabe 1984). It is extremely difficult to collect reliable data on livestock ownership and transfers, which most pastoralists consider sensitive information as a person's wealth and status is tied to herd size. Therefore, most studies have focused on the general principles of property rights livestock transfers (Baxter and Hogg 1990; Gulliver 1955; Oboler

Table 1 Characteristics of the three communities, 2000–2001

		Wuro Badaberniwol	Wuro Ladde	Wuro EggoBe
Community	Pastoral system	Peri-urban pastoralists	Agro-pastoralists	Mobile pastoralists
	Distance from Maroua Center	10 km	50 km	75 km
	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), n=6	9.3 (± 5.2), n=16	75.4 (± 44.6), n=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 community concern only the six pastoral households. Standard deviations are given in parentheses. *ACE* Adult Consumer Equivalents (Bradburd 1990). *TLU* Tropical Livestock Unit; 1 *TLU* 1 camel; 0.8 cattle; 0.1 small stock (Dahl and Hjort 1976).

1996). Conducting a systematic study of property relations within FulBe family herds was challenging, as people were reluctant to share information, and not just with me; husbands, wives, children, and siblings kept their livestock holdings secret from each other. My first attempts to collect herd data were unsuccessful as people gave me incorrect information. Only after I gained enough trust from my informants was I able to collect more reliable information. However, it was only by repeatedly conducting follow-up interviews and checking contradictory information from earlier interviews that I was able to document the property relations in each family herd.

The survey began by identifying all the cows that had calved (*haabe*) by name and recording their age, offspring, and what happened to their offspring, i.e., was it still in the herd, dead, or sold. 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. In subsequent interviews, I recorded the changes in the herd over the year 2000–2001 starting with the beginning of the rains in 2000, for example, births, deaths, sales, loans, strays, thefts, inheritance, entrustments, and purchases. The data on structure and changes of the family herds were collected in several interviews throughout the year. I also conducted a survey to document property rights of animals that were presently owned and/or managed by each household member, including those animals that were in other corrals.

I used descriptive statistics, chi-square, multiple regressions, and binary logistic regressions to analyze livestock ownership and transfers within and between communities and whether and how livestock transfers contribute to short-term survival of households and long-term viability of herds using GraphPad InStat (version 3.0a) and SPSS (version 19) for Macintosh. In designing the study, I opted for documenting detailed property rights and transfers within individual herds, which meant that the sample size is relatively small (28 herds with 1,442 cattle in total) and this has implications for the statistical analyses.

Study Area and Population

The Far North Region of Cameroon has a semi-arid climate with a single rainy season. Rainfall is characterized by high spatiotemporal variability with frequent drought. During the eight-month dry season from October to May cattle lose considerable weight and become more susceptible to diseases. The primary goal of pastoralists is limit weight loss of their herds during the dry season by focusing on animal nutrition to make cattle gain weight in the rainy season to mitigate weight loss during the long dry season. Traditionally, pastoralists achieve this through transhumance, moving their animals to the rangelands with the highest quality and quantity of forage. In the Far North, pastoralists make the transhumance between the Diamaré plains and the Logone floodplain, which form complementary resources; the former provide pastures in the rainy season, the latter in the dry season.

The FulBe pastoralists in the three communities are part of the largest pastoral group in Africa. There are about 20 million speakers of Fulfulde throughout West Africa from Senegal in the west to Sudan in the east. The sociocultural, linguistic, and economic diversity of FulBe across sub-Saharan Africa is immense. Although FulBe pastoralists have been present in the greater Chad Basin since the eighth century, the majority has come in several waves between the sixteenth and nineteenth century. The majority of the FulBe that settled in the Far North came during a conquest that took place as part of a larger FulBe holy war (*jihad*) in the early 1800s. The FulBe in the agro-pastoral community of Wuro Hoore Ladde and the peri-urban community of Wuro Badaberniwol are descendants of FulBe migrants of the eighteenth and nineteenth century. The mobile pastoralists of Wuro EggoBe came to the Far North about 60 years ago, while most of the other mobile pastoralists there arrived from Niger and Nigeria during the droughts of 1973–1974 and 1984–1985.

Results

In order to examine whether and how livestock transfers serve as risk management strategies among FulBe pastoralists in the Far North Region of Cameroon I first briefly describe the risks that pastoralists faced. Then I discuss the variation in livestock transfer practices within and between the three communities, including the relationship between transfers and risk management. Finally, I discuss what motivates pastoralists to engage in livestock transfers.

Quantitative and Qualitative Risk Assessments

Research was conducted in a drought year (2000–2001) and thus provided a good opportunity to study the risks and risk behaviors of pastoralists in the Far North Region of Cameroon. Here I use both quantitative and qualitative risk assessments to describe the nature and severity of the risks that pastoralists faced.

In my quantitative analyses I focus on sorghum production, the main staple in pastoralists' diet in the Far North Region, and livestock losses. Sorghum is eaten twice a day, and is therefore a good indicator of whether households are able to meet their subsistence needs. Households in the agro-pastoral and peri-urban community were self-sufficient in good years, whereas mobile pastoralist households always had to sell livestock to purchase sorghum. In August 2000 the rains stopped too early and sorghum

harvests failed. All households in the agro-pastoral and peri-urban community had a cereal deficit (Fig. 1) and had to purchase cereal at prices that increased rapidly from FCFA 5,000 ($10) in October 2000 to more than FCFA 20,000 ($40) in June 2001 per 100-kilo sack. On average, households had to spend FCFA 140,000 to purchase cereals that year. However, pastoralists were in a better position than most farmers in the Far North Region because their livestock not only produced milk, but could also be sold to cover cereal costs. Moreover, livestock losses were relatively small even for a drought year, ranging from 3 % for mobile pastoralists to 7 % for agro-pastoralists (Moritz 2003). Most pastoral households were able to cope with the cereal deficits and rising prices through the sale of animals and off-farm income, although a few agro-pastoral households suffered from hunger. Moreover, the data also showed that this did not result in a reduction in herd size. In fact, pastoralists in the peri-urban and mobile communities saw their herd size increase during the drought year, whereas average herd size neither increased nor decreased in the agro-pastoral community (Moritz 2003).

A qualitative assessment of the risks that pastoralists faced in the three communities supports the quantitative descriptions above. First, no household lost their livelihood overnight; the disasters were gradual in the making. The poorer households in the agro-pastoral and peri-urban communities knew well in advance that they would be hungry next rainy season when their savings would be finished. The same was true for livestock losses; the risks of losing animals to diseases and raids were real but no one lost their entire herd overnight. Second, the immediate reason for the hunger was the failed rains, but the ultimate cause was poverty. Poorer households simply did not have the capital to cope with the failed harvest, whereas wealthier households were able to deal with rising cereal prices. Third, the greatest tragedies in the communities were personal and had nothing to do with the drought. One mobile pastoralist was in a terrible car accident and suffered brain damage, which left him unable to provide for his family. In the agro-pastoral community a widower died—after a long and debilitating illness—and left his oldest son, who was 15 years old, unmarried and unprepared to lead the household. Finally, while the main concern for the peri-urban and agro-pastoral poor was to feed the household members, the greatest concern for herders in the bush was the risk of being robbed and killed by cattle thieves or armed bandits (see Moritz and Scholte 2011).

Multiple and Overlapping Forms of Property Rights

Like the Sebei herds, the family herds of FulBe pastoralists in the Far North Region reflect the social relations of their households and can be read as social biographies of the

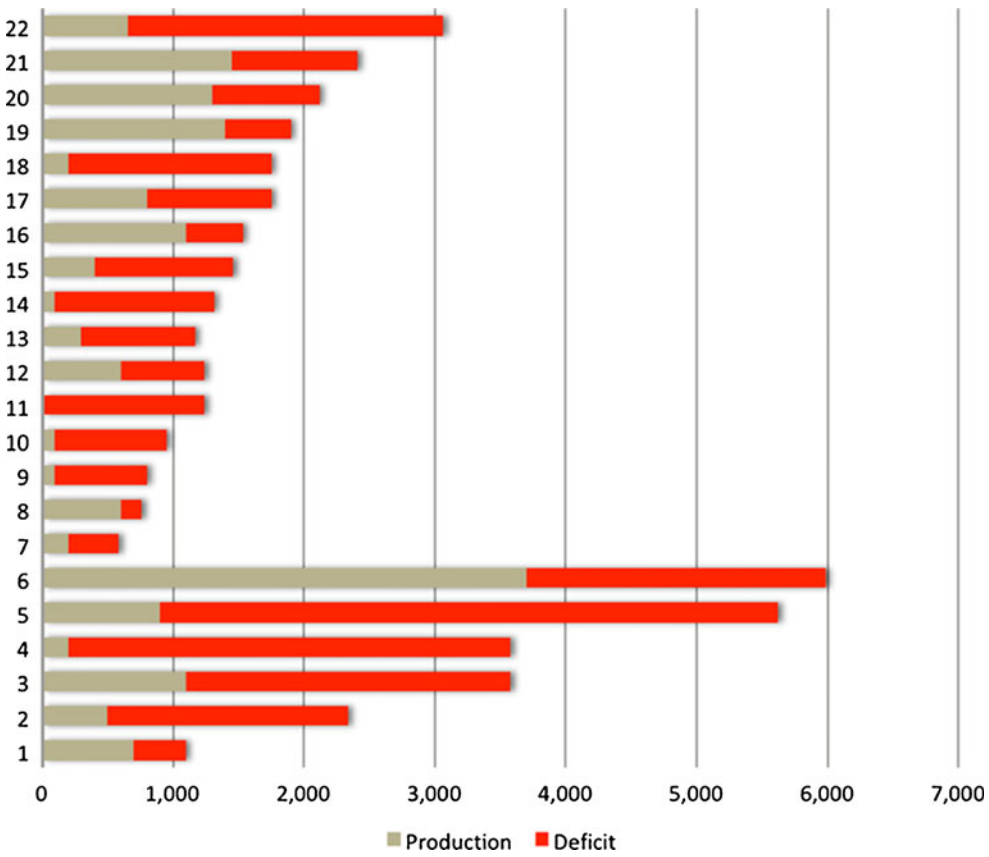

Fig. 1 Cereal production, consumption, and deficit per household, 2000–2001. Each *bar* represents the annual cereal needs in kilos for households in the peri-urban (1–6) and agro-pastoral communities (7–22) based on the adult consumer equivalents (ACE). The *grey* portion represents cereal production and the *red* portion the deficit in 2000–2001, a drought year

people who keep them. For example, some animals in FulBe family herds were descendants of a line of animals that had been in the patriliny for generations. A few of them were given to children in the household, thereby reaffirming the continuing fertility of both family and herd. Other animals were gifts or loans from parallel cousins, which reinforced the kin ties between families. Some animals were inherited by women and represented affinal ties with the matriliny. Yet others were entrusted or loaned by friends and represented the current social network of the household head. The larger community was engaged in the family herds through the transfers of animals and the rights and obligations these entailed.

Because of the different livestock transfers FulBe family herds were amalgamations of animals over which the members of the household and outsiders had a variety of property rights and obligations. The fact that a family herd consisted of animals that were owned by multiple people with different, often overlapping rights over them was reflected in a number of common sayings. For example, *waalde Pullo boo bana tummude kilaajo*—a Pullo's corral is like a blacksmith's gourd. Since blacksmith's gourds contain many items, some useful others not, this reflects the fact that not all animals in the family herd can be used to meet household needs because while it has usufruct rights over the milk of outsiders' animals it does not have the right to sell the animals or dispose of them in other ways. Similarly, *Dam balo non Dum luggay*—the water is dark but not deep—suggests that the size of the herd does not necessarily mean that someone is wealthy since in reality he may be very poor as he does not own the animals.

There is considerable variation in livestock ownership across the three communities (Table 2). In the peri-urban community household heads owned the majority of the animals in their herd, which was the result of simultaneous processes of pastoral intensification and Islamic renewal (Moritz 2003, 2012). A large number of cattle in the mobile community were under contract from absentee owners. The multiple and overlapping forms of property rights in the agro-pastoral and mobile communities were in part the result of the livestock transfers that household members engaged in. In that sense, the near-monopoly of peri-urban household heads is an accurate reflection of the ongoing process of individualization in that community (Moritz 2012).

The Complexity of Nannganaaye Transfers

In my study I did not come across the prototypical WoDaaBe nannganaaye exchange in which a cow is only returned to the original owner after it has calved three times. Instead, I documented other forms of the nannganaaye as well as many other types of livestock transfers, some of which overlapped with the nannganaaye. The transfers did not represent mutually exclusive categories. For example, the nannganaaye did not always involve a change in ownership as no calves were given to the recipient of the loan. Instead, the nannganaaye served as a source of milk for the receiving household, similar to a short-loan of a lactating cow (*diilaaye*). However, among mobile pastoralists, the current practice of the nannganaaye was somewhat similar to the WoDaaBe prototype in that one offspring was given to the receiver of the loan, a recent borrowing from the Daneeji, a group of FulBe named after their white cattle, with whom the mobile pastoralists shared transhumance routes in the 1970s but who have since left for Chad and the Central African Republic. However, the older practice of the nannganaaye among mobile pastoralists was all about milk (*yaake kossam ni*), not about giving animals (*sukkugo*). Moreover, nannganaaye animals and their offspring would remain indefinitely in the receiver's herd, which made it critical that recipients were skilled herders so that the number of animals increased. Informants argued that in the past, nannganaaye was all about herding (*ngaynaaka*), while now it was all about love (*enDam*), trust (*amaana*), and aid (*ballal*), i.e., about social relations rather than the economics of herd growth.

There are no elaborate rituals or practices associated with nannganaaye. When animals are loaned as nannganaaye, a household head will simply say to their herder, "Take this cord and attach that cow for so-and-so." The term literally describes the act of attaching the animal for someone.

Table 2 Livestock ownership in three communities, 2000–2001

	Peri-urban pastoralists (n=6)	Agro-pastoralists (n=16)	Mobile pastoralists (n=6)	Total per category of ownership
Household head	411 (79 %)	139 (37 %)	158 (29 %)	708 (49 %)
Resident kin	88 (17 %)	117 (31 %)	126 (23 %)	331 (23 %)
Non-resident kin	10 (2 %)	102 (27 %)	49 (9 %)	161 (11 %)
Non-resident, non-kin	10 (2%)	19 (5%)	213 (39%)	242 (17%)
Total per community	519 (36 %)	377 (26%)	546 (38%)	1442 (100%)

The table shows the average percentage of cattle owned per category (e.g., household head). Ownership per category differs significantly across communities (whole table Chi-square=558.53, df=6, p<0.0001).

Generally, cattle are not attached (except calves on the calf rope) or confined to a corral but roam free. To take an animal to the market, to administer an injection, to load a pack animal, or loan an animal to a friend requires attaching the animal. That is also why nanngaaye (attached cow) and nannganaaye (attached cow for someone) refer to so many different types of animals and transfers, which have changed over time.

The different forms were not associated with different communities, i.e., among mobile pastoralists the nannganaaye is also used to describe short-term loans of lactating cows like the diilaaye. Thus, one cannot study livestock transfers by simply counting the different types of transfers because the terms cover multiple forms that overlap, e.g., a short-term loan of a lactating cow is sometimes referred to as diilaaye and sometimes as nannganaaye. Moreover, one of the most generous transfers, a simple gift without any strings attached, is hypocognized in the sense that there is no term for this type of transfer. Informants would say "I just gave the animal" (*mi hokki meere non*) and the animal was simply referred to as "the animal given" (*hokkaange*). Again, simply counting ideal types of transfers, rather than describing practices of transfers would overlook this transfer.

Herding Contracts as Livestock Transfers

A ubiquitous livestock transfer was the entrustment of animals and herds by absentee owners. However, this category of long-term transfers comprised multiple types of transfers, ranging from herding contracts, in which a hired herder received a monthly wage and usufruct rights over the animals in the herd (Moritz *et al*. 2011), to the entrustment of a few animals without compensation save for usufruct rights (*goofalye*). In fact, in some cases, transfers that were called goofalye were very similar to nannganaaye exchange and sometimes even referred to as such. One could make a distinction between goofalye and nannganaaye in terms of the benefits for the different parties, i.e., whether the transfer benefits the receiver (food aid) or the donor (labor). However, in many cases, the transfer of animals served both purposes, which makes it difficult to use this as a criterion to make a distinction.

Herding contracts are arrangements between an owner and a herder who cares for the herd and is compensated with a wage and/or livestock. Although there is considerable variation in herding contracts, there are two main types in West Africa: hired herding and entrustment. Hired herding is a labor contract in which an owner pays a herder a monthly wage and provides him with herding equipment (shoes, clothes, stick). Entrustment is a leasing contract in which an owner entrusts animals to a herder who has usufruct rights over milk but is not paid a wage, although there may be other forms of compensation, including cash (Moritz *et al*. 2011). The herding contracts are not simply labor contracts but are better described as patron–client relationships in which the owner has responsibility for the herder and his family. Owners are called *jaagordo* or patron in Fulfulde. Herders and absentee owners had longstanding relations. Although many contracts ended within one year, the majority of the hired herders we interviewed had been working for the same owner for over 5 years and a few had been working for the same owner for over 20 years (Moritz *et al*. 2011). While the aforementioned herder involved in the car accident was bed-ridden for more than 6 months, the absentee owner's family cared for him while his patrilineal kin managed the absentee-owned herd. Thus, herding contracts provided social support for poor pastoralists in addition to nannganaaye transfers.

Variation in Transfers Between Communities

The multiple and overlapping forms of transfers result in great complexity, which makes it difficult to measure and compare transfers within and between communities. I have therefore organized the types of transfers in four broad categories in which I use descriptions of the practices rather than the terms used for the transfers for classification purposes: 1) loans in which there is an expectation of reciprocity, e.g., the nannganaaye; 2) gifts in which there is no expectation of reciprocity, e.g., from parents to children (*sukkilaaye*) or between friends (*hokkaange*); 3) short-term loans to cover a specific need of the receiving household, e.g., the loan of a milk cow (diilaaye, nannganaaye), carrying bull (*garwaari*), or breeding bull (*kalhaldi*); and 4) long-term entrustments in which the receiving party gains usufruct rights over cattle in return for labor, e.g., direct entrustment (*goofalye*, nannganaaye, *halfiinge*) and herding contracts (for detailed descriptions of the different types see, Moritz 2012). There is considerable variation between communities in terms of the percentage of cattle transferred in the different categories (Table 3). Although it seems that peri-urban pastoralists are more involved in livestock transfers than agro-pastoralists and mobile pastoralists (81 %, 73 %, and 60 % respectively), this is not the case if one excludes long-term entrustments, most of which are herding contracts (2 %, 17 %, and 32 % respectively for the three communities).

In the peri-urban community only half of the households were engaged in livestock transfers—not counting the herds under contract that are entrusted to mobile pastoralists—and these transfers only involved 2 % of all the animals. While in the mobile community more than 20 % of the animals were involved in a nannganaaye transfer. The mobile community was the only one with short-term loans of milk cows, breeding bulls, and pack oxen (5 %). The agro-pastoral

community fell between the other two communities in terms of the number of livestock transfers. Whereas in the peri-urban community all long-term transfers were given and in the mobile community all long-term transfers were received, agro-pastoralists both gave and received long-term entrustments (28 % and 27 % of the animals respectively) and few of them were herding contracts with wages.

The Effectiveness of Transfers as Risk Management

To examine whether there were any patterns in livestock transfers received by poor versus wealthy households (Table 4), I combined the data for all three communities as the number of households in each community was small and used multiple regressions and binary logistic regressions. I grouped the villages in which pastoralists practiced agriculture and do not rely solely on animal husbandry for their livelihoods and used community as a dummy variable (WL and WB = 0, WE = 1). The results show that the number of all transfers received can be explained to some extent by herd size and community.

$$[\text{Transfers received}] = 10.296 + 35.745 * [\text{community}] - 0.1097 * [\text{herd size}]$$
$$(\text{R squared} = 58.00\%,\ p < 0.0001,\ n = 28).$$

In other words, households with smaller herds were more likely to receive livestock transfers (all categories) and this also holds when loans and gifts (categories 1–3) and long-term entrustment (category 4) are examined separately.

$$[\text{Loans and gifts}] = 2.066 + 13.238 * [\text{community}] - 0.01923 * [\text{herd size}]$$
$$(\text{R squared} = 65.15\%,\ p < 0.0001,\ n = 28).$$
$$[\text{Long-term entrustment}] = 8.230 + 22.507 * [\text{community}] - 0.09050 * [\text{herd size}]$$
$$(\text{R squared } 44.20\%,\ p = 0.0007,\ n = 28).$$

I also examined whether pastoralists that have herds or animals under contract (category 4) from absentee owners were excluded from loans and gifts within the community (category 1–3) and found that this is not the case.

$$[\text{Loans and gifts}] = 0.7253 + 10.125 * [\text{community}] + 0.1331 * [\text{long-term entrustment}]$$
$$(\text{R squared } 68.73\%,\ p < 0.0001,\ n = 28).$$

In other words, pastoralists with entrusted animals were not excluded from loans as has been described for the WoDaaBe in Niger (White 1990). On the contrary, three of the four households that received the most loans and gifts in the mobile community had also herds under contract (Table 4). All this indicates that poorer households received more transfers than wealthy households in the mobile community and that support came from the community as well as absentee owners

However, the question is whether the livestock transfers are effective in terms of risk management, which in the case of pastoral systems has been defined in terms of short-term survival (i.e., food aid) and long-term sustainability (i.e., rebuilding herds)(Bollig 1998). I measured short-term survival in terms of whether a household has enough livestock to provide for its members, i.e., whether it was self-sufficient in terms of herd size. (This measure does not apply to agro-pastoral and peri-urban households because they also rely on agricultural production for their subsistence needs.) Fratkin and Roth (1990) estimated that 4.5 TLUs[1] per person would provide an individual with sufficient calories in pure pastoral systems. I used Adult Consumer Equivalents (ACE) to adjust for age of household members (Bradburd 1990). Using these criteria three of the mobile households would not have been self-sufficient were it not for the livestock transfers (Table 4).

However, these three poorest households were no longer part of the mobile community by 2010 (10 years after the original study was conducted), while the other three households that had more than 4.5 TLU/ACE were doing well. I used a binary logistic regression to examine whether herd size or number of transfers received could explain the long-term viability of family herds.

The results show that households that received the most transfers were less likely to be around 10 years later (Table 5). Thus, livestock transfers, including herding contracts, were effective in providing subsistence for households in the short-term but did not aid in rebuilding their herds beyond the threshold of herd viability. The main reason is that the livestock transfers, including nanngaaye, provided the receiving households with usufruct rights over the animals but not necessarily with the right of disposal and so their herd size did not increase beyond the viability threshold.

Pastoralists' Engagement in Livestock Transfers

There are numerous reasons why pastoralists across communities transferred livestock, among them support of poor households with food aid (*waalinde nyaamdu*) or transferring ownership rights over entrusted animals so that the recipient household could sell them to buy food or pay bills. Households also transferred livestock for practical considerations, e.g., weaning of calves, lack of corral space. Others transferred animals to a good herder whose skills (*ngaynaaka*) or luck (*risku*) would increase their wealth. This was the main reason why mobile pastoralists engaged in nannganaaye before they

[1] Tropical Livestock Units in which 1 TLU = 1 camel; 0.8 cattle; 0.1 small stock (Dahl and Hjort 1976).

Table 3 Livestock transfers by category in three communities, 2000–2001

	Peri-urban pastoralists (n=6)	Agro-pastoralists (n=16)	Mobile pastoralists (n=6)	Total per transfer category
1. Reciprocal loans	5 (1 %)	45 (13 %)	120 (24 %)	170 (13 %)
2. Gifts	5 (1 %)	19 (6 %)	27 (5 %)	51 (4 %)
3. Short-term loans	0 (0 %)	0 (0 %)	27 (5 %)	27 (2 %)
4. Long-term entrustment	410 (98 %)	275 (81 %)	328 (65 %)	1013 (80 %)
Total per community	420 (33 %)	377 (27 %)	546 (40 %)	1261 (100 %)

The table shows the number of cattle that were either given or received by households in the three communities per category (e.g., reciprocal loans). Transfers per category differed significantly across communities (whole table Chi-square=170.76, df=6, p<0.0001). I was unable to get data on animals given for all mobile households. However, analysis of the two mobile herds for which I have complete data shows that the number given in each of these three categories is similar to the number received, except for long-term loans, i.e., herds under contract. Therefore the number received in categories 1–3 for the mobile community were doubled to make the data comparable with the other two communities.

adopted the Daneeji cultural model that involves a reciprocal exchange and the gift of offspring (*sukkaaye*). In the agro-pastoral village, people also transferred livestock to villagers without their own animals to enable them to participate in village social life, which centered on animal husbandry and associated common everyday activities (e.g., herding, watering). Finally and foremost, pastoralists gave nannganaaye to reinforce and deepen friendships (*enDindirgo*). *EnDam* (love, affection) was a key component of nannganaaye also when it was given as food aid. Some poor households did not receive nannganaaye because they were not liked much in the community (on the role of affection in support networks see also Hruschka 2010). The functions and motivations overlapped synchronically and diachronically, e.g., one pastoralist gave surplus animals to an impoverished leader whom he befriended. Another transferred an animal for practical reasons, which later became food aid for the recipient household. All these livestock exchanges were often lumped under the term nannganaaye.

The motivations for engaging in livestock transfers also conflicted; for example, while helping the poor was an important reason, it conflicted with pastoralists' strategic goal of increasing their own herd size. In discussions, pastoralists argued it was better to give nannganaaye to wealthy friends because the poor do not take good care of the animals (e.g., they do not leave enough milk for calves or do not provide supplementary feed). Moreover, it would be shameful to take the animals back because the poor need the animals. Wealthy pastoralists on the other hand would take good care of your animals and might even reciprocate the loan and give you offspring. There was thus a tension between pastoralists' social responsibilities and the strategic goal of increasing one's own herd.

Exchange relations were not without problems. I recorded many instances of exchange relations that had soured and ended in traditional courts, either because transferred animals had been sold without permission from the lender or because it was unclear who had which rights over what animal. Ultimately, exchange relations were all about trust as the stakes were high. The monetary value of cattle has remained high in the last decade; the market value of a cow was approximately 150,000 FCFA (or $300) in 2000–2001. This was one of the reasons why many recipients of sukkaaye animals (offspring of nannganaaye cows) immediately sold the animals at local markets in order to avoid future conflicts over property rights, for example with the lender's heirs. When animals from livestock transfers were sold, they did not aid in rebuilding family herds, unless other animals were bought with the revenues, which happened in some cases. In most cases, however, the money was spent on food and other necessary expenses. This may be one of the reasons why livestock transfers contributed to short-term survival, but not long-term sustainability.

Discussion

In my comparative study of livestock transfers in three FulBe communities I found that pastoralists did not lose their livelihood overnight and that poorer households were most at risk of falling below subsistence level. I also found that livestock transfers, including herding contracts, provided short-term support for recipient households but did not contribute to long-term viability of herds. I am aware that the sample size is small, but the patterns are robust, statistically significant, and supported by qualitative analysis.

I offer a few interrelated explanations of why livestock transfers provide short-term support but do not allow pastoralists to rebuild their herds. First, risk management cannot be reduced to livestock transfers, which are neither necessary nor sufficient for support networks. Second, the nature and number of livestock transfers are not sufficient to overcome herd growth dynamics. Third, individuals transferring animals are making strategic decisions aimed at not only at supporting the poor but also at increasing their own herd size and advancing their own career.

Studying Support Networks

This and other studies have found that the material transactions of livestock transfers are neither necessary nor sufficient for social support networks or risk management (e.g.,

Table 4 Transfers received, herd size, and consumers per household in three communities, 2000–2001

House-holds	Herd size w/o transfers	Loans and gifts (cat. 1–3)	Long-term entrust-ment (cat. 4)	Herd size w/ transfers	ACE	TLU/ACE w/o transfers	TLU/ACE w/transfers
WL6	0	10	0	10	4.25	0.00	1.88
WL8	0	0	13	13	5.25	0.00	1.98
WL5*	1	0	18	19	2.75	0.29	5.53
WL7	1	4	0	5	4.5	0.18	0.89
WL9	1	4	8	13	6	0.13	1.73
WL3	3	0	0	3	3.25	0.74	0.74
WL13	4	3	3	10	6.5	0.49	1.23
WL4	6	4	6	16	10.5	0.46	1.22
WL16*	6	0	0	6	2	2.40	2.40
WL2	11	5	10	26	6	1.47	3.47
WL10	17	0	15	32	7.25	1.88	3.53
WL14	22	0	9	31	5	3.52	4.96
WL15	23	0	6	29	1.5	12.27	15.47
WL11	24	0	8	32	8.25	2.33	3.10
WL12	41	1	9	51	4	8.20	10.20
WL1	81	0	0	81	4.25	15.25	15.25
WB6	26	0	0	26	8	2.60	2.60
WB1	49	0	4	53	19.25	2.04	2.20
WB3	66	0	0	66	3.75	14.08	14.08
WB5	77	0	0	77	12.25	5.03	5.03
WB2	79	0	2	81	20.5	3.08	3.16
WB4	214	0	2	216	12.25	13.98	14.11
WE2*	18	6	34	58	4.25	3.39	10.92
WE6*	26	18	54	98	7.25	2.87	10.81
WE1*	37	25	53	115	11.5	2.57	8.00
WE5	42	17	16	75	4.75	7.07	12.63
WE4	75	4	0	79	7.25	8.28	8.72
WE3	105	16	0	121	5	16.80	19.36

WL agro-pastoral community, *WB* peri-urban community, and *WE* mobile pastoralists

*Indicate those family herds that no longer existed 10 years after the original study in 2010. *ACE* Adult Consumer Equivalents (Bradburd 1990). *TLU* Tropical Livestock Unit; 1 *TLU* 1 camel; 0.8 cattle; 0.1 small stock (Dahl and Hjort 1976)

Bollig 1998; Johnson 1999). It is more critical that individuals have family and friends that trust and want to support them. These sentiments are developed over time through myriad activities, including visits in which people develop personal affinities. Livestock transfers may help to solidify those social relations (e.g., Goldschmidt 1986; Gulliver 1955), but again, in themselves are never enough for developing support networks.

An alternative approach to the study of social risk management strategies may be examination of how the quality

Table 5 Univariate binary logistic regressions of herd existence in 2010

	Exp(B) (estimated coefficients)	Standard error	Chi-square (Wald.)	*P* value
Transfers received (cat. 1–4)	0.908	0.047	4.245	*0.039
Loans and gifts (cat. 1–3)	0.883	0.068	3.377	0.066
Long-term entrustment (cat. 4)	0.847	0.084	3.843	*0.050
Herd size in 2000	1.024	0.022	1.187	0.276
TLU/ACE	1.184	0.160	1.112	0.292

I used five independent binary logistic regression models to examine whether livestock transfers contribute to long-term herd viability. Whereas there is no significant effect on herd survival for herd size and number of livestock per consumer (TLU/ACE), there is an effect between the number of transfers received and long-term herd viability. Herds receiving ten fewer transfers or long-term entrustments had more than 5 % higher likelihood of surviving

*Indicate the regressions that were statistically significant. If there had been more herds in the study, "Loans and gifts" likely would be significant at the 0.05 level

and quantity of individual's social networks matter for risk management. Livestock transfers are then but one of the ways pastoralists invest in support networks, but not synonymous with the network. One would expect that larger networks are better but that the quality of the relationships and the resources of its members are critical too. For FulBe pastoralists, the quality of the relationship, described in terms of love, trust, and friendship, was critical for support networks, as they did not transfer animals to people whom they did not love or trust.

However, there is the methodological problem of collecting social network data from pastoralists, which I personally found even more challenging than collecting data about livestock ownership and transfers. Moreover, social networks—just as livestock transfers—are not just about managing risks, but also about other facets of social life (e.g., status, politics, and friendship). A social network approach could run into similar limitations as the current focus on livestock transfers. Johnson's (1990, 1999) study of Turkana social networks describes how this approach could address some of these challenges, for example, by documenting everyday social practices of sharing the elders' tree, social visits, food sharing, and herding partnerships as well as structural relationships like kinship relations, including affinal relations, and, of course, the various livestock transfers. However, such a comprehensive approach may not be feasible. It is telling that no comprehensive study of African pastoralists' social networks has been conducted since the South Turkana Ecosystem Project (Johnson 1999).

Transfers of Rights

The literature on the livestock transfers among FulBe pastoralists has focused on ideal type of the nannganaaye exchange, which is often contrasted with herding contracts between absentee owners and hired herders (Bonfiglioli 1990:260; Bovin 1990:52; White 1990). The *nannganaaye* is characterized by the gift of three offspring to the receiving household, which allows it to rebuild its herd. In contrast, herding contracts provide only wages and usufruct rights over milk, but no access to capital, i.e., reproductive animals. Moreover, White (1990) has argued that poor WoDaaBe are excluded from reciprocal loans when they engage in herding contracts because other WoDaaBe are concerned about care for their nannganaaye animals.

This was not the case in my study. There was considerable overlap in form and function of these transfers and they are often referred to by the same term. Households with herding contracts were also not excluded from exchange networks; poorer households were supported through herding contracts and nannganaaye transfers. Moreover, herding contracts were not market exchanges, but patron-client relationships in which absentee owners had social obligations towards their herders. However, most livestock transfers involved the transfer of usufruct rights, but not the transfer of the right of disposal, which would give recipients full ownership over the animal. This is true for herding contracts in which hired herders were paid wages rather than animals (Moritz *et al*. 2011) as well as for the nannganaaye, which did not always involve the gift of one offspring (and certainly not three as among the WoDaaBe). Although the ideal type of the nannganaaye involves the transfers of the right of disposal over three offspring, this is not the case among FulBe pastoralists in the Far North Region of Cameroon.

Dynamics of Herd Growth

The pastoral moral economy is often contrasted with the market economy in which market dynamics lead to greater economic inequality. However, herd dynamics may have the same effect in pastoral societies (Borgerhoff Mulder and Sellen 1994). Previous studies on pastoral wealth have shown the dynamics of herd growth are to the advantage of pastoralists with larger herds and work against pastoralists whose herd size is below a certain threshold (Bradburd 1982; Fratkin and Roth 1990; Lybbert *et al*. 2005). Moreover, a recent comparative study shows that intergenerational transfers of wealth also contribute to persistent inequality (Borgerhoff Mulder *et al*. 2010). If the dynamics of herd growth are such that the wealthy remain wealthy and the poor remain poor (Fratkin and Roth 1990; Grandin 1989; Sieff 1999), then livestock transfers only make difference if they push herd size over the viability threshold. However, this does not seem to be the case among FulBe pastoralists in this study. The evidence also suggests that livestock transfers further consolidate the position of the wealthy, at least among the Pokot and the Himba (Bollig 2006). Livestock transfers may be simply too few in number to have any significant effect on herd growth dynamics (Dyson-Hudson and McCabe 1985; Sieff 1999:8), although de Vries *et al*. (2006) argue that transfers make a difference in herd demography among Turkana pastoralists.

Livestock transfers and other forms of assistance may prevent poor pastoral households from falling below subsistence level, but they do not allow them to rebuild their herds beyond the viability threshold, which means that they are slowly sloughed off from the pastoral system (Barth 1961). This does not necessarily mean that herd dynamics threaten the viability of pastoral systems. The system may be resilient even if not all the elements that make up the system, i.e., poorer households, are not. Recognizing the dynamics of economic inequality endogenous to pastoral systems is critical to understanding why, when and for whom social risk management strategies are effective.

Strategic Decisions in the Pursuit of a Human Career

Livestock transfers make sense for poor households, but why do wealthier households engage in these transfers? The theoretical narrative of risk management has primarily focused on needs of poorer households and the resilience of the pastoral system as a whole. The assumption has always been that disasters strike all households and that wealthier households also need to develop a support network. However, studies on herd dynamics show that if herd size is above a certain threshold, households are buffered against most risks (Bradburd 1982; Fratkin and Roth 1990). In addition, livestock transfers may not be compatible with the risk management strategy of herd maximization (Roth 1996). Wealthier pastoralists in the Far North Region argue that they are better off engaging in livestock transfers with other wealthier pastoralists in order to ensure growth of their own herd and the pursuit of their career.

Goldschmidt wrote that societies "are peopled with human beings who are consciously (and unconsciously) motivated: that social encounters regularly take place; and that in these encounters individuals operate so as, to the best of their ability and within the limits of the permissible, to advantage themselves" (1969:200). In short, individuals pursue their career, which in the case of the Sebei herders means to amass large herds (Goldschmidt 1990:163). The accomplishment of this cultural goal "requires many talents that have nothing to do directly with animal husbandry" but also the development of social networks, including livestock transfers (1967:192–193; 1990:163). And although these transfers are not simply economic transactions—the parties become "kin of the cow"—Sebei are strategically manipulating these relationships to their advantage (1969).

Wealthy pastoralists assisted poorer households with livestock transfers and other forms of aid. However, they were also concerned with the growth of their own herd. Most transfers to poorer households involved only usufruct rights and thus provided only short-term support. Goldschmidt's conceptual framework of the human career also helps to explain why livestock transfers are not effective social risk management strategies in the long-term, as it focuses on the motivation of individual pastoralists and explains why and how they engage in livestock transfers. Goldschmidt writes in the *Human Career* that individuals are "motivated to a sense of self which means the attainment of social worth—prestige—in the context of community values" (1990:2). FulBe pastoralists want to be valued and respected by friends and others in their community. In the context of FulBe communities, as among the Sebei (Goldschmidt 1990) and the Samburu (Perlov 1987), this means foremost to amass herds. Moreover, studies of East-African pastoralists have shown that this cultural goal of herd maximization is an effective risk management strategy in the long-term (Fratkin and Roth 1990; Roth 1996). FulBe pastoralists are concerned with supporting poor households in need, but not to the point that it reduces their own herd growth and their own career.

Anthropologists often explain cultural practices in terms of their ability to manage risk, but risk management may simply be an epiphenomenon or side effect of cultural practices rather than an adaptive strategy. Can we describe livestock transfers as risk management when it is not the only or primary goal of the pastoralists engaged in themit even when the effect may be risk reduction? The theory of livestock transfers as risk management makes a number of implicit assumptions about individuals' decision-making. Management implies foresight, active, conscious decisions and actions on the part of the individual. In other words, it suggests that individual pastoralists are motivated by concerns of risk management when they engage in these transfers. However, FulBe pastoralists engage in livestock reasons for a number of reasons, including social support, herd maximization, and risk management. Moreover, the findings suggest that the transfers may only be adaptive for wealthier but not poorer households.

Conclusion

Recent publications introduce livestock transfers as total social facts (e.g., Aktipis *et al.* 2011; Bollig 1998; Johnson 1999; McPeak 2006). However, somehow this gets lost in the studies, which have found that transfers do not function as effective risk-management strategies in the long-term for poorer households. Anthropological understandings of livestock transfers have been hampered by the narrow theoretical focus on the utilitarian function of risk management and the methodological focus on material transfers, rather than a holistic approach of individuals' social relations within cultural communities. It is no surprise that the studies found that the role of livestock transfers in risk management is limited, because the transfers were never primarily or solely about managing risks, they were about people making strategic choices about their human career within their cultural community.

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