PART 1

Introduction
1 Doing Research on a Changing Savannah Landscape

This book is about changing social-ecological relations in a southern African savannah landscape framed as an ‘Arid Eden’ in recent literature (e.g. Owen-Smith 2010), as a ‘last frontier’ by early twentieth-century travellers (Green 1952), and as ancestral land by Namibia’s Herero communities (Bollig 1997). How did change come about in this ‘Arid Eden’, and how did such a landscape become an Eden in the first place? How did a ‘last frontier’ become construed, and how did (and do) local pastoralists relate to this landscape? How does ‘Arid Eden’ develop today under the forces of globalisation and what do its future prospects look like in the face of climate change and quests for mineral resources? The intricate relations between humans, arid savannah grasslands, and co-evolving domesticated and non-domesticated fauna constitute the central focus of this book. What follows is a history of infrastructural change and local agency, violence and encapsulation, state power and local resistance, contested knowledge and globalisation. Humans have formed this arid landscape in many ways: through their ways of herding, by changing the hydrological system through extensive borehole-drilling, by eradicating wildlife in the twentieth century, and by creating conditions leading to a phenomenal resurgence of wildlife numbers in the early twenty-first century. The environment has not been a passive recipient of human action though: elephant herds have shaped riverine vegetation, and the grazing behaviour of non-domesticated herbivores has impacted the vegetation patterns of the wide pre-Namib plains. The story to be told is not only a history of an intense coupling of species but also a history of power struggles between wealthy cattle patrons and foraging clients, between established homesteads and recent migrants, between a repressive colonial regime and local herders, and between conservationists (national and international) and advocates of mining development. Beyond material relations and power, it is a history of imaginations of a fabled cattle country, a last wilderness, and a prizewinning...
conservation area – visions that are in outright conflict with narratives of the place as a terribly overgrazed landscape, a ‘besieged desert’ (Reardon 1986), and on account of its remoteness the ‘Siberia of South West Africa’. ¹

After a short glance at the prehistory of the region and the manifold imaginaries of grand migration histories framing the Kaokoveld as corridor for early Bantu-speaking pastoralists moving from eastern Africa into the southern parts of the continent, the book takes up the story at a point when, in the eighteenth/early nineteenth century, north-western Namibia was still occupied by only a few thousand people. Hunting and gathering was the dominant livelihood strategy then and seemingly only a few households subsisted on larger herds of livestock. The area was then rapidly drawn into the emergent networks of mercantile globalisation and landscapes and their human and non-human inhabitants became ‘entwined with specifically European and North American commodity markets’ (Sullivan et al. 2016: 14). At the end of the nineteenth/beginning of the twentieth century elephants were butchered in the area in their hundreds and probably in their thousands. The dominant landscape architect was thereby removed from much of the terrain. The region then became part of colonial empires, first the German Kaiserreich, and then for many decades the South African empire (Henrichsen et al. 2015). The establishment of a colonial administration seeking to influence mobility patterns, political hierarchies, and exchange with external actors was the most salient feature of social-ecological development in the first half of the twentieth century. For most of the twentieth century pastoralism was on the increase. By the 1930s foraging had become a minority occupation; not only was hunting prohibited and sternly persecuted but so too did local motivations lead to the swift transition from hunting and gathering to cattle pastoralism (Rizzo 2012). Throughout the first half of the twentieth century north-western Namibia was kept separate from the remainder of the colony: the area was not a source of migrant labour (in stark contrast to neighbouring north-central Namibia; Hayes 1998; Kreike 2010; McKittrick 2002), nor was there a decisive move to make lands available to white settlers

¹ A colonial officer commented upon his placement in Opuwo (at that time Ohopoho) and likened it to the banishment of Russian administrators or dissidents to Siberia (NAN SWAA 2514 A552/3 30/09/1937).
(Bollig 1998a). The area became encapsulated, and access to and exit from the Kaokoveld was limited by anxiously controlled boundaries, notably the infamous Red Line, a mighty fence that since the 1950s has separated northern Namibia’s African reserves (later homelands) from the settler colony (Miescher 2012).

The developmental visions of Apartheid administrators and planners for north-western Namibia changed drastically in the 1950s. Like other areas in northern Namibia (see e.g. Kreike 2013) the area’s economy was now to be modernised. Livestock husbandry was to be intensified and the output of cattle to be increased. In order to set this development in motion an ambitious borehole-drilling programme was inaugurated leading to a veritable hydrological revolution in this water-scarce semi-arid landscape. The increased availability of water contributed to a massive increase of livestock holdings and a rapid expansion of livestock-related mobility. The changing material infrastructure entrapped the population in a specialised pastoral livelihood. After only a few decades the grave ecological consequences of intensification became visible: a rapid change from perennial to annual grasses and a loss of floristic and faunal biodiversity were hallmarks of this social-ecological transformation. Alternative approaches to resource management were discussed in administrative circles from the 1970s onward: putting further stretches of land under protection and concentrating the population in more restricted areas was one idea; making game management a source of a ‘greener’ livelihood another approach. Soon after Namibia gained independence the state delegated rights to game management, and also to water, forests, and pastures to local communities. Non-governmental organisations (NGOs) funded through international donors entered the scene. Communal resource management was reorganised according to global blueprints of successful common-pool resource management. Indeed, game numbers increased again in the 1990s and early 2000s. North-western Namibia became a haven for community-minded conservationists. Pastoral communities got involved in conservation and gained some income from tourism. Even limited commercial hunting was (re) introduced to the region for the sake of fostering local interest in conservation. Eventually a landscape that had witnessed colonial oppression, violence, and invasions (of people, microbes, and game), a landscape that had undergone tremendous ecological changes, became something that could be depicted as an ‘Arid Eden’.
In the following sections I will outline the theoretical underpinnings of this volume. The book is informed by three theoretical strands. The first is the very recent neo-materialist approach, which emphasises the material constitution of social and political reproduction. The second strand is environmental history with its concern for the historical dynamics of relations between state, local community, and environment. The third is political ecology, which analyses the link between power imbalances and environmental processes and is concerned with the effects of global embeddedness on local social-ecological systems.

1.1 New Materialism

People travelling the arid plains and hills of north-western Namibia get a good idea of how the material givens of the savannah landscape impact human settlement and livelihoods. During the dry season the absence of grasses makes one wonder how any grazing animal could ever survive in such an environment. Locals frame accounts of their lifeworld with depictions of changing vegetation and fauna. During the rainy season the environment rapidly changes to an affording, overwhelmingly green landscape. However, this flush of biotic production also brings challenges: Malaria infections soar and cause deaths, roads are inundated and cannot be passed for many days. This first impression is misleading though: The landscape in which today’s pastoralists live is itself the result of selective grazing by domesticated ruminants and infrastructure built up by humans. All too easily we slip into a discourse which juxtaposes humans to a natural environment and which emphasises the ingenuity of human adaptation to a challenging (natural) landscape and climate. The ‘environment’ is in parts the result of human action: domesticated herbivores produced the peculiar vegetation cover of the landscape. Humans actively manipulated the genetic basis of these herbivores, by selecting breeding bulls and castrating steers for example. Cattle were instrumental to concentrate the energy dispersed over the vast semi-arid savannah into ‘relatively compact and portable bodies’ (LeCain 2017: 36). Based on data on north-central Namibia, Kreike (2013: 139–56) suggests that the browsing capacity of the local Sanga cattle breed encouraged the expansion and structure of the dominant mopane savannah. Man-made infrastructures matter too for the emergence of this pastoral landscape: A vast network of
boreholes drilled since the 1950s is the basis for today’s nomadic livestock husbandry.

There are other material givens that are entangled with human livelihoods, social organisation, and culture. Local people would immediately name livestock as prominent almost human-like actors and would have little difficulty in ascertaining that cattle have their own will and their own intelligence. They are ‘used to’ certain pastures and ‘remember’ other pastures. During the dry season cattle herds are often left alone in riverine forests to look after themselves and, of course, they do well there because they ‘know’ how to do it. There are other animals that unfold their own agency. Elephants notably are such a species. In the early twenty-first century they roam the region in increasing numbers, also ‘remembering’ older paths and ‘exploring’ new terrains.

Recent debates on the Anthropocene have suggested that humans have completely colonised nature and have changed large parts of it according to their needs. The emphasis on human impact has glossed over the fact that to a great extent humans are a product of the material givens surrounding and in many ways constituting them. Chakrabarty (2009) has recently put forward the bold hypothesis that the advent of anthropogenically caused climate change necessitates the end of the conventional dichotomy between human culture and nature (for a discussion of Chakrabarty’s ideas see Emmett and Lekan 2016). While Western philosophers and anthropologists would still feel uneasy with this end of the (scientific) world as we knew it, pastoralists in northwestern Namibia would find it much easier to acknowledge that natural history and human history are intertwined and barely separable.

I remember interviewing a herder about his cattle. We stood at the edge of the cattle enclosure, and my informant said ‘these cattle are very old’, implying that they had very long ‘family’ histories. Retreating back into the long shadows of sunset we then sat down under a tree and he related the history of some of his cattle over a century. The genealogies of some cows he could trace back into the 1890s! Ambitiously he followed up on how ancestral cows were inherited, presented, and, notably, found their own ways, and how they had constituted places, moulded the environment, and created social relations. From a local perspective it was very much the cattle who involved themselves in the realm of humans. Other elements of the material world unfold other kinds of agency. Ancestral graveyards...
unfold their agency – they are powerful agents in a wider landscape. Ancestors guard and protect ‘their land’; they contribute to good grazing conditions in ways that humans cannot fully grasp and their power is compressed in graveyards.

Ian Hodder has recently put forward the concepts of entanglement and entrapment in his analysis of interactions between humans and the non-human world. These I found helpful to capture the intricate relations between human culture and material dynamics. Entanglement he defines as the dialectic dependency between humans and things (Hodder 2014: 20). The term entanglement seeks to capture the ways in which humans and things entrap each other. Hodder’s entanglement concept bears similarities with Bruno Latour’s idea of actor-networks. Both concepts seek to overcome the dualisms between material world and culture and between agency and structure. Hodder, however, convincingly argues that ‘to bring everything into the dispersed human/nonhuman network risks losing one of the main motors of change – the limited unfixed nature of things in themselves and their relationship with each other’ (Hodder 2014: 24–5). Kreike (2013) conceptualises the process of entanglement with his concepts ‘environmental infrastructure’ and ‘environing’. Echoing Hodder’s main motivation to overcome the nature–culture dualism, Kreike uses the concept of environmental infrastructure in order to bridge the culture–nature dichotomy; he sees environmental infrastructure as being conditioned by ‘both Nature’s and Culture’s creativity’ (Kreike 2013: 1). It comprises the shaping and reshaping of the environment from ‘mental abstraction to physical execution’ and ‘highlights the idea that human control, use and agency are neither absolute nor exclusive’ (Kreike 2013: 22). In contrast to conventional infrastructure whose function is to support human agency, environmental infrastructure is shaped by and may serve both human and non-human actors. The creation and recreation of environmental infrastructure Kreike terms environing (Kreike 2013: 24). In processes of environing (Kreike 2013: 228–33) different actors (human and non-human) collaborate in the creation of an environmental infrastructure. Influenced by perspectives of Science and Technology Studies Blok et al. (2016: 9) regard infrastructures as both physical objects and knowledge objects that in ‘both capacities … need work of coordination and maintenance in order to function properly’. They are particularly interested in ‘how environments get
1.2 The Environmental History Approach

Environmental history in southern Africa has focused on the interaction between colonial state, local resource users, and the environment (Beinart 2002; Beinart and Coates 1995; Carruthers 2005; Jacobs 2003; Kreike 2013). Prominently environmental perceptions and ideologies of colonial elites and administrations were described and ensuing colonial practice was critically portrayed. Environmental historians have shown that hegemonic European perceptions and the ideas of settler communities with regard to nature were often directly linked to issues of power and control. William Beinart (2000, 2007) and Jocelyn Alexander (2006) show to what extent environmental policies followed the calculus of imperial power politics. Environmental historians have shown how many uncertainties were rendered as certainties (e.g., overgrazing, soil erosion) in order to prove the destructiveness of local modes of production and legitimise heavy-handed state control (e.g., Botha 2005; Fairhead and Leach 1997; Kreike 2009).

A great deal of environmental historians’ work concentrates on the views and actions of those in power, whereas the strategies of those subjected to administrative measures are often portrayed in a less detailed manner. This, of course, is an artefact of the availability of sources. Whereas oral accounts on, for example, African hunting in the 1920s and 1930s and local measures against contagious bovine pleuropneumonia are rare, there is an abundance of written statements by colonial administrators on these topics. Even in the 1950s and 1960s, decades for which both oral accounts and files are numerous, it is hard to reconstruct local perspectives and strategies. I have tried to do so: when dozens of boreholes were drilled in the 1950s and 1960s, local institutions of pasture management apparently changed rapidly.

Blok et al.’s (2016) concept of *infrastructuring environments* is in many respects similar to Kreike’s *environing*. There are some notable differences though: Kreike’s *environing* embellishes a multi-species perspective in that it concedes that human and also non-human actors participate in the process. Blok et al. adopt a more anthropocentric perspective and highlight performative aspects. I will try to include both perspectives without advocating for yet another term.
Former rainy-season grazing areas became dry-season areas because then water could be provided permanently and new rules of cooperative grazing emerged. Information on how all this happened is not found in the archives, and astonishingly also not in oral traditions. The latter only reflect upon the results of this process, and portray institutional arrangements as a fait accompli. While oral traditions were almost mute on these deep infrastructural and environmental changes, they were vocal regarding chiefly conflicts and contestations between colonial administration and local traditional authorities. Furthermore, in many environmental history accounts material dynamics are not considered in great detail: nature remains an entity written upon by various kinds of invaders, and a passive object of exploitation, but is generally not attributed agency. In this book I attempt to acknowledge the material dynamics that unfold in a self-organised way and are only partially captured by humans.

1.3 The Political Ecology Approach

Power and the unequal distribution of costs and benefits accruing from the interaction of humans with their living and non-living surroundings as well as patterns of inclusion and exclusion are salient topics throughout this book. Political ecology which ‘has sought ... to understand the political dynamics surrounding material and discursive struggles over the environment’ (Bryant 1998: 89; see also Blaikie 1985; Greenberg and Park 1994) is therefore the third theoretical vantage point relevant to this account. Political ecology has developed in different directions over the past fifty years. In the 1970s and 1980s a structuralist approach, looking at the interdependence between socio-economic inequality and geobiophysical dynamics dominated. Blaikie (1985) for example analysed soil degradation in connection with colonial land tenure policies, while others (e.g. Watts 1983) reported on the environmental consequences of local inequality. While both cultural ecology and systems theory looked for adaptation and homeostasis, political ecology focused on non-adaptive behaviour, degradation, and societal crisis (Walker 2005: 74). In recent decades a poststructuralist approach with a focus on the effects of discursive formations on environmental governance dominated. This shift showed how global discourses, for example on tropical forest loss (Fairhead and Leach 1997), desertification (Bassett and Crummey