

Pastoralism in Africa

Past, Present, and Futures

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CHAPTER I I

Pastoral Belonging
*Causes and Consequences of Part-time
Pastoralism in North-western Namibia*

Michael Schnegg, Julia Pauli and Clemens Greiner

Introduction

We are sitting in front of Elias's hut in the hinterlands of Fransfontein, Namibia, awaiting the return of his cattle and goats to his kraal.¹ In the morning, Elias had made arrangements via mobile phone for a livestock trader to pick up two of his oxen. It is the beginning of the university year and Elias needs to pay N\$2,500 in fees for two courses he wants to take with UNISA, South Africa's largest distance-learning institution.² While we are sitting and waiting for the animals to return he reflects on the investment he is about to make, lamenting the fact that this will significantly reduce his fifteen head of cattle at a time when prices are relatively low. Yet upon thinking about the future his mood swings. Now forty years old he wants to finish his studies within the next two years and start working as a teacher in one of the primary schools in the district. He imagines that once he has a steady income his herd will grow quickly, since he does not have to withdraw animals every time cash is needed in the household. Thus, in less than ten years from now he imagines his herd will be substantial. At that point Elias reflects that he could quit his job as a teacher and become a full-time pastoralist again. This time he would be almost as well-off as the commercial farmers of mainly European descent that live nearby. While for Elias these are future plans, others of his generation live this dream, combining wage labour in Namibian towns and cities with weekend or part-time pastoralism.

The convergence of pastoralism, migration and employment described in this vignette has received relatively little attention in Southern Africa (Rohde et al. 2006; Berzborn 2007; Berzborn and Schnegg 2007; Greiner 2008). Yet similar transformations have been observed in Eastern and Western Africa (Swift 1982; Little 1985; Hogg 1986) and other parts of the world (Barth 1964). Hogg (1986) coined this the 'new pastoralism' and argued that job opportunities which

emerged in Kenya around independence had opened up new economic opportunities for those better educated and connected. These people moved to the cities where they found well-paid jobs in the growing public sector. However, employment could often not provide long-term emotional, financial and social security, and migrants were often reluctant to view their new city houses as their future homes and their new place of belonging.³ As a result, intense linkages between the city and the rural hinterlands emerged (*ibid.*). Little made similar observations among the Il Chamus in Kenya, which led him to re-evaluate the question of whom to blame for the overgrazing and degradation of pastoral landscapes in Baringo District (Little 1985). Scientists and politicians had long identified local herders, trapped in Hardin's 'tragedy of the commons' (Hardin 1968), as the prime movers. In contrast to this popular discourse, Little argued that three distinct groups were to blame for the demise of pastures: first, ranchers coming from commercial farmland that entered territories of neighbouring groups who in turn entered the grazing area of the Il Chamus; two, livestock traders who kept animals in the area before they were brought to market; and three, townsmen who owned large herds on communal territories. Since all three groups were not entirely dependent on pastoralism they seemed to be less concerned with long-term conservation (Little 1985: 146; see also Anderson 2002).

Hogg and Little recognised at about the same time the emergence of a 'new' form of pastoralism in postcolonial societies, one that is linked to migration and people's integration into the labour market. Their works laid the foundation for a new way of looking at the pastoral mode of life, a vantage point that was largely informed by political economy and political ecology (Bryant 1992; Watts, Shepard and Barnes 2000; McCabe 2004; Biersack 2006; Bollig 2006). While Hogg emphasised the critical role employment plays in the diversification of pastoralism, Little focussed on the ecological consequences of part-time farming for local ecosystems and their possible demise.

Their arguments rested on the then dominant scientific model to explain ecosystem dynamics. Until the 1980s it was commonly acknowledged that rangelands tend to approach a fixed equilibrium that is maintained through density-dependent feedback mechanisms. It was assumed that certain biological checks, including slower animal reproduction as vegetation gets scarce, ensured that livestock and vegetation balance around the 'carrying capacity' of an ecosystem. Within this line of thought, pastoralists were often identified as the main threat to ecosystem stability. Overstocking by indigenous groups was made responsible for irreversible degradation, decline in soil fertility, soil erosion and the like, and political interventions were directed to reduce the number of livestock on a given territory.⁴

These long-held assumptions were challenged in the 1980s (Wiens 1984), when it became increasingly evident that ecosystems are often far removed from an equilibrium and largely driven by stochastic and abiotic events. For rangelands the driving force is rainfall. While classical equilibrium thinking puts the emphasis on the link between herbivores and vegetation, non-equilibrium ecologists do not question that livestock require forage. However, they argue that population

densities are often (if not always) below the level where density-dependent regulation occurs. They are kept at these very low levels through extreme droughts that reduce herd sizes independent of prior stocking rates. This shift in the ecological model has important consequences for understanding human activities. If animals have relatively little impact on vegetation, humans can hardly be blamed for its rescue nor its demise (Behnke, Scoones and Kerven 1993; Scoones 1999; Sullivan and Rohde 2002; McCabe 2004). Recent publications indicate that density-dependent (equilibrium) and density-independent (disequilibrium) regulation of herd sizes co-occur in many of Africa's rangelands (Vetter 2005; Gillson and Hoffman 2007). Density dependent regulation seems to be more likely during consequent years of 'normal' rainfall when high stocking rates reduce the vegetation and eventually the quality of the livestock. At the same time, severe droughts still decrease the animal population independent of its prior numbers during extreme and inter-annual droughts (Vetter 2005).

While these coupling mechanisms between different parts of the ecosystem are not entirely understood, it is well known that actors have quite different strategies at hand to respond to drought and other crises. Human vulnerability is not only a function of the extent of external (ecological) stress but is equally shaped by a household's means of coping with perturbations without damage and loss (Chambers 1989; Watts and Bohle 1993; Turner et al. 2003).⁵ Pastoralists across Africa are known for their ample coping strategies. This includes both diversification within the pastoral mode of production as well as outside it by combining livestock keeping with other economic activities (Spencer 1998; Little et al. 2001; Bollig 2006; Berzborn 2007). Diversification outside livestock husbandry is common in Fransfontein, where many households are linked to the labour market through migration (Greiner 2008; Schnegg 2009).

This chapter goes beyond an economic and ecological analysis of the causes and consequences of part-time pastoralism offered by Hogg (1986), Little (1985) and others. Elias's dreams and desires about moving from being a poor, full-time pastoralist to a part-time pastoralist (and wage labourer) to a wealthy full-time pastoralist provide important insights. Not for love or money would Elias imagine himself without livestock. Thus, cattle, goats and sheep mean much more to him than mere economic assets. In contrast to the so-called commercial areas of Namibia where land is privately owned, in the Fransfontein communal area, private land ownership is largely impossible. In this situation the ownership of livestock is the most important way to create and express belonging to the territory and the community.⁶ In this situation, part-time pastoralism is far more than a financial investment; it is also an expression of belonging, identity and group membership.

With great complexity, Appadurai has shown the ongoing centrality of locality production despite a 'dramatically delocalized world' (Appadurai 1996: 178). He thereby differentiates between locality defined as 'phenomenological quality' or 'dimension of social life' (ibid.: 178) from neighbourhood, which Appadurai conceptualises as 'the actually existing social forms in which locality, as a dimen-

sion or value, is variably realized' (ibid.: 179). Appadurai emphasises that locality – that is, a specific 'structure of feeling' (ibid.: 181) or sense of place and belonging – is always historically situated. Actors use a number of cultural techniques, such as rituals, and the building of houses, to produce locality and 'local subjects, actors who properly belong to a situated community of kin, neighbours, friends and enemies' (ibid.: 179).

In Fransfontein, practices and discourses associated with livestock husbandry are central techniques in the production of local subjects, people who properly belong to the area. For those who combine labour migration and part-time pastoralism, these techniques of locality production are especially relevant. For those who migrate, the sense of locality and belonging is often particularly fragile and contested (Lovell 1998; Turton 2005; Pauli 2008). This pastoral belonging must be understood within the context of German and South African colonialism and the violent land dispossession the people of Fransfontein and many other Namibian communities have had to endure. For Fransfontein's full- and part-time pastoralists, the meaning of locality and belonging is thus linked with livestock – even if (or maybe because) they have migrated to other Namibian regions.

The aim of this chapter is to explore the political and economic causes and historically situated dynamics of belonging and identity that have shaped part-time pastoralism(s) in Fransfontein and its social and ecological consequences. After a brief description of the ethnographic context and the methodology we explore in depth the political factors that have driven people into wage labour and part-time pastoralism in Fransfontein, factors that have also centrally shaped the migrants' sense of place and belonging. Next, we show the types of pastoral households that have emerged in this process. Remote-sensing data provide a means of understanding how these strategies impact upon the environment. The analysis leads us to ask what kind of stress the current farming system produces and how this shapes the vulnerabilities and coping capacities of all households involved. In closing we ask how far the desire for pastoral belonging by largely absent migrants has (probably unintentionally) severely reduced the well-being and flexibility of those left behind.

Ethnographic Context

The ethnographic focus of this study is Fransfontein, a community of 137 households in north-western Namibia, and its rural surroundings, which are home to another 161 households.⁷ The semi-arid environment of communal pastureland is dotted with small settlements of 3 to 19 households. These settlements are clustered around drilled boreholes that provide water in a landscape with annual rainfall of approximately 200 to 250 millimetres (Schnegg and Welle 2007). Most inhabitants of the larger Fransfontein area consider themselves to be Damara, Nama, Ovaherero or Ovambo people (Dawids et al. 2007). Before contact with their German colonisers, the Damara were most likely hunter-gatherers who also engaged in significant amounts of small-scale trading and even

iron working. At the same time, some of them worked as herders for other groups (Lau 1987; Barnard 1992; Sullivan 2004). The //Khou/-gôan (Swartboois) Nama arrived around 1880 in the Fransfontein area. At that time most Nama combined pastoralism with trading and raiding (Lau 1987). Under the supervision of German missionaries, the //Khou/-gôan started gardening in a protected area close to the community's fountain. Water must have been relatively abundant at the time and not only enabled growing tobacco as a cash crop but also wine for the missionaries (Schneegg 2007).

More than 100 years later, Fransfontein has a comparably good public infrastructure, part of which comprises remnants of its vital past as an outpost of the Rhenish (*Rheinische*) Mission. At present, the police station, a local government office, a church, a boarding school and a local health clinic are the most significant public institutions. The larger private enterprises in Fransfontein are bars, small grocery shops and the establishments of two car mechanics. While quite a number of households in Fransfontein own livestock, the proportion of livestock owners on the communal lands surrounding the community is much higher.

Data and Methods

Building on research conducted over several research stays, in 2003 and 2004 the two senior researchers, Julia Pauli and Michael Schneegg, carried out eighteen months of fieldwork in Fransfontein. The overarching aim of the larger project is to understand the kinds of new social, economic and cultural practices that people adopt to cope with a harsh and rapidly changing ecological, political and economic environment. This fieldwork included an ethnographic census of 328 households in the study area.⁸ The survey collected information on household composition, property and social and economic strategies. In 2005/6 Clemens Greiner conducted thirteen months of fieldwork in the area. As part of Pauli and Schneegg's research project, Greiner focused on the causes and consequences of migration through a multi-sited study involving the Fransfontein area, the capital Windhoek and the booming harbour city of Walvis Bay.

Reconfiguring Pastoral Belonging: Reserves, Homelands and Migration

Both locality, as a sense of place and belonging, and neighbourhood, as the actual existing social forms of locality (Appadurai 1996), have been highly contested throughout the history of Fransfontein. Massive land dispossession, a trauma that all indigenous communities in southern and central Namibia went through (including Fransfontein), centrally configured and reconfigured both locality and neighbourhood.⁹

Land Dispossession, Colonial Encapsulation and 'Native' Reserves

The expansion of the white settler state had far-reaching consequences for the pastoral way of life in these areas. Focusing on the 1920s and 1930s, Fuller summarises the forced change from an economic system based on (agro)pastoralism to one centred on wage labour as follows: 'During the inter-war years indigenous Namibians in the central parts of the country traded one form of mobility for another. They swapped an agropastoral system of transhumance for tightly controlled entry into limited portions of the labour market' (Fuller 1998: 194). Farm owners of European descent – backed by the colonial administration – rapidly appropriated the land, created boundaries and marked them with fences. Thus, the beginning of privately owned land (and the expression of such in the marking of borders through fences) strongly contrasted with pre-colonial land use by the Damara, Nama, Herero and Baster communities of southern and central Namibia.

The white settlers' demand for land went hand in hand with a strong demand for cheap labour. In the 1920s, over 60 per cent of the 'non-white' population within central and southern Namibia worked on white farms in rural areas (Rohde 1997: 247; Botha 2003). During this time, in Western Namibia reserves such as Fransfontein functioned as labour reserves for the surrounding settler farming community (Rhode 1997: 261). This is clearly expressed in the high percentage of elder Fransfonteiners who have worked on white commercial farms (Pauli 2009a).¹⁰

In his analysis of the development of land-tenure systems in Namibia, Werner (2004) emphasises the connection between the massive land dispossession of indigenous Namibians, the white settler economy's labour needs and the establishment of 'native' reserves. With an area of only 36,188 hectares, Fransfontein was among the first six reserves established by the German colonial administration (*ibid.*: 295). After Germany surrendered to the Union of South Africa, South Africa continued this policy. South Africa's Native Land Act of 1913 served as a 'prototype' for the politics of 'separate development' in Namibia during the first years of South African colonial rule (Fuller 1993: 24; Werner 2004: 296). The establishment of reserves alongside the expansion of white commercial farms heralded the beginning of the dichotomy between 'communal' and 'commercial' land tenure still present today. Access to land directly determined the availability and cost of black workers for the colonial economy (Werner 2004: 292). Because of the limited amount of land left to the indigenous population, the people were not able to survive independently of the white economy and were forced to work for the settlers under intolerable conditions (Fuller 1993: 43–65; Werner 2004: 292). The costs for their employers were extremely low. Not only was there an ample supply of labour but the small amount of land still available to indigenous workers also buffered social security costs (such as health insurance) which neither the state nor the white commercial farmer had to pay (Fuller 1993: 55). Figure 11.1 shows the dynamics of white settler expansion and indigenous colonial encapsulation for Fransfontein through the first decades of the twentieth century.



Figure 11.1: The colonial encapsulation of Fransfontein.

The data in Figure 11.1 have been compiled from regularly updated farm maps that indicate what land was surveyed by the colonial administration. Even though this does not give precise information on when exactly the land was settled by farmers of European descent, it allows a first approximation of the process of land occupation and shows that significant parts of the farmland around Fransfontein were occupied by settlers in the first half of the twentieth century (Schnegg 2007).¹¹ The indigenous populations that inhabited these lands were left with few alternatives: one, to retreat to freehold land in the north and west; two, to start a living as workers for the new landowners; or three, to move to Fransfontein or other reserves and cities. As church records of the places where people were baptised during the first decades of the twentieth century indicate, many people continued to settle in the same place and started to work for the new landowners. Life histories of inhabitants of Fransfontein support this interpretation of the archival material.

Not only around Fransfontein was land increasingly occupied by European settlers. The same process forced a group of relatively wealthy pastoralists to leave Otjoruu, a settlement between Outjo and Omaruru that was granted to them under German colonial rule (Miescher 2006). After failed attempts to stay in their place of residence they decided to leave in 1938 in order to prevent eviction. According to oral traditions, their leader, Lazarus Amporo, sent a message to Petrus Swartboois, the head of the Fransfontein Reserve Board and leader of the Swartboois, asking him to grant his people refuge in Fransfontein.¹² Petrus Swartboois was in favour of the idea but pointed out that the reserve would be too small for all of them, so he made a petition to the South African colonial administration to significantly extend the boundaries of the reserve.¹³ Yet despite

a slight extension of the reserve's boundaries, the available land was far from sufficient to provide a sustainable living for all of its old and new inhabitants. With the arrival of the Otjoruu group, the population in the reserve roughly doubled and livestock numbers quintupled (ibid.: 19). Werner's observation that the 'native' reserves established by the South Africans from 1915 onwards were not created to foster a sustainable livelihood for indigenous Namibians but to fulfil the white settlers' need for cheap labour (Werner 2004: 292) describes these developments in Fransfontein.

The results clearly show how the comparably high stocking rates in Fransfontein have affected the landscape, such that much less vegetation can be found than on the freehold cattle and game farms in the surrounding area. In comparison to the Swartboois territory, the vegetation cover is also thin and contains little buffering capacity for a severe crisis. This difference may be due to a much lower settlement density, stricter rules of access and better institutional solutions. These observations support Klintenberg's findings that degradation occurs around densely populated key resources (Klintenberg and Verlinden 2008).

Vulnerability as a Social Consequence

Vulnerability has emerged as a dynamic concept for capturing the interplay between the stress households or individuals are exposed to and their coping strategies. The foregoing analysis has shown that absentee livestock owners possess a large share of the goats, sheep and cattle that graze in Fransfontein. These animals cause costs and stress that is external to individual households. As we have seen, they shape the availability of fodder for all livestock. While we worked in Fransfontein in 2003/4, the situation did not lead to a loss of animals due to insufficient fodder or water. However, even during these normal years the animals were notably underweight and provided insufficient nutrition and calories for consumers. In addition, informants reported that more lambs died than was perceived to be normal and slowed down the reproduction of the herd. While mechanisms that regulate the number and quality of livestock apply for all households, the part-time farmers have very different coping strategies to hand. To analyse these we must distinguish between 'normal' years with the stocking rates described above and times of extreme drought. Let us turn to the former first.

During normal years animals are sold to meet a household's consumption needs or they are directly consumed. Given their relatively low weight, the price per animal is comparably low. The commercial livestock traders that come to Fransfontein to buy large quantities of livestock are well aware of this and put the livestock on vegetation rich commercial pastures where they quickly gain weight. After three to six months these traders, mostly of European descent, sell the animals on the commercial meat market. The combination of this weight gain and the difference paid per kilogram in Fransfontein and in urban centres is so significant that the margins for the traders are enormous. Traders do not only profit from the low quality of livestock but additionally from price differences

between Fransfontein and the town of Outjo, some 150 kilometres away, where the nearest national meat market is located.

Migration and Homelands

With the establishment of Apartheid in the 1960s and 1970s in Namibia, this colonial policy continued. The Odendaal Commission made recommendations on how to implement Apartheid politics and declared the area around Fransfontein to be part of the Bantustan 'Damaraland' (RSA 1964 [Odendaal Report]). For the creation of Damaraland, 223 farms were bought from white owners (Rohde 1997: 258). This land, some state land and three existing reserves – Okombahe, Fransfontein and Sesfontein – became Damaraland (ibid.: 259). Throughout the 1970s and 1980s many people classified as 'Damara' by the South African Apartheid regime were relocated into what had become 'their' homeland. But efforts to resettle Damara people were only partly successful. Already in the 1950s Damara were the most urbanised ethnic group, living in large numbers outside the territory of the later Damaraland (Peyroux 2004: 41), and in 1981 only 24,000 of the 76,000 persons classified as Damara by the South African authorities were living within the boundaries of 'their' homeland (Botha 2003). The high rate of urbanisation was, however, not an expression of choice. As during the earlier German and South African colonial periods, the manifold economic and ecological limitations of the 'homeland' forced people to leave and migrate to Namibia's towns and cities.

These causal relationships are explicitly named in the Odendaal Commission's report, which states that subsistence agriculture could feed only a minority of the population within Damaraland (RSA 1964: 93 [Odendaal Report]). Unlike the 8,500 hectares which were considered the minimum amount of land a 'white' farmer needed for farming, families in the newly created Damaraland had to survive on average on a meagre 250 hectares per family. Many Fransfonteiners were not able to live in the 'homeland' but had to live on white commercial farms or in the Windhoek township of Katutura (Barnard 1992: 213; Rohde 1997: 259). This situation was comparable to the situation in other homelands: 'As none of these artificially created homelands was economically viable in terms of subsistence agriculture, the inhabitants were forced to look for wage employment in order to provide for their families' (Jauch 1998: 28). This lived experience of violent land possession and the need to migrate in order to survive clearly shaped the kind of pastoral belonging that developed among part-time pastoral migrants. In the next section we will discuss the current pastoral configurations that have emerged from these complex historical processes.

Pastoralism in Fransfontein Today

The availability of land for the people of Fransfontein did not change significantly after independence in 1990, although the Namibian government started

to buy commercial farms under a 'willing seller, willing buyer' scheme (Bollig 2004). When we began our field research in 2003 we thus found a situation of land ownership that was still largely circumscribed by the colonial encapsulation described above. Yet although the options for full-time pastoralism have not really improved, in many conversations the wish to become an autonomous full-time pastoralist was conspicuously expressed. During an interview with Julia Pauli in August 2005, 34-year-old Petrus, for instance, said that he wanted to 'become a farmer with a vision; then I know that I am on my own now', while in August 2004, Theresa, then fifty-four years old and having retired early from a well-paid government job, explained to Julia Pauli during a life history interview: 'All I want to do is to get a farm – not a farm on my own, but a place on a farm where I can go and start farming with goats and cows'. Remarkably, these pastoral desires and sense of belonging do not depend on gender, generation, location or class. Both men and women, elder and younger Fransfonteiners, wealthy migrants from Windhoek and local school teachers, name full-time pastoralism as an ultimate goal in their lives. These attitudes must be understood in relation to the violent Fransfontein history and forced dispossession briefly outlined above. In this context livestock husbandry is not only a means to survive but also a means of creating belonging regarding a place and a social group.

Many Fransfontein households diversify their productive strategies. This form of combined pastoralism is well described by Hogg's term 'new pastoralism' (Hogg 1986; cf. Little 1985). Livestock herding is, and for a long time was, only one part of a complex bundle of strategies used to sustain the livelihood of the household, a bundle that also includes wage labour, remittances from migrants, welfare payments from the state and small-scale economic activity. Elsewhere we have described in more detail how these strategies are combined, how they vary with economic status and how they relate to the emergence of localised elites since the 1970s (Greiner 2008; Pauli 2009a, 2009b; Schnegg 2009). The following section builds on these insights and introduces three types of pastoral household that have developed in the light of these historical developments in the Fransfontein area.

Impoverished Rural Full-time Pastoralists and Their Children

Justus is an elderly man whose eight children live partly on the one farm and partly in the towns Khorixas and Outjo. Fifty years ago, Justus's parents moved into the area and settled on one of the communal Fransfontein settlements. He is well connected through marriage and descent with most other members of the community. When Justus was younger, he and his late wife Maria both lived on different white commercial farms in the area where Justus and sometimes his wife found employment. Their children, including the ones who have migrated, do not have well-paid jobs and there has been no investment in the parental house, which remains in rather poor condition. Justus owns a meagre ten goats and two cows, which he bought with the money he made as a wage labourer. These animals are kept in the kraal next to the house. The animals are not guarded by a

herder when they go out to the field during the day. This means that the household is rather vulnerable to stock theft. In addition to their farming income, Justus receives a pension which provides them with cash.

Return Migrants with Economically Better-off Children

Emma's parents were the first Damara-speaking people to settle on a small farm settlement in the Fransfontein communal area. By the end of the 1960s, when she was in her thirties, and together with her husband, a local Herero, Emma left the Fransfontein area for the nearby town of Khorixas. Some years later they left for Okombahe, where Emma's sister's husband was employed as a janitor and cook in a local primary school. In the mid 1990s, and after her husband's retirement, Emma and her husband returned to the Fransfontein area and resettled on another communal settlement. Today, Emma lives in a traditionally built house on a sandy plot of land located not far from her sister's house. The main house is traditionally built from poles of mopane, clay and cow dung. Next to this house a smaller one has been built with cement and bricks. It belongs to Emma's daughter who is living in Windhoek. Emma's husband passed away years ago, as have five of their eight children. Currently, she is living together with five of her grandchildren and great-grandchildren. The household's income situation is dominated by Emma's monthly old-age pension. Apart from this regular revenue, income also stems from remittances sent by the children living and working in urban areas of the country, especially by the grandchildren's parents. Officially, the household is not in possession of any livestock because Emma has handed over the livestock she accumulated during her husband's employment to her surviving children as a *pre mortem* inheritance. However, the milk and sometimes also the meat of the animals are mostly consumed by the household. Emma's children send money to pay for a hired herder, animal medicines and water fees. The animals – a moderately sized herd of nine cattle and fifty-nine goats – are kept together in a kraal with the livestock of her sister's nearby household.

Successful Migrants and Part-time Pastoralists

The part-time pastoralist households clearly differ from the two types of household described above. John, today in his forties, was born in the Fransfontein area but left the region at an early age, going to school first in Khorixas and then in Windhoek. After independence he became a manager. Despite owning a big and luxurious townhouse and taking holidays on the Cape, John nevertheless continues to invest in a herd in the Fransfontein communal area. Furthermore, he spends many weekends in Fransfontein taking care of his cattle and observing the construction of his rural house. During the week, John's herd is watched by a brother and hired herders. In many conversations John stressed how central it is to him to belong to the Fransfontein area. He wants to have his cattle on his 'home soil', not at a commercial farm far away.

Like John, Junius has a well-paid and prestigious occupation. Junius has worked all his way up to become a senior operator at the Rossing uranium mine in Arandis. He started working in the open pit in the early 1980s. At that time, a disastrous drought was affecting the country, killing much of the livestock. Many young men like Junius were forced to leave their parental farms in search of employment. He spent a great deal of his early earnings buying new livestock, which he kept in his father's kraal. This helped the family to survive. Eventually, the family herd recovered and reached a size that could no longer be managed by family members alone. Wages in the mining sector rose quickly over the years and Junius and his brother started looking for a hired herder. When Junius's parents died in the 1990s, Junius and his brother inherited a considerable number of cattle from their parents. At the same time, Junius kept investing in the herd. His brother, meanwhile retired from the mine, took over the parental home, raising his own animals and supervising the worker who keeps Junius's livestock. During the drought that befell the country again in the early 1990s, Junius decided to take the better part of his goats to another communal farm in the Kamanjab area, where he hired another worker to look after animals. Junius feels, however, that his home and the land to which he belongs is the parental farm and the Fransfontein communal area. There, he plans to resettle with his wife as soon as he retires from work. As with John, Junius spends most of his weekends and holidays at his Fransfontein home, looking after his sizable herd, which amounts to around seventy mature animals.

Distribution of Livelihoods and Livestock

All these examples show that pastoralism is embedded in a wider range of economic strategies that often involve the mobility of people, resources and ideas between rural and urban livelihoods (Schnegg 2009; Greiner 2010). For those who have become successful away from Fransfontein, investment in livestock is both an attractive economic option and a central means of maintaining a sense of belonging. Livestock possessions are visible and highly prestigious.

Table 11.1: Distribution of different household types in Fransfontein (n = 130).

	Percentage of all households	Average number of LSU	Total number of LSU
Local full-time pastoralists	18.5	17.8	427
Households combining full- and part-time pastoralism	64.6	29.1	2442
Absent owners and part-time-only pastoralists	16.9	40.4	890
Overall average		28.9	
Total	100		3759

Table 11.1 shows the average and total number of livestock units (LSU) owned by three different groups among a sample of 130 rural households of the Fransfontein communal area.¹⁴ To allow for comparison between different types of pastoralism, livestock numbers are commonly converted into LSU: one head of cattle and seven goats or sheep equal one LSU. As Table 11.1 shows, the 18.5 per cent of households that act only locally own fewer livestock than the overall average (17.8 LSU/household against 28.9 LSU/household). They also own only a small proportion of the total amount of livestock found in Fransfontein. Although the total number of entirely absent owners is equally small (16.9 per cent), these own many more animals (40.4 LSU/household). However, most households fall into the second category. They take care of their own and partly their relatives' property. Unfortunately, it is often very difficult to assess how many of the animals belong to locally residing people and how many belong to migrants. This would require a livestock census listing individual ownership. However, official livestock records usually aggregate figures at the household level, making it difficult to pin down livestock ownership to individuals. Even if such data were collected ethnographically, they might easily be biased as property rights are not entirely fixed and are open to negotiation. For Fransfontein we were able to achieve first approximations from case studies indicating that the largest part of the livestock population in those herds belongs to people who live outside the community. The second household type (full- and part-time pastoralism) combines multiple strategies at the household and family-network levels to profit from price differences between the cities and the rural areas: while wages are much higher in urban areas, meat is much cheaper in Namibia's hinterlands. Combining rural and urban livelihoods, households utilise this price difference by transferring meat from rural to urban places and money made through wage labour in the opposite direction. This price difference is also used commercially by some pastoralists. A donkey carcass, for example, has a value four to five times greater in the city than in Fransfontein (Greiner 2008; Greiner and Schnegg 2009).

Assessing the Consequences of Part-time Pastoralism

Ecological Consequences

Stocking rates are a common means of measuring and comparing the extent of pasture usage. They can be expressed either as hectares per LSU or as kilograms per hectare. Unfortunately relatively little data exists on stocking rates in Namibia.

Table 11.2 gives an overview of stocking rates that have been reported for comparable pastoral economies in Namibia. The figures indicate that the stocking rate in Fransfontein is very high in comparison with other communal and commercial farming systems in the country.¹⁵ The following analysis reveals that this has effects on the vegetation. In a second step we will ask how this produces stresses on the livestock and consequently shapes the vulnerability of livestock owners.

Table 11.2: Stocking rates that have been reported among Namibian pastoralists.

Region	Rainfall (mm/year)	Hectares/LSU	Kilograms/hectare ¹⁶	Source
Otjimbingwe, communal		18.99	23.69	Ward et al. (1998: 359)
Otjimbingwe, commercial		40.38	11.14	Ward et al. (1998: 359)
Omaruru area, communal	100–200		4.07	Burke (2004: 394)
Omaruru area, commercial 1	100–200		3.70	Burke (2004: 394)
Omaruru area, commercial 2	200–300		8.20	Burke (2004: 394)
Fransfontein	200–250		31.73	Own data

Remote sensing techniques allow the monitoring of the vegetation cover of large geographical areas. Grasses and savannah trees are the typical vegetation of the Fransfontein area and are the fodder for the livestock held there. To interpret the results from Fransfontein we will compare them with commercial and communal management systems around Fransfontein that share many geo-biophysical characteristics. Firstly, there are the commercial farms on which white owners of European descent raise cattle (classified as ‘cattle farms’ in Figure 11.2 and Table 11.3) and game (‘game farms’). Second are the communal conservancies that have been established in Namibia to protect wildlife and allow the conservation and marketing of natural resources throughout the community (‘//Huab conservancy’) and the communal territory of the Swartboois, which is largely occupied by relatively few Nama families (‘Swartboois’).

The data were taken from a Landsat ETM scene on 18 May 2001. To estimate and compare vegetation cover, the normalised difference vegetation index (NDVI) is an acknowledged parameter, with NDVI values commonly used to distinguish between vegetation and non-vegetation areas.¹⁷ NDVI values ranges from –1.0 to 1.0, higher index values indicating higher levels of vegetation cover and lower or negative values representing clouds, bare soil, low vegetation cover or dead vegetation. In the present case, NDVI values were calculated and the interval scale measure was divided into ten steps (Schnegg and Welle 2007).

Figure 11.2 shows the NDVI values for the larger research area. The colour scale goes from green to brown, green indicating the highest NDVI values, hence most vegetation (see caption). Figure 11.2 reveals some contrasts between Fransfontein and the surrounding management systems. The vegetation cover is highest on the game farms and the Swartboois farms, whereas Fransfontein and the conservancy area are covered by the least vegetation. The low vegetation cover in the conservancy area may come as a surprise. There are two explanations

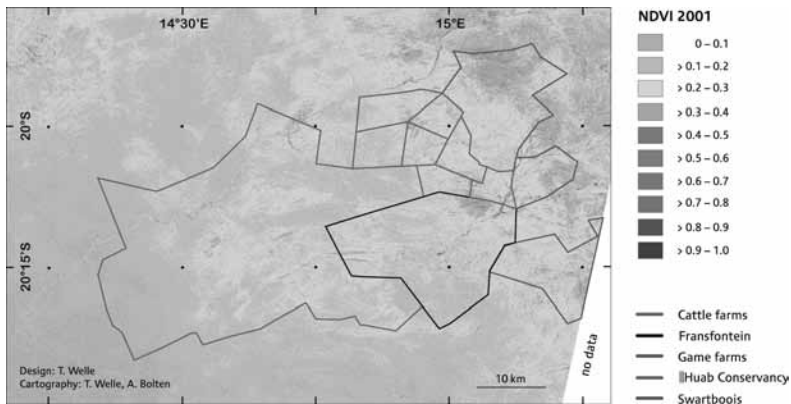


Figure 11.2: NDVI values for the larger Fransfontein area, 2001.

for this: Firstly, at the time of the data collection, the conservancy was not fully established and had not yet imposed any restrictions on the number of livestock a household could keep. The land was thus used as communal farmland just like the area around Fransfontein. Secondly, the geomorphologic structure of the landscape is slightly different. The rocky hills of the conservancy area are relatively infertile, and so one finds little vegetation. Commercial cattle ranches fall in between the two extremes. Table 11.3 summarises these differences numerically. It gives the average NDVI values for all five areas.

Table 11.3: Average NDVI values, 2001.

	2001
Fransfontein	0.227983
Swartboois	0.267786
//Huab conservancy	0.194228
Game farms	0.287077
Cattle farms	0.248414

Even though this affects households of all types, those that rely mostly on wage labour and have steady cash incomes at the individual or at the household level are less often forced to sell under these disadvantageous conditions. While large herd owners rent a truck to transport their animals to market, the small-scale farmer is left only with the opportunity of selling their animals to a trader who comes to Fransfontein. In the absence of real competition and with arrangements favouring the buyer, traders are in a favourable position. An example of live-weight prices for goats underlines this. At a livestock auction in the Fransfontein area in 2005, prices between N\$8 and N\$12 per kilo were offered. At that time the average national auction price was above N\$20.¹⁸

Disequilibrium theories argue that during extreme years, livestock mortality is independent of its prior population density. This means that all households face equal ecological stresses. But the means of coping differ even more during critical times. However, as there was no drought during our fieldwork periods we do not have first-hand data that would allow us to describe how different households respond to inter-annual droughts such as the 1992/93 crisis. This limits the following analysis to an assessment of the potential strategies that actors could adopt. We have extracted these strategies from the literature and our own interviews, and will discuss how the three different household types can access different kinds of capital to react to crisis. The analysis reveals three dominant strategies.

Moving animals to another area: A common strategy for coping with drought is to move animals to areas that are less affected. In Fransfontein this can mean either simply moving livestock or moving the entire household. The three types of pastoral household introduced above have very different access to this strategy. The absent livestock owner who hires a herder to supervise his animals can relatively easily move his herd to a new location. Most of these part-time pastoralists have financial resources and also own cars which make remote areas relatively easily accessible to them. Their political and social capital is also likely to pave their way to being accepted as new members in the settlement they move to. The two other pastoral household types are much less flexible when it comes to moving animals and other assets. Not only do they often lack the financial capital to organise moving livestock, but a move will also disconnect them from the multi-neighbourhood networks that buffer daily risks.

Selling animals as long as prices are good: A second common strategy is the sale of animals. The sooner one anticipates the situation the better the price will be, as in drought years the market is flooded both by communal and by commercial livestock owners. As mentioned before, market prices in Fransfontein are significantly lower than in Outjo and Otjiwarongo. To rent a lorry to transport the animals to the market place requires social and economic capital that will only pay off if large numbers of animals are sold at once. Thus it is often not an option for more economically marginalised pastoral households (the first two types in Table 11.1). Once animals are sold the money is invested or used. However, in the extremely sparsely populated and poor area around Fransfontein in particular, alternative investment options are scarce. Also, the demands of others who see that a household has just sold most of its property will put it under pressure to give a fair share of the money it has obtained to kith and kin. In combination, both factors often lead to a situation in which most of the money is used up after a short period of time without any long-term effect on the household economy and its livelihood. This makes selling a very difficult strategy for locally embedded and rooted pastoral households.

Buying fodder: Buying hay or other fodder is a coping strategy often utilised by commercial farmers. Among communal households this is often not an easy option as it requires a lot of capital and also information, transportation and storage, usually unavailable to all three pastoralist household types. However, those

who are more closely connected to urban centres buy fodder for lambs if the milk from their mothers and the available grazing is insufficient to feed them.

The intersection between two components – stress and coping strategies – shapes the vulnerability of households. In sum, the foregoing analysis indicates that while the effect of overstocking is the same for all animals, the declining livestock quality and the threat of loss concerns them quite differently. This has to do with the different coping mechanisms at hand. Household vulnerability thus increases as we move from local through mixed-migrant to absentee-pastoral farmers.

Conclusion

The sense of belonging among pastoralists in Fransfontein has been shaped by the complex historical trajectories of land dispossessions, reserves, homelands and migration patterns. These ruptures have led to specific forms of locality and neighbourhood (Appadurai 1996). The passionate desire, expressed by so many Fransfontein people who differ according to generation, gender, class and location, to live an independent life as full-time pastoralists is, on the one hand, an important economic strategy and, on the other hand, a central way to create and maintain belonging to the area. However, as we have shown, the social and ecological costs of the combination of these economic and coping strategies and the desire to belong strongly vary depending on the type of pastoralist household.

As in other parts of Africa, migrants from Fransfontein are reluctant to see their city dwellings as their home and place of belonging. Even very wealthy urban migrants maintain ties to their birth place, and they often invest heavily in livestock that is kept on the communal lands around Fransfontein. This investment serves multiple purposes. It is a risk-minimisation strategy against economic crisis. In the long run it can also serve as the basis for a rural livelihood at a later stage in life. And finally it serves as a means of creating identity and belonging. Through livestock keeping, migrants remain 'local actors' (Appadurai 1996). Yet these economic and symbolic strategies of absent wealthy migrants also have costs, albeit not for the part-time pastoralists but for those who stay behind and are forced to survive as full-time pastoralists on the Fransfontein communal lands. Compared to other areas in Namibia, the stocking rates are high and the landscape in Fransfontein is much less vegetated than its surroundings. This produces physical stress on all animals, leading to animals being relatively low in weight and having a slow rate of reproduction. The environmental costs produced by rich townfolk are external and shape the availability of vegetation and the quality of livestock for all inhabitants. Economically marginalised, full-time pastoralists have fewer means of coping with this situation. This strongly shapes the vulnerability of pastoral households – especially during times of crisis. The message of these ecological, social and economic analyses is very clear: the better a household is embedded in the labour market, the better it is equipped to cope with a crisis. Thus, the wealthy part-time and weekend pastoralists living in

Namibia's cities are best prepared to survive the next crisis, most likely another drought. They will maintain both their sense of belonging to a pastoralist life-world and their livestock.

But how will the locally based and much more vulnerable full-time pastoralist households survive the next critical ecological event? In her analysis of Molepolole, a rural area of Botswana, Anne Griffiths classifies the local population into two basic social and economic forms: the 'peasantariat' and the 'salarit' (Griffiths 1997: 24–25). The peasantariat has to survive through a mixture of economic strategies, involving crops, cattle and unskilled wage labour (*ibid.*: 24), and occupy what Spencer had called an increasingly marginalised niche (Spencer 1998). The salariat, in contrast, constitute the small, educated elite with stable employment. In Fransfontein, the salariat consists of the wealthy absent part-time pastoralists portrayed here and the small local elite of politicians, civil servants and professionals such as teachers (see Pauli 2009a, 2009b). The two other types of pastoral household – locally based full-time pastoralists with varying successful migrating children and grandchildren – comprise a peasantariat.

There is a tragically high likelihood that with the next drought many poor, locally based full-time pastoralists will turn into something like a 'pastoralariat', losing all their animals and being left with nothing more to offer than their physical labour as herders. Some impoverished households in Fransfontein have already emerged as such a group. They are mostly marginalised, consisting for instance of many needy single mothers (Pauli 2009a: 72–136). Households such as these may provide a glimpse of the future for many vulnerable and poor pastoral households that still possess some livestock but are unable to cope with an ecological crisis, such as a drought. Pastoralism, which has been the prime economic activity and source of belonging for a number of generations of people in Fransfontein, will then become more and more a fashion, a lifestyle of the urban and the rural elites.

Notes

The data presented here were collected during several research stays as part of the collaborative research project 'Arid Climate, Adaptation and Cultural Innovation in Africa' (SFB 389) and funded by the German National Science Foundation (DFG).

1. All names of informants are pseudonyms.
2. In 2004 when this incident happened the exchange rate between one Namibian dollar (N\$) and one euro was approximately 8.5:1.
3. A very similar pattern was observed by Watson some decades ago among migrants on the Copperbelt (Watson 1958).
4. For a good discussion of the issues, see Anderson (2002) and Rohde et al. (2006).
5. The perspective of individual actors and classes of similar actors has often been neglected in ecological anthropology.
6. Currently (2008 onward) this is starting to change and pastoralists have to register for certain farming areas under the new land legislation.
7. These figures are based on census data collected by Pauli and Schnegg in June 2004.

8. The questionnaire was administered through ten local assistants who had been trained in ethnographic interviewing skills during a two-week workshop by the lead researchers.
9. Massive land dispossession did not occur in Namibia's northern territories, though. The 'settler state model' (Silvester, Wallace and Hayes 1998: 18–19) is thus not the appropriate model for understanding historic processes in all parts of the country. There is no one grand narrative of land dispossession in Namibia, as Silvester, Wallace and Hayes remind us (ibid.). However, for Fransfontein the 'settler state model' is the dominant model.
10. Until the uprising of 1904 to 1907, indigenous Namibians from southern and central Namibia had mainly been exploited as cheap sources of labour (Jauch 1998). After the genocide, the system of migrant contract labour with north Namibia was established (Moorsom 1995).
11. For a much more detailed analysis, see Dieckmann (this volume).
12. Reserve Boards were the political body established by the South African administration to represent the local inhabitants against the colonial power.
13. The colonial archives tell a slightly different story, though. According to the written records, the extension of the Fransfontein reserve was granted at about the same time, not to accommodate the 'Ovambo' settlers though but to make space for Nama migrants from Grootfontein and Walvis Bay.
14. The number of cases is lower than the number of households on the communal lands because households of herders who do not possess animals were excluded from the analysis.
15. According to our observations the processes causing these stocking rates are similar in many parts of central Namibia. The difference may indicate that they are more advanced here than elsewhere.
16. Calculations are based on 450 kilograms per cow (Ward et al. 1998: 359).
17. The NDVI value gives the difference of the reflectance between the near infrared (Landsat Band 4) and the red (Landsat Band 3) spectral ranges, which is divided by the sum of the reflectance between the near infrared and the red spectral ranges. Thus: $NDVI \text{ value} = \frac{\text{near infrared} - \text{red}}{\text{near infrared} + \text{red}}$.
18. The auction data here comes from our fieldwork, while national data was obtained from the Namibian Meat Board (<http://www.nammic.com.na/stats.php>).

References

- Anderson, D. 2002. *Eroding the Commons: The Politics of Ecology in Baringo, Kenya, 1890s–1963*. Oxford: James Currey.
- Appadurai, A. 1996. *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press.
- Barnard, A. 1992. *Hunters and Herders of Southern Africa: A Comparative Ethnography of the Khoisan People*. Cambridge: Cambridge University Press.
- Barth, F. 1964. 'Capital, Investment and the Social Structure of a Pastoral Nomad Group in South Persia', in R. Firth and B.S. Yamey (eds), *Capital, Saving and Credit in Peasant Societies*. London: Allen and Unwin, pp.69–81.
- Behnke, R.H., I. Scoones and C. Kerven. 1993. *Range Ecology at Disequilibrium: New Models of Natural Variability and Pastoral Adaptation in African Savannas*. London: Overseas Development Institute.

- Berzborn, S. 2007. 'The Household Economy of Pastoralists and Wage-labourers in the Richtersveld, South Africa', *Journal of Arid Environments* 70: 672–85.
- Berzborn, S., and M. Schnegg. 2007. 'Vulnerability, Social Networks, and Resilience: Rural Livelihoods in the Richtersveld, South Africa', in B. Lohnert (ed.), *Social Networks in South Africa*. Saarbrücken: Verlag für Entwicklungspolitik, pp.115–47.
- Biersack, A. 2006. 'Reimagining Political Ecology: Culture/Power/History/Nature', in A. Biersack and J. Greenberg (eds), *Reimagining Political Ecology*. Durham: Duke University Press, pp.3–42.
- Bollig, M. 2004. 'Die Landreform in Namibia', in L. Förster, D. Henrichsen and M. Bollig (eds), *Namibia – Deutschland: Eine Geteilte Geschichte*. Munich: Minerva, pp.304–23.
- 2006. *Risk Management in a Hazardous Environment: A Comparative Study of Two Pastoral Societies*. New York: Springer.
- Botha, C. 2003. "'Development", Survival and Adaptation in the Former Damara "Homeland" of Namibia', in *Geography and Environmental Studies I*. Windhoek: Department of Geography and Environment Studies, University of Namibia.
- Bryant, R.L. 1992. 'Political Ecology: An Emerging Research Agenda in Third World Studies', *Political Geography* 11: 12–36.
- Burke, A. 2004. 'Range Management Systems in Arid Namibia: What can Livestock Numbers Tell Us?' *Journal of Arid Environments* 59: 387–408.
- Chambers, R. 1989. 'Vulnerability, Coping and Policy', *Institute of Development Studies Bulletin* 20: 1–7.
- Dawids, F., et al. 2007. *Living Together: Culture and Shared Traditions in Fransfontein, Namibia*. Cologne: Heinrich Barth Institut.
- Fuller, B.B. 1993. 'Institutional Appropriation and Social Change among Agropastoralists in Central Namibia, 1916–1988', PhD dissertation. Boston: Boston University.
- 1998. "'We Live in a Manga": Constraint, Resistance and Transformation on a Native Reserve', in P. Hayes et al. (eds), *Namibia under South African Rule: Mobility and Containment 1915–1946*. Oxford: James Currey, pp.194–216.
- Gillson, L., and M.T. Hoffman. 2007. 'Rangeland Ecology in a Changing World', *Science* 315: 53–54.
- Greiner, C. 2008. *Zwischen Ziegenkraal und Township: Migrationsprozesse in Nordwestnamibia*. Berlin: Reimer.
- 2010. 'Patterns of Translocality: Migration, Livelihoods and Identities in North-west Namibia', *Sociologus* 60(2): 131–61.
- Greiner, C. and M. Schnegg. 2009. 'Urban-Rural Lifestyles'. *Development and Cooperation* 36(6): 254–55.
- Griffiths, A. 1997. *In the Shadow of Marriage: Gender and Justice in an African Community*. Chicago: University of Chicago Press.
- Hardin, G. 1968. 'The Tragedy of the Commons', *Science* 162: 1243–48.
- Hogg, R. 1986. 'The New Pastoralism: Poverty and Dependency in Northern Kenya', *Africa* 56: 319–33.
- Jauch, H.M. 1998. *Affirmative Action in Namibia: Redressing the Imbalances of the Past?* Windhoek: New Namibian Books.
- Klintonberg, P., and A. Verlinden. 2008. 'Water Points and their Influence on Grazing Resources in Central Northern Namibia', *Land Degradation and Development* 19: 1–20.
- Lau, B. 1987. *Southern and Central Namibia in Jonker Afrikaner's Time*. Windhoek: National Archives of Namibia.

- Little, P. 1985. 'Absentee Herd Owners and Part-time Pastoralists: The Political Economy of Resource Use in Northern Kenya', *Human Ecology* 13: 131–51.
- Little, P.D., et al. 2001. 'Avoiding Disaster: Diversification and Risk Management among East African Herders', *Development and Change* 32: 401–33.
- Lovell, N. (ed.). 1998. *Locality and Belonging*. London: Routledge.
- McCabe, J.T. 2004. *Cattle Bring Us to Our Enemies: Turkana Ecology, Politics, and Raiding in a Disequilibrium System*. Ann Arbor: University of Michigan Press.
- Miescher, G. 2006. *The Ovambo Reserve, Otjeru (1911–1938): The Story of an African Community in Central Namibia*. Basel: Basler Afrika Bibliographien.
- Moorsom, R. 1995. *Underdevelopment and Labour Migration: The Contract Labour System in Namibia*. Windhoek: University of Namibia, Department of History.
- Pauli, J. 2008. 'A House of One's Own: Gender, Migration and Residence in Rural Mexico', *American Ethnologist* 35(1): 171–87.
- 2009a. 'Celebrating Distinctions: Marriage, Elites and Reproduction in Rural Namibia', Habilitation dissertation. Cologne: Universität zu Köln.
- 2009b. '(Re)producing an Elite: Fertility, Marriage and Economic Change in North-west Namibia', in C. Greiner and W. Kokot (eds), *Networks, Resources and Economic Action: Ethnographic Case Studies in Honour of Hartmut Lang*. Berlin: Reimer, pp.303–25.
- Peyroux, E. 2004. *Windhoek, Capitale de la Namibie: Changements Politiques et Recompositions des Périphéries*. Paris: Karthala.
- Rohde, R. 1997. 'Nature, Cattle Thieves and Various Other Midnight Robbers: Images of People, Place and Landscape in Damaraland, Namibia', PhD dissertation. Edinburgh: Edinburgh University.
- Rohde, R., et al. 2006. 'Dynamics of Grazing Policy and Practice: Environmental and Social Impacts in Three Communal Areas of Southern Africa', *Environmental Science and Policy* 9: 302–16.
- RSA. 1964. 'Report of the Commission of Enquiry into South West African Affairs' [Odendaal Commission]. Pretoria: Government Printer, Republic of South Africa.
- Schnegg, M. 2007. 'Batling Borderlands: Causes and Consequences of an Early German Colonial War in Namibia', in M. Bollig et al. (eds), *Aridity, Change and Conflict in Africa*. Cologne: Heinrich-Barth-Institut, pp.247–64.
- 2009. 'It's the Combination that Counts: Diversification of Pastoral Livelihoods in North-western Namibia', in C. Greiner and W. Kokot (eds), *Networks, Resources and Economic Action: Ethnographic Case Studies in Honour of Hartmut Lang*. Berlin: Reimer, pp.229–48.
- Schnegg, M., and T. Welle. 2007. 'Inequalities Inscribed in Landscape', in O. Bubenzer, A. Bolten and F. Darius (eds), *Atlas of Cultural and Environmental Change in Arid Africa*. Cologne: Heinrich Barth Institute, pp.100–3.
- Scoones, I. 1999. 'New Ecology and the Social Sciences: What Prospects for a Fruitful Engagement?' *Annual Review of Anthropology* 28: 479–507.
- Silvester, J., M. Wallace and P. Hayes. 1998. "'Trees Never Meet": Mobility and Containment: An Overview 1915–1946', in P. Hayes et al. (eds), *Namibia under South African Rule: Mobility and Containment 1915–1946*. Oxford: James Currey, pp.3–48.
- Spencer, P. 1998. *The Pastoral Continuum: The Marginalization of Tradition in East Africa*. Oxford: Clarendon Press.
- Sullivan, S. 2004. 'Natural Resources: Use, Access, Tenure and Management', in T. Bower-Bower and D. Potts (eds), *Eastern and Southern Africa*. London: Addison Wesley Longman, pp.118–66.

- Sullivan, S., and R.F. Rohde. 2002. 'On Nonequilibrium in Arid and Semi-arid Grazing Systems', *Journal of Biogeography* 29: 1–26.
- Swift, D. 1982. 'The Future of African Hunter-gatherer and Pastoral Peoples', *Development and Change* 13: 159–81.
- Turner, B., et al. 2003. 'A Framework for Vulnerability Analysis in Sustainability Science', *Proceedings of the Natural Academy of Sciences* 100: 8074–79.
- Turton, D. 2005. 'The Meaning of Place in a World of Movement: Lessons from Long-term Field Research in Southern Ethiopia', *Journal of Refugee Studies* 18: 258–80.
- Vetter, S. 2005. 'Rangelands at Equilibrium and Non-equilibrium: Recent Developments in the Debate', *Journal of Arid Environments* 62: 321–41.
- Ward, D., et al. 1998. 'Land Degradation Is Not a Necessary Outcome of Communal Pastoralism in Arid Namibia', *Journal of Arid Environments* 40: 357–71.
- Watson, W. 1958. *Tribal Cohesion in a Money Economy: A Study of the Mambwe People of Zambia*. Manchester: Manchester University Press.
- Watts, M., and H. Bohle. 1993. 'The Space of Vulnerability: The Causal Structure of Hunger and Famine', *Progress in Human Geography* 17: 43–67.
- Watts, M., E. Sheppard and T.J. Barnes. 2000. *Political Ecology*. Malden, MA: Blackwell.
- Werner, W. 2004. 'Landenteignung, Reservate und die Debatte zur Landreform in Namibia', in L. Förster, D. Henrichsen and M. Bollig (eds), *Namibia – Deutschland: Eine Geteilte Geschichte*. Cologne: Ethnologica, pp.292–303.
- Wiens, J. 1984. 'On Understanding a Non-equilibrium World: Myth and Reality in Community Patterns and Processes', in D.R. Strong (ed.), *Ecological Communities: Conceptual Issues and the Evidence*. Princeton, NJ: Princeton University Press, pp.439–57.